

# **18th European Conference on Developmental Psychology**



**Abstract book**

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## Welcome Address

### WELCOME TO THE 18TH EUROPEAN CONFERENCE ON DEVELOPMENTAL PSYCHOLOGY

The 18th European Conference on Developmental Psychology ([www.ecdp2017.nl](http://www.ecdp2017.nl)) is hosted by Utrecht University, The Netherlands, August 29 - September 1, 2017, under the auspices of the European Association of Developmental Psychology. As organizers of ECDP 2017, we are pleased and honored to welcome you in Utrecht.

The organizing committee has been composed of researchers from several departments of Utrecht University: the division of Youth and Family of the Department of Education and Pedagogical Sciences, Developmental Psychology, and the Methods and Statistics Department. The conference aims to present an overview of cutting-edge international and interdisciplinary developmental research and to create a stimulating and enjoyable scientific forum for the international community of researchers in Developmental Psychology and its related disciplines. The conference will include 8 keynote lectures, 9 invited symposia, 64 symposia, over 250 individual presentations grouped into 42 thematic sessions, 6 posters sessions and over 250 individual posters grouped by theme. Our rich preconference program addresses conceptual and methodological issues related to the latest developments in developmental science. Moreover, we have an exciting “Living room of science” program in which recent developments regarding data collection and storage, publication, and grant acquisition will be discussed. During extended poster exhibitions, there will be plenty of time and opportunity for informal conversations outside the conference rooms.

The rich history of the City of Utrecht began about twenty centuries ago. In 47 A.D. the Romans built a fortress as part of reinforcements along the Rhine where the Cathedral square (Domplein) is situated today. In the 7th century, when the English missionary Willibrord set himself up in that old fort, a town began to develop. Utrecht then started to grow into an important city with considerable ecclesiastical power. On church feast days, churches, monasteries, convents, and abbeys were full. Many traces of these buildings can be seen throughout the city. As a medieval treasure and a leading academic, technological and cultural center, Utrecht is now a pro-active player in the international community. Stroll down the quaint streets and along the canals in the Utrecht Museum Quarter and sample the pleasant, intimate atmosphere for which Utrecht is famous. Established in 1636, Utrecht University has evolved into a leading modern research university with a growing international reputation. With nearly 30,000 students and 8,500 employees divided over 7 faculties, Utrecht University spans the entire spectrum of academic research and education.

On behalf of the Scientific Committee and the Local Organizing Committee, we wish you a pleasant and enjoyable stay in Utrecht.

#### **Susan Branje**

Chair of the local organizing committee

#### **Willem Koops**

Chair of the scientific committee



## Welcome Address of the President of the European Association of Developmental Psychology

Welcome to the 18th European Conference on Developmental Psychology in 2017!

The conference offers a rich scientific program, with contributions from all over the world. This year's program features some highlights.

On March 2nd of this year we received the sad message that Professor Çiğdem Kağıtçıbaşı passed away. She was a honorary member of the EADP and winner of the *Preyer award* in 2007. Professor Kağıtçıbaşı prepared an invited symposium. The scientific committee decided to have this symposium presented in memory of Professor Kağıtçıbaşı.

EADP builds bridges to other societies such as ISSBD (International Society for Behavioral Development) and we have for the first time a joint EADP-ISSBD symposium: The ISSBD President-elect Toni Antonucci, Past-president Lea Pulkkinen and EADP Past-president Frosso Motti-Stefanidi are presenting innovative approaches to positive development in Europe and other non-US contexts. In another symposium, four EADP Presidents (past, present and future) build bridges between developmental and educational psychology. And do not miss the Keynote by the next EADP President Ersilia Menesini, and the presentations by the awardees of the William Thierry Preyer Award, Mark Johnson, and the George Butterworth Young Scientist Award, Eddie Brummelman.

The program includes a public debate on multidisciplinary approaches in practice: impossible or piece of cake? Collaboration between fields of expertise comes with obstacles: the research culture is different in each field of expertise and it takes a long time before you have developed a common vocabulary. In this public debate experts in youth research will present examples from their own multidisciplinary research practice and invite you to voice your own opinion.

The interaction between science and policy has never been straightforward. But this relationship has been further complicated by the current post-fact debate. A new crisis of evidence and facts. The crisis is a challenge for the whole society, and to us scientists as well as policymakers. We need to build policy on evidence but a new balance is needed. Scientists need new models to connect, to develop new thinking and to communicate. In the "Living Room of Science" we encourage interactions among scholars and stimulate informed opinions on conducting ethical studies.

Last but not least, EADP has organized first time a preconference Summer School for doctoral students together with sister organizations EARA and SRA focusing on research on adolescence. The Summer School is directed by Susan Branje and Senior Scholars include Craig Colder, Elisabetta Crocetti, Velma McBride-Murry, Christiane Spiel, Sabine Walper, and Manuel Voelkle as school methodologist. Let's hope this tradition can continue in the future.

This conference would not be possible without the dedicated work of the organizing committee. I want to especially thank Susan Branje and her team for creating this outstanding meeting in Utrecht. Thank you so much Susan!

Thanks to all of you for attending ECDP 2017. Your presence here underscores the importance of developmental psychology in advancing knowledge and addressing complex issues in society and Europe and globally. Those of you who are not yet members of EADP and want to join our association after this nice conference experience can check out our website, [www.eadp.info](http://www.eadp.info). Have a wonderful meeting here in Utrecht!

**Katariina Salmela-Aro**  
EADP President



## EADP Conference Organization

### INITIATOR

European Association of Developmental Psychology (EADP)

### HOSTING THE EADP CONFERENCE

Several researchers from the interdisciplinary Utrecht Center for Child and Adolescent Studies (CAS) and the Department of Methodology & Statistics are part of the local organizing committee. CAS is dedicated to the study of child and adolescent development with one common overarching research issue: How interactions between individual characteristics and the social and cultural context produce a variety of developmental pathways from infancy into young adulthood. CAS participates in Dynamics of Youth, one of the four strategic themes of Utrecht University. Various groups of seven different faculties with an excellent reputation for research into youth and society have combined their knowledge in the Dynamics of Youth theme, resulting in an interdisciplinary cooperation that provides new insights into the interplay of the biological and sociocultural factors involved in children's development.

### LOCAL ORGANIZING COMMITTEE

<b>Susan Branje</b>	Pedagogical Sciences, Utrecht University (Chair)
<b>Willem Koops</b>	Developmental Psychology, Utrecht University
<b>Jan Boom</b>	Developmental Psychology, Utrecht University
<b>Rens van de Schoot</b>	Methodology and Statistics, Utrecht University
<b>Eline Baarda</b>	Pedagogical Sciences, Utrecht University
<b>Andrik Becht</b>	Pedagogical Sciences, Utrecht University
<b>Claire Garandeau</b>	Pedagogical Sciences, Utrecht University
<b>Stefanos Mastrotheodoros</b>	Pedagogical Sciences, Utrecht University
<b>Stefanie Nelemans</b>	Pedagogical Sciences, Utrecht University
<b>Minet de Wied</b>	Pedagogical Sciences, Utrecht University
<b>Jacqueline Tenkink-de Jong</b>	Pedagogical Sciences, Utrecht University
<b>Natasha Koper</b>	Pedagogical Sciences, Utrecht University

### SCIENTIFIC COMMITTEE

<b>Willem Koops</b>	Utrecht University, The Netherlands (Chair)
<b>Susan Branje</b>	Utrecht University, The Netherlands
<b>Jan Boom</b>	Utrecht University, The Netherlands
<b>Rens van de Schoot</b>	Utrecht University, The Netherlands
<b>Chantal Kemner</b>	Utrecht University, The Netherlands
<b>Marcel van Aken</b>	Utrecht University, The Netherlands
<b>Bram Orobio de Castro</b>	Utrecht University, The Netherlands
<b>Maja Dekovic</b>	Utrecht University, The Netherlands
<b>Katariina Salmela-Aro</b>	University of Helsinki, Finland
<b>Ersilia Menesini</b>	University of Florence, Italy
<b>Frosso Motti-Stefanidi</b>	University of Athens, Greece
<b>Dagmar Strohmeier</b>	University of Applied Sciences Upper Austria, Austria
<b>M. Rosario Rueda</b>	University of Granada, Spain
<b>Barbara Reichle</b>	Ludwigsburg University of Education, Germany
<b>Loes Keijsers</b>	Tilburg University, The Netherlands
<b>Martyn Barrett</b>	University of Surrey, UK
<b>Radosveta Dimitrova</b>	Stockholm University, Sweden
<b>Sevgi Bayram Özdemir</b>	Örebro University, Sweden
<b>Peter Titzmann</b>	Leibniz University Hanover, Germany



## REVIEWERS

We highly appreciate the reviewers who volunteered to review the conference submissions. Thank you for donating your time to help us provide a great conference schedule!

<b>Astrid Poorthuis</b>	Utrecht University, The Netherlands
<b>Barbara Reichle</b>	Ludwigsburg University of Education, Germany
<b>Bram Orobio De Castro</b>	Utrecht University, The Netherlands
<b>Casper van Lissa</b>	Erasmus University Rotterdam, The Netherlands
<b>Chantal Kemner</b>	Utrecht University, The Netherlands
<b>M. Rosario Rueda</b>	University of Granada, Spain
<b>Claire Garandeau</b>	Utrecht University, The Netherlands
<b>Dagmar Strohmeier</b>	University of Applied Sciences Upper Austria, Austria
<b>Ersilia Menesini</b>	University of Florence, Italy
<b>Frosso Motti-Stefanidi</b>	University of Athens, Greece
<b>Inge van der Valk</b>	Utrecht University, The Netherlands
<b>Jan Boom</b>	Utrecht University, The Netherlands
<b>Jorg Huijding</b>	Utrecht University, The Netherlands
<b>Katariina Salmela-Aro</b>	University of Helsinki, Finland
<b>Maja Dekovic</b>	Utrecht University, The Netherlands
<b>Marcel van Aken</b>	Utrecht University, The Netherlands
<b>Marian Jongmans</b>	Utrecht University, The Netherlands
<b>Mariëlle Zondervan-Zwijnenburg</b>	Utrecht University, The Netherlands
<b>Marike Deutz</b>	Utrecht University, The Netherlands
<b>Minet de Wied</b>	Utrecht University, The Netherlands
<b>Peter Titzmann</b>	Leibniz University Hannover, Germany
<b>Radosveta Dimitrova</b>	Stockholm University, Sweden
<b>Rens van de Schoot</b>	Utrecht University, The Netherlands
<b>Sevgi Bayram-Özdemir</b>	Örebro University, Sweden
<b>Stefanie Nelemans</b>	Utrecht University, The Netherlands
<b>Stefanos Mastrotheodoros</b>	Utrecht University, The Netherlands
<b>Susan Branje</b>	Utrecht University, The Netherlands
<b>Tatiana Trifan</b>	Utrecht University, The Netherlands
<b>Willem Koops</b>	Utrecht University, The Netherlands

## Sponsors and Exhibitors

### SPONSORS

Financial and material support for the conference has been provided by the Faculty of Social and Behavioral Sciences, the Department of Education and Pedagogical Sciences, Research programme Child and Adolescent Studies, Research programme Education and Learning Sciences and the UU Strategic theme Dynamics of Youth, and the Dutch Society for Developmental Psychology.

The Conference is supported by

#### Scientific Sponsors:



#### Platinum Sponsors:



#### Gold Sponsors:



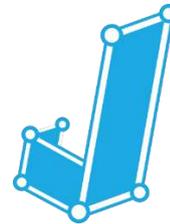
#### Silver Sponsors:



Exhibitors:



Livingroom of Science supporters:



## European Association of Developmental Psychology

The European Association for Developmental Psychology (formerly EDSP) was founded in 1994, under the initiative of G. Butterworth and S. Jackson. EADP organizes biennially the European Conference on Developmental Psychology, publishes the European Journal of Developmental Psychology, and has instituted two awards: The William Thierry Preyer Award for Excellence in Research on Human Development and The Butterworth Young Scientist Award.

To promote the networking, collaboration and knowledge exchange of young scholars, EADP has established the Early Researchers Union (ERU).

Biennial European Conferences on Developmental Psychology as regional conferences of the ISSBD have been held since 1983, in Groningen (1984), Rome (1986), Budapest (1988), Stirling (1990), Sevilla (1992), Bonn (1993) and Krakov (1995). Since the 8th conference in Rennes (1997), European Conferences on Developmental Psychology were held under the official auspices of the ESDP/EADP, in Spetses (1999), Uppsala (2001), Milan (2003), Tenerife (2005), Jena (2007), Vilnius (2009), Bergen (2011), Lausanne (2013), and Braga (2015).

### EADP COUNCIL MEMBERS

<b>Katariina Salmela-Aro</b> (President)	University of Helsinki, Finland
<b>Frosso Motti-Stefanidi</b> (Past President)	University of Athens, Greece
<b>Ersilia Menesini</b> (President-elect)	University of Florence (Italy)
<b>Dagmar Strohmeier</b> (Treasurer)	University of Applied Sciences Upper Austria, Austria
<b>M. Rosario Rueda</b> (Secretary)	University of Granada, Spain
<b>Barbara Reichle</b>	Ludwigsburg University of Education, Germany
<b>Loes Keijsers</b>	Tilburg University, The Netherlands
<b>Martyn Barrett</b>	University of Surrey, UK
<b>Radosveta Dimitrova</b>	Stockholm University, Sweden
<b>Sevgi Bayram Özdemir</b>	Örebro University, Sweden
<b>Peter Titzmann</b>	Leibniz University Hanover, Germany
<b>Willem Koops</b> (Editor of the European Journal of Developmental Psychology)	Utrecht University, The Netherlands

### EARLY RESEARCHERS UNION (ERU)

The Early Researchers Union (ERU) at the European Association of Developmental Psychology (EADP) was established in 2008 in order to increase the opportunity for network, collaboration and knowledge exchange of student and young members of the EADP at the early stages of their career.

The Early Researchers Union is meant for undergraduate students, graduate/PhD students, researchers, postdocs, or junior faculty members (up to assistant professorship) primarily interested in developmental psychology and/or an area relevant to the study of human development.

The ERU Board is chaired by the President, the President-Elect, the Past-President, the Secretary, the Treasurer, the Officer for Internal Relations & Communication, and the Officer for External Relations & Valorisation. In addition to the Board members, ERU consists of approximately 20 national representatives in their respective countries across Europe.

### ERU COUNCIL MEMBERS

<b>Loes Keijsers</b> (President)	Tilburg University, The Netherlands
<b>Radosveta Dimitrova</b> (Past-President)	Stockholm University (Sweden)
<b>Pasquale Musso</b> (President-Elect)	University of Palermo, Italy
<b>Francesca Lionetti</b> (Secretary)	Queen Mary University of London, United Kingdom
<b>Maja Schachner</b> (External Relations & Valorization Officer)	University of Potsdam, Germany
<b>Justyna Michalek</b> (Internal Relations & Communication Officer)	University of Warmia and Mazury, Poland



## The William Thierry Preyer & George Butterworth Awards

### ***The William Thierry Preyer Award for Excellence in Research on Human Development 2017 goes to Mark H. Johnson and the late Annette Karmiloff-Smith***

The William Thierry Preyer Award for Excellence in Research on Human Development is given to a European psychologist or a group of European psychologists – who is/are recognized internationally for an original and substantial contribution to a better understanding of human development and its contexts, as demonstrated by first-rate publications in scholarly journals, based on empirical research into the antecedents, processes and outcomes of human development-in-context.

The William Thierry Preyer Award was donated to the European Association of Developmental Psychology (previously European Society for Developmental Psychology) by the President of the 2007 European Congress on Developmental Psychology and the EADP Rector of the Friedrich-Schiller University, Jena, Germany. William Thierry Preyer (1841-1897), born in England, was the Chair of Physiology at the University of Jena, Germany. His vision was inspired by Charles Darwin, and his main works have importance till today – “Spezielle Physiologie des Embryos” and “Die Seele des Kindes” (The Mind of the Child). Both books lead the foundation in their respective scientific disciplines, developmental physiology and developmental Psychology, and seen from modern interdisciplinary views on human development, Preyer is a major forerunner of rigorous research on human development, based on observation and experimentation.

Paul Harris (winner of the 2009 award), and Peter Smith (winner of the 2015 award) are part of the Award Committee 2017, with Frosso Motti-Stefanidi (Past President of EADP), Ersilia Menesini (President-Elect of EADP), and Charo Rueda (secretary of EADP).

The 2017 Preyer Award Committee of the European Association of Developmental Psychology (EADP) decided to offer the William Thierry Preyer Award for Excellence in Research on Human Development to Annette Karmiloff-Smith (1938-2016) and Mark H. Johnson for their original and outstanding contribution in the area of developmental science.

Annette Karmiloff-Smith showed how the study of development has to embrace a multidisciplinary approach; she developed a new “neuroconstructivism”, referring to the integration of Piagetian theory with new findings on functional brain development; she revolutionized the study of atypical development; she inspired generations of developmental scientists; she made the results of scientific research accessible to the general public. Development was considered by Annette as a result of back-propagating interactions between gene, brain, behavior and the environment. She further focused on the complex epigenetic interactions involved in brain organization across development. Her innovative and revolutionizing ideas were published in the famous book that she wrote together with among others her husband Mark Johnson on “Rethinking Innateness: A connectionist perspective on Development” (1996).

Mark H. Johnson co-authored together with Annette Karmiloff-Smith (and Jeffrey Elman, Elizabeth Bates, Domenic Parisi and Kim Plunkett) the book *Rethinking Innateness*. This book gave birth to the neural network field of constructivist modelling. The book was nominated as one of the “One hundred most influential works in cognitive science from the 20<sup>th</sup> century” (according to the Minnesota Millennium Project). Johnson has developed an Interactive Specialisation approach to development, an approach of cognitive development that considers development as a stochastic, network-based, interactive process. Johnson’s work has had impressive international impact and influences and motivates new generations and researchers in the domain of developmental science.

The Award will be given on the occasion of the 18th European Congress of Developmental Psychology in Utrecht to Mark Johnson during the Opening Ceremony, August 29. The awardee will address the assembly at this occasion.



***The 2017 George Butterworth Young Scientist award goes to Eddie Brummelman for his thesis "I'm incredible - or am I? On the socialization of fragile self-views in children" defended at Utrecht University.***

Eddie currently is a Marie Skłodowska-Curie Fellow at Stanford University, and a postdoctoral researcher at the University of Amsterdam.

George Butterworth was one of the two founding fathers of the European Society for Developmental Psychology. He died on February 12<sup>th</sup> 2000. George Butterworth was an internationally respected authority on infant development. After completing his D.Phil. at Oxford, his professional stations were at Southampton University, at the University of Stirling, and ultimately at the University of Sussex. He was appointed Honorary Professor at the University of East London in 1996. His contributions to the discipline include founding both the British Infancy Research Group and the Journal of Developmental Science. The European Association of Developmental Psychology (previously European Society for Developmental Psychology) established the George Butterworth Young Scientist Award in his honour. The Award is given every two years, and it will be presented for the fifth time at the 18th European Conference on Developmental Psychology.

The 2017 Butterworth Young Scientist Award committee was composed of three EADP council members, Professors Barbara Reichle, Dagmar Strohmeier, and Peter Titzmann. The 2017 awardee is Eddie Brummelman, University of Amsterdam, currently Marie Skłodowska-Curie Fellow at Stanford University. The committee unanimously selected Eddie Brummelmann among seven excellent nominees from four European countries (Belgium, Germany, the Netherlands, Spain). The requirements were (1) the successful defense of a dissertation in the (broadly defined) domain of developmental psychology at a University in any European country between 1-1-2015 to 31-12-2016 (2) nomination or self-nomination together with two letters of recommendation by senior scholars based on the dissertation work of the nominee, and (3) an article or chapter of the nominee that has either been published, is in press or has been submitted for review.

The awardee will receive EUR 500 and will present the research of the dissertation as an invited address "Childhood Origins of Narcissism and Self-esteem", on Wednesday, August 30 at 12:00. The awardee is invited and supported to publish his address in the European Journal of Developmental Psychology. He is also invited to join the next award committee.

## EADP Travel Fellowships

A committee consisting of Prof. Dagmar Strohmeier, Prof. Barbara Reichle and Dr. Pasquale Musso were happy to rate **50 excellent applications** from early career scholars around the world.

Because EADP was only able to fund a limited number of applications, we decided to rate each application according to 4 criteria: CV, quality of research, quality of submitted paper, and future potential.

Based on our evaluations the following 22 young scholars were rated as one of the best 20 applications.

Because of the equal placement of 3 persons, EADP decided to sponsor 22 instead of 20 applications.

### The EADP fellows are:

Antonio Zuffianò  
Samuel Noah Meisel  
Zuhal Uelger  
Monica Buta  
Tracy Wong  
Diana Miconi  
Katarzyna Kostyrka-Allchorne  
Bénédicte Mouton  
Maria Leonor Dos Anjos Pereira Da Costa Nova  
Erin Brown  
Kaichi Yanaoka  
Astra Schults  
Angela Conejero  
Elizabeth Nye  
Zeynep Ertekin  
Luca Ronchi  
America Davila  
Ilona Skoczen  
Anahid S. Modrek  
Alejandro de la Torre-Luque  
Alexandra M. Sabou  
Oriola Hamzallari

### **EADP PLUS travel fellowships**

The PLUS option was invented by ERU and we asked all conference participants to donate 50.- for funding excellent young scholars.

Because we raised 600.- Euros with this method, we decided to fund another 6 persons (100.- Euro each) in addition to the regular funding awarded by EADP.

### The EADP PLUS travel fellows are:

Jana Vietze  
Pablo Carrera García  
Sule Selcuk  
Suzan Cen  
Berna Arslan Uzundağ  
Antonia Zachariou

Prof. Dagmar Strohmeier, Prof. Barbara Reichle, Dr. Pasquale Musso (ERU)

## Conference Venue and Maps

### Utrecht University - Dom Square

The conference will take place at the Dom Square in the centre of Utrecht.

Page 17. Map of *Dom Church* (main conference venue for plenary sessions, exhibition, registration and catering)

Domplein, 3512 JN Utrecht

Page 17. Map of *Utrecht University Hall (Academiegebouw)*

Domplein 29, 3512 JE Utrecht

Page 18. Map of *Instituto Cervantes*

Domplein 3, 3512 JC Utrecht

Page 18. Map of *UCK (Utrechts Centrum voor de Kunsten)*

Domplein 4, 3512 JC Utrecht

### OFFICIAL LANGUAGE

The official language of the Conference will be English. No simultaneous translation will be provided.

### REGISTRATION AND HOSPITALITY DESKS

The Registration and Hospitality desks for the conference are located in the Dom Church (see the map in this program book).

Registration and information desk opening hours:

Tuesday August 29	15.00 – 19.00 hrs
Wednesday August 30	07.45 – 18.00 hrs
Thursday August 31	08.00 – 19.00 hrs
Friday September 1	08.00 – 18.00 hrs

Emergency phone number: +31 6-12156307.

### CERTIFICATE OF ATTENDANCE

Each registered participant will be e-mailed an official certificate of attendance after the Conference.

### BADGES

With your registration materials, you will receive a personalized name badge. It is essential that you wear your personal badge at all times while in the conference venues and during the social events, as it is the official entrance pass to scientific sessions, welcome reception, ERU event and the conference dinner. For the lunches and excursions, it will also be necessary to present the corresponding ticket.

If you have pre-registered, your badge will include icons for the welcome reception, the conference dinner and the ERU event. You can find the icons below.



Welcome reception



Conference dinner



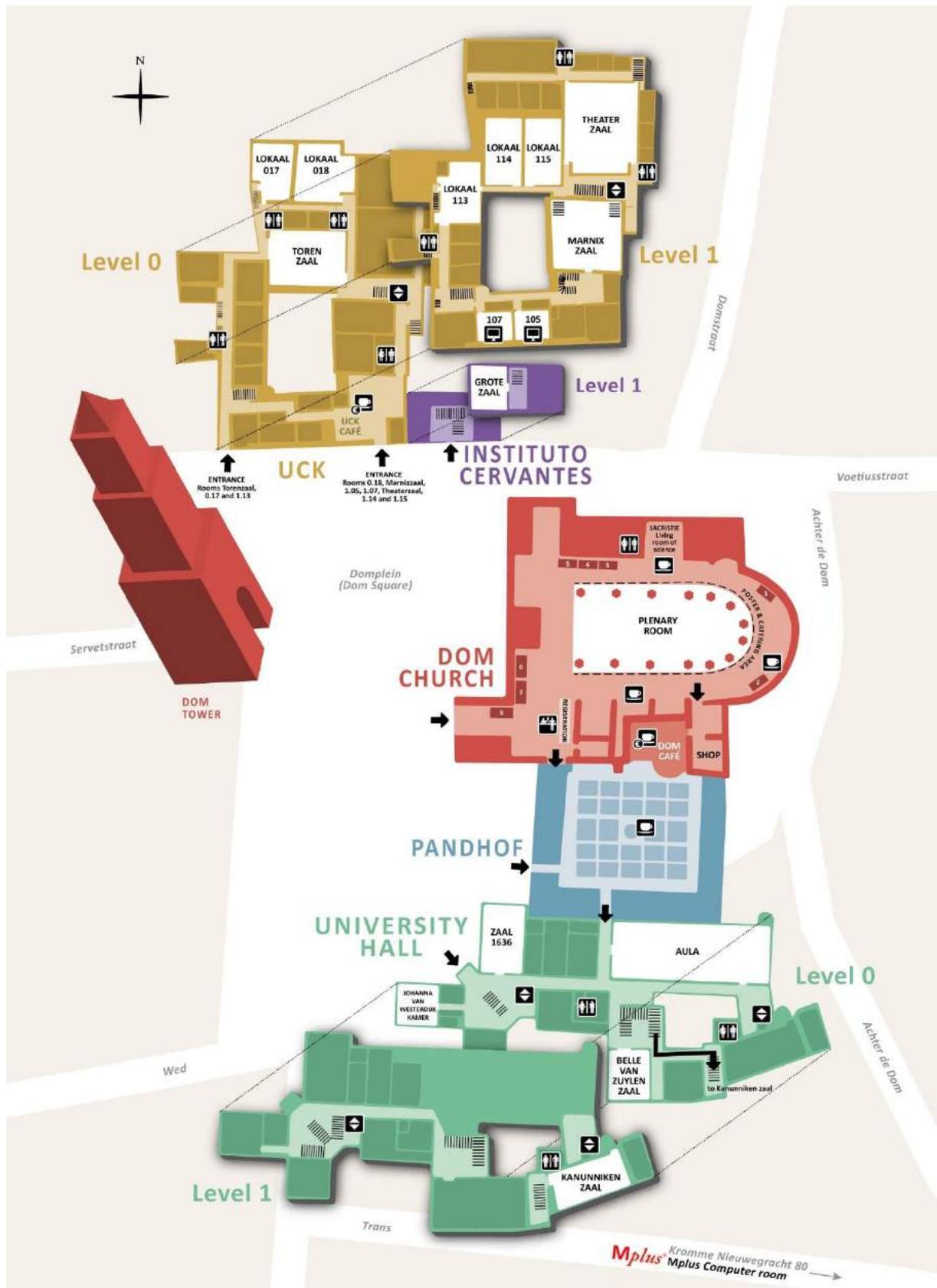
ERU Event

**ON-SITE REGISTRATION FEES**

EADP members	370 EUR
EADP non-members	490 EUR
Student EADP members	275 EUR
Student EADP non-members	345 EUR



MAPS



# DOM CHURCH

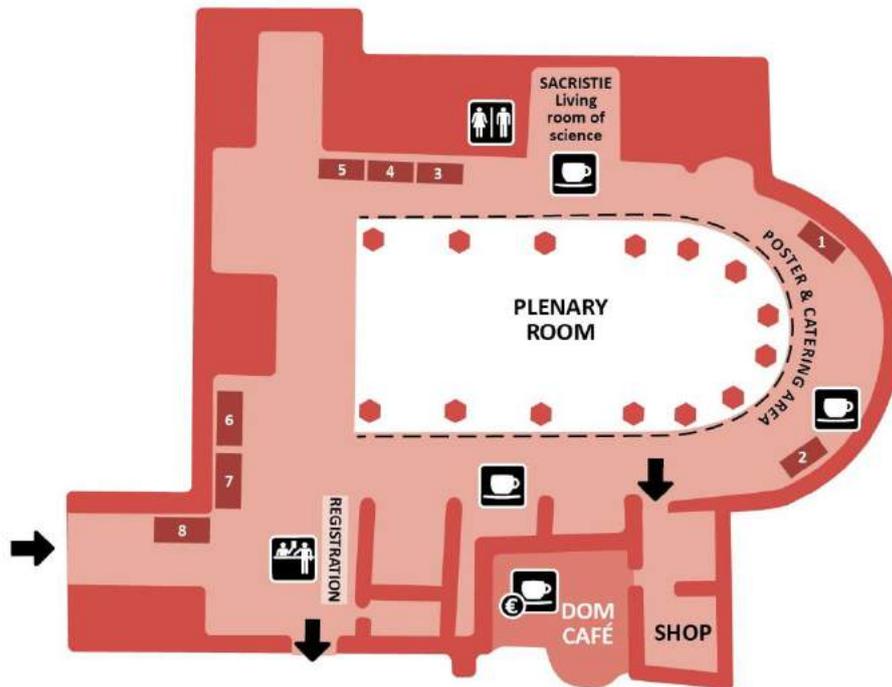


Figure 1. Map of Dom Church

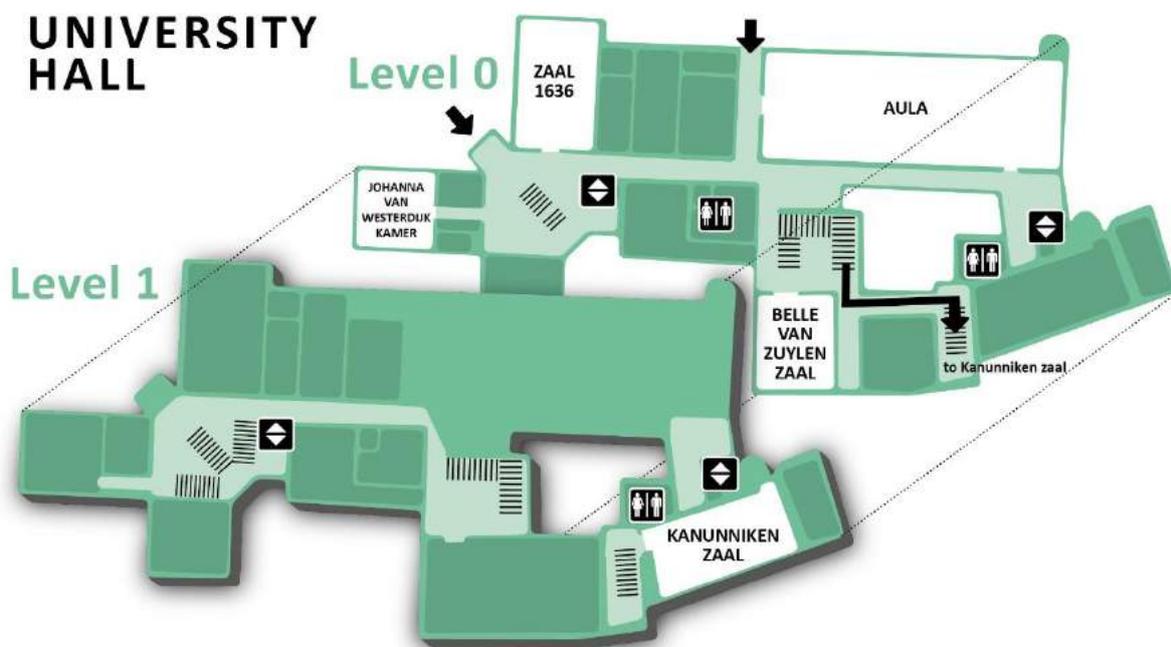


Figure 2. Map of Utrecht University Hall (Academiegebouw)

# INSTITUTO CERVANTES

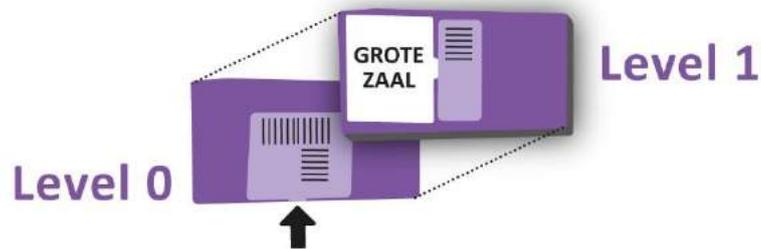


Figure 3. Map of *Instituto Cervantes*

# UCK

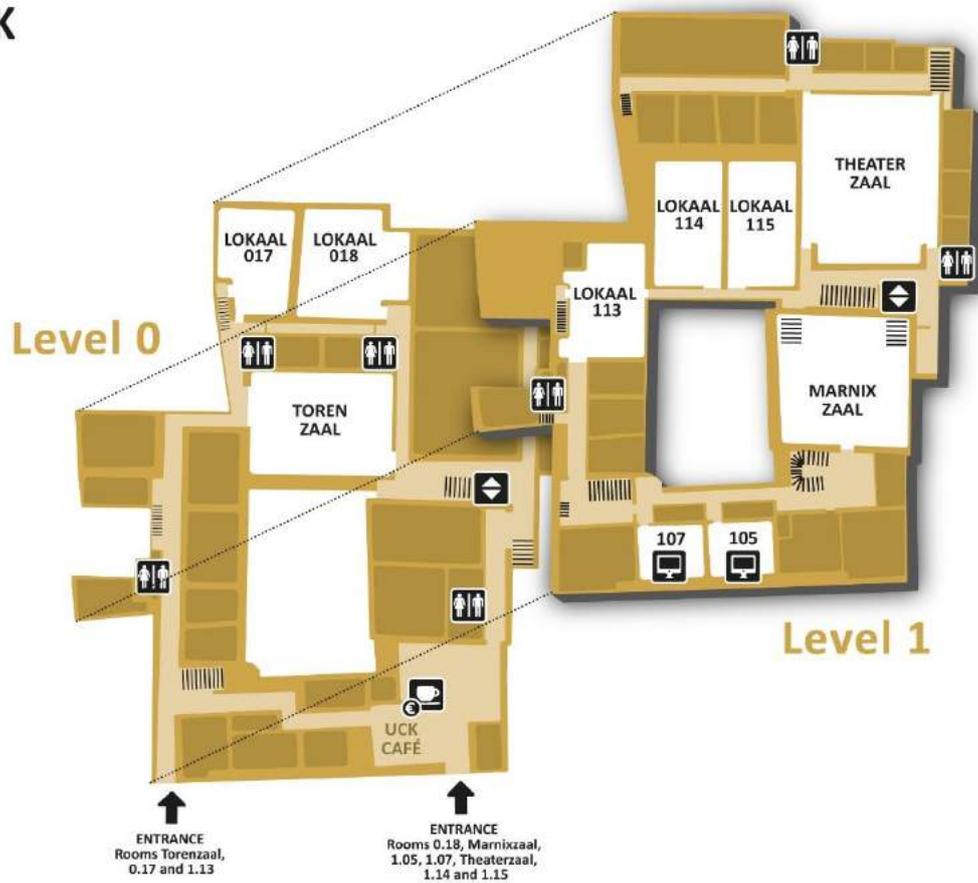


Figure 4. Map of *Utrechts Centrum voor de Kunsten (UCK; translated to: Utrecht Center of Arts)*

## Program Overview

<b>Monday, 28 August 2017</b>					
Preconference workshops					
10:00 - 16:00	<b>Introduction to R: How to get started</b> Drift 25	<b>Introduction to Mplus: How to get started</b> Drift 25			
<b>Tuesday, 29 August 2017</b>					
Preconference workshops					
10:00 - 16:00	<b>Bullying and Peer Relations: Multilevel and Social Network Analyses</b> Drift 25	<b>Studying development with longitudinal models</b> Drift 25	<b>Bayesian analysis to deal with small sample sizes</b> Drift 25	<b>Getting the message across: Communicating research findings to the public</b> Drift 25	
17:00 - 17:30	<b>Opening</b> Dom Church				
17:30 - 18:30	<b>The William Thierry Preyer Award</b> Dom Church				
18:30 - 19:30	<b>Reception</b> Pandhof				
<b>Wednesday, 30 August 2017</b>					
08:30 - 09:15	<b>key01 Children's developing digital literacy: Dilemmas in linking evidence and policy</b> Dom Church				
09:15 - 09:30	Break				
09:30 - 11:00	<b>isym101-1 Capturing individual variation in cognitive development during infancy: Does it scale up?</b> University Hall - Aula	<b>sym101-2 New insights into parents' self-efficacy: Links to parenting practices and in diverse parent samples</b> Cervantes - Grote Zaal	<b>sym101-3 Structural school and classroom characteristics contributing to bullying and victimization</b> UCK - Theaterzaal	<b>sym101-4 Nonverbal behaviors as protective and risk factors in youth internalizing symptomology development</b> UCK - Torenzaal	<b>sym101-5 Pathways to Positive Youth Development for African American Children's Development: Context Matters</b> University Hall - Zaal 1636
09:30 - 11:00	<b>sym101-6 Emotion Regulation, Prosociality, and Adjustment: A Life-Span Perspective in Mediterranean Countries</b> UCK - Marnixzaal	<b>sym101-7 An International Perspective on School Climate and Skipping School Among Youth: Japan, Canada, Turkey, and Hong Kong</b> University Hall - Kanunnikenzaal	<b>sym101-8 Meet The Editors - ERU Round Table with Discussion</b> University Hall - Belle van Zuylen	<b>pap101-9 Social and Emotional Cognition in Children with Mental Disorders</b> UCK - Lokaal 018	<b>pap101-10 Risk-Taking Behavior and Behavioral Problems in Children and Adolescents</b> UCK - Lokaal 113
09:30 - 11:00	<b>pap101-11 Attachment</b> UCK - Lokaal 114	<b>pap101-12 Parent - Child Relationships</b>	<b>pap101-13 Socio-Cognitive Processes</b>		

		<b>and Adjustment in Adolescence</b> UCK - Lokaal 115	University Hall - Westerdijk		
11:00 - 12:00	Poster session 101 and coffee Dom Church				
	<b>11:10 Livingroom of Science: Opening of the Living Room &amp; some inspiring movies</b> <b>11:30 Livingroom of Science: JASP: A Fresh Way to Do Statistics.</b> Dom church - Sacristie				
12:00 - 12:45	<b>2017 Butterworth Award</b> Dom Church				
12:45 - 13:45	Poster session 102 and lunch Dom Church				
	<b>13:00 Livingroom of Science: Is there a Glass Ceiling in Developmental Psychology?</b> Dom church - Sacristie				
13:45 - 15:15	<b>isym102-1 Roundtable discussion - The role of agency in adolescent research</b> University Hall - Aula	<b>sym102-2 Parental self-efficacy modification to improve parenting and child behavior</b> Cervantes - Grote Zaal	<b>sym102-3 Attachment difficulties behind the dykes: screening instruments for attachment in different settings</b> University Hall - Kanunnikenzaal	<b>sym102-4 The positive and negative faces of peer relationships</b> UCK - Torenzaal	<b>sym102-5 Biological underpinnings of internalizing symptoms in childhood and adolescence</b> University Hall - Zaal 1636
13:45 - 15:15	<b>sym102-6 Acculturation and Integration of Children from Culturally Diverse Backgrounds (1)</b> <b>Focus: Promoting school belonging and successful learning</b> UCK - Marnixzaal	<b>sym102-7 Personality Pathology in Adolescence: Measurement, Antecedents and Outcomes</b> UCK - Theaterzaal	<b>sym102-8 Youth's Social Media Use: Opportunities, Risks and the role of Parents</b> UCK - Lokaal 018	<b>sym102-9 Scientific reasoning skills of preschoolers and early school-age children</b> University Hall - Belle van Zuylen	<b>pap102-10 Prosocial Behavior in Childhood and Adolescence</b> UCK - Lokaal 113
13:45 - 15:15	<b>pap102-11 Academic Performance, School Characteristics and School-based Interventions</b> UCK - Lokaal 115	<b>pap102-12 Family Conflict and Divorce</b> UCK - Lokaal 114	<b>pap102-13 Measuring Child Characteristics and Behavior</b> University Hall - Westerdijk		
15:15 - 16:15	Poster session 103 and coffee Dom Church				
	<b>15:25 Livingroom of Science: How to reach your Horizon; 10 mistakes you shouldn't make when writing H2020 grants!</b> <b>15:45 Livingroom of Science: How to get your paper published</b> Dom church - Sacristie				
16:15 - 17:45	<b>isym103-1 An in memoriam symposium for Professor Çiğdem Kağıtçıbaşı</b>	<b>sym103-2 Intelligence is more than a single IQ-score: Science meets practice</b>	<b>sym103-3 The role of coparenting representations and practices in family relationships and</b>	<b>sym103-4 Self-views and problem behaviors in children and adolescents</b> UCK - Theaterzaal	<b>sym103-5 Risk factors and consequences of adolescent loneliness</b> University Hall - Zaal 1636

	University Hall - Aula	Cervantes - Grote Zaal	<b>child development</b> UCK - Torenzaal		
16:15 - 17:45	<b>sym103-6 Early identification of divergences in adaptive processes in preterm born children</b> UCK - Marnixzaal	<b>sym103-7 Positive youth development in Europe and other non-US contexts</b> University Hall - Belle van Zuylen	<b>sym103-8 The impact of adults' socialization practices on prosocial behavior in early childhood</b> University Hall - Kanunnikenzaal	<b>pap103-9 Peer Relations and Prosocial Behavior</b> UCK - Lokaal 113	<b>pap103-10 Personality in Adolescents and Young Adults</b> UCK - Lokaal 114
16:15 - 17:45	<b>pap103-11 Language and Communication Skills</b> University Hall - Westerdijk	<b>pap103-12 Cultural and Ethnic Processes and Influences</b> UCK - Lokaal 115	<b>pap103-13 Cyberbullying, Sexual Behavior and Substance Use</b> UCK - Lokaal 018		
17:45 - 18:00	Break				
18:00 - 18:30	<b>ERU Poster awards</b> University Hall - Aula				
18:30 - 19:00	<b>ERU Meeting</b> University Hall - Aula				
19:00 - 20:00	<b>ERU Event</b>				

### Thursday, 31 August 2017

08:30 - 09:15	<b>key02 Theory of mind development in childhood: The state of the art</b> Dom Church				
09:15 - 09:30	Break				
09:30 - 11:00	<b>sym201-1 Public debate: multidisciplinary approaches in practice: impossible or piece of cake?</b> University Hall - Aula	<b>sym201-2 When parenthood turns to disaster! New perspectives about parental exhaustion.</b> Cervantes - Grote Zaal	<b>sym201-3 The role of parenting processes in children's and adolescents' psychosocial functioning</b> UCK - Marnixzaal	<b>sym201-4 Social Experiences and Psychophysiology in Childhood</b> UCK - Torenzaal	<b>sym201-5 Acculturation and Integration of Children from Culturally Diverse Backgrounds (2) Focus: Promoting positive intergroup relations in children</b> University Hall - Kanunnikenzaal
09:30 - 11:00	<b>sym201-6 The Highly Sensitive Child Scale as a Measure of Differential Susceptibility: Cross-Cultural and</b>	<b>sym201-7 Early childcare settings and their role for children's development of effectiveness in social</b>	<b>sym201-8 (Social-)Cognitive mechanisms of prospective memory development</b>	<b>pap201-9 Parenting of Children and Adolescents</b> UCK - Lokaal 017	<b>pap201-10 Depression in Children and Adolescents</b> UCK - Lokaal 114

	<b>Developmental Findings</b> University Hall - Zaal 1636	<b>interactions</b> UCK - Theaterzaal	University Hall - Westerdijk		
09:30 - 11:00	<b>pap201-11 Bullying and Victimization in Children and Adolescents</b> UCK - Lokaal 115	<b>pap201-12 Effortful Control and Moral Development</b> UCK - Lokaal 018	<b>pap201-13 Child and Parent Intervention Programs</b> UCK - Lokaal 113		
11:00 - 12:00	Poster session 201 and coffee Dom Church				
	<b>11:30 Livingroom of Science: How to achieve impact with your research?</b> Dom church - Sacristie				
12:00 - 12:45	<b>key03 Trust and Self-Control in Relationships</b> Dom Church				
12:45 - 13:45	Poster session 202 and lunch Dom Church				
	<b>13:00 Livingroom of Science: Take care, make your data FAIR</b> Dom church - Sacristie				
13:45 - 15:15	<b>isym202-1 Advances in the study of adolescent identity formation</b> University Hall - Aula	<b>sym202-2 The effect of parenting programs on parenting behavior and cognition</b> Cervantes - Grote Zaal	<b>sym202-3 Peers in the School Context: A Resource for Adjustment and the Reduction of Social Exclusion among Ethnic Majority and Minority Youth?</b> UCK - Torenzaal	<b>sym202-4 Developing Gratitude in Children and Adolescents</b> University Hall - Kanunnikenzaal	<b>sym202-5 A new light on empathy in children and adolescents</b> UCK - Theaterzaal
13:45 - 15:15	<b>sym202-6 A psychosocial perspective on the development of internalizing symptoms across adolescence</b> University Hall - Zaal 1636	<b>sym202-7 From Programs to Systems: The Challenge of Implementing Evidence Based Prevention Programs</b> UCK - Marnixzaal	<b>sym202-8 Reading Development in Primary School: The Role of Home Literacy Environment and Children's own Print Exposure</b> UCK - Lokaal 018	<b>sym202-9 Mental state understanding in typical and atypical development: social, parental and individual influencing factors</b> University Hall - Westerdijk	<b>pap202-10 Attachment Processes</b> UCK - Lokaal 114
13:45 - 15:15	<b>pap202-11 Wellbeing across Development and Context</b> UCK - Lokaal 115	<b>pap202-12 Romantic Relationships and Partner Violence</b> UCK - Lokaal 113	<b>pap202-13 Mathematics Development In Childhood</b> UCK - Lokaal 017		
15:15 - 16:15	Poster session 203 and coffee Dom Church				
	<b>15:30 Livingroom of Science: Responsiblere search practices</b> Dom church - Sacristie				

16:15 - 17:45	<b>sym203-1 Presidential symposium Building bridges between developmental and educational psychology</b> UCK - Marnixzaal	<b>sym203-2 Contributions of child and parent characteristics to parenting and their underlying mechanisms</b> Cervantes - Grote Zaal	<b>sym203-3 Telling a story together - influence of caregivers and unfamiliar adults in childhood and adolescence</b> UCK - Torenzaal	<b>sym203-4 Prenatal Risk Exposures, Parental Stress and Child Psychopathology</b> UCK - Theaterzaal	<b>sym203-5 Personality and life success</b> UCK - Lokaal 113
16:15 - 17:45	<b>sym203-6 Psychological Adaptation in Minority Immigrant Adolescents?: Prosocial Behavior, Self-Efficacy, Self-Esteem and Well-Being</b> University Hall - Belle van Zuylen	<b>sym203-7 Developmental relationships between language and executive functions</b> University Hall - Kanunnikenzaal	<b>pap203-8 Fear and Anxiety in Children and Adolescents</b> UCK - Lokaal 114	<b>pap203-9 Empathy in Children and Adolescents</b> UCK - Lokaal 115	<b>pap203-10 Learning and Cognitive Development</b> UCK - Lokaal 017
16:15 - 17:45	<b>pap203-11 School and Educational Processes</b> UCK - Lokaal 018				
17:45 - 18:00	Break				
18:00 - 18:45	<b>Presidential address Translating knowledge into interventions: An 'individual by context' approach to bullying</b> Dom Church				
18:45 - 19:45	<b>EADP Business meeting</b> Dom Church				
19:15 - 21:00	<b>2019 Reception</b> Pandhof				

### Friday, 1 September 2017

08:30 - 09:15	<b>key04 The development of moral and social judgments: Coordination in decision-making, social inequalities, and resistance</b> Dom Church				
09:15 - 09:30	Break				
09:30 - 11:00	<b>isym301-1 The dynamics of psychological processes: When intensive longitudinal data meet state-of-the-art statistical modeling</b> University Hall - Aula	<b>sym301-2 Parental and socio-cultural influences on self-regulation across childhood and adolescence</b> Cervantes - Grote Zaal	<b>sym301-3 Family relation and child development</b> University Hall - Kanunnikenzaal	<b>sym301-4 How Social Position and Social Cognition Affect Aggressive and Prosocial Peer Interactions</b> University Hall - Zaal 1636	<b>sym301-5 Risky aspects of youth romantic relationships</b> UCK - Theaterzaal
09:30 - 11:00	<b>sym301-6 Ethnic Identity Processes and Behavioural</b>	<b>sym301-7 Crossing The Line Between The Use And</b>	<b>sym301-8 Managing educational and work-related</b>	<b>sym301-9 Factors affecting development of</b>	<b>pap301-10 Emotion Comprehension, Regulation and</b>

	<b>Outcomes in Immigrant, Refugee, and Non-Immigrant Adolescents</b> University Hall - Belle van Zuylen	<b>Abuse Of New Technologies</b> UCK - Torenzaal	<b>transitions: Young people's well-being and identity as resource and outcome</b> UCK - Marnixzaal	<b>reasoning abilities in children</b> University Hall - Westerdijk	<b>Socialization</b> UCK - Lokaal 018
09:30 - 11:00	<b>pap301-11 Interventions on Socio-emotional Behavior</b> UCK - Lokaal 115	<b>pap301-12 Issues of Gender Across Development</b> UCK - Lokaal 113	<b>pap301-13 Self-Perceptions and Social Skills across Development</b> UCK - Lokaal 114		
11:00 - 12:00	Poster session 301 and coffee Dom Church				
	<b>11:10 Livingroom of Science: Ghost-authors on your paper: A problem or needed to get your paper published?</b> <b>11:30 Livingroom of Science: Researcher's degrees of freedom</b> Dom church - Sacristie				
12:00 - 12:45	<b>key05 Applied games for increasing emotional health in youth: Opportunities and challenges</b> Dom Church				
12:45 - 13:45	Poster session 302 and lunch Dom Church				
	<b>13:00 Livingroom of Science: The benefits of open data</b> Dom church - Sacristie				
13:45 - 15:15	<b>isym302-1 Bullying in different cultures</b> University Hall - Aula	<b>sym302-2 Self-regulation: assessment, outcomes, parenting strategies, and intervention opportunities</b> UCK - Theaterzaal	<b>sym302-3 Parenting during adolescence: longitudinal studies exploring antecedents, and outcomes of parental behavior.</b> Cervantes - Grote Zaal	<b>sym302-4 Understanding the psychosocial impact of medical trauma on the family</b> University Hall - Kanunnikenzaal	<b>sym302-5 Youth Sexual Identity and Gender Nonconformity: Intersections with Contexts, Race/Ethnicity, Gender Conformity, and Economic Precarity</b> UCK - Torenzaal
13:45 - 15:15	<b>sym302-6 The Role of Theory of Mind in Child Social Adjustment and Maladjustment</b> UCK - Marnixzaal	<b>sym302-7 Bayesian Estimation for SEM with Small Samples: Advantages, Precautions, and Empirical Applications</b> University Hall - Zaal 1636	<b>pap302-8 Identity Processes</b> University Hall - Belle van Zuylen	<b>pap302-9 Child Care</b> UCK - Lokaal 114	<b>pap302-10 Psychopathology, Physical Disabilities and Learning Disabilities</b> UCK - Lokaal 115
13:45 - 15:15	<b>pap302-11 Development of Memory, Reasoning, and Decision Making</b> University Hall - Westerdijk	<b>pap302-12 Educational Aspirations and Reading Difficulties</b> UCK - Lokaal 113	<b>pap302-13 The Role of Culture, Ethnicity, and Immigration</b> UCK - Lokaal 018		
15:15 - 16:15	Poster session 303 and coffee Dom Church				

16:15 - 17:45	<b>isym303-1 To understand [politics] is to invent [ways to listen to it]</b> <b>Readings on the diversity of European youth civic and political participation</b> UCK - Lokaal 018	<b>sym303-2 The role of school context in the development of inter-ethnic relationships</b> UCK - Marnixzaal	<b>sym303-3 Intergenerational adjustment in refugee parents and children: International scientific perspectives</b> UCK - Theaterzaal	<b>sym303-5 Homophobia, Minority Stress, and Well-being of Sexual Minorities</b> University Hall - Belle van Zuylen	<b>sym303-6 Teachers' role in bullying dynamics</b> UCK - Torenzaal
16:15 - 17:45	<b>sym303-7 Positive youth development in Europe and other non-US contexts</b> UCK - Lokaal 018	<b>sym303-8 Reliability of neurocognitive measures of child development</b> Dom church - Sacristie	<b>pap303-9 Parental Characteristics and Behavior and Parent-Child Relationships</b> UCK - Lokaal 113	<b>pap303-10 Language Development</b> UCK - Lokaal 114	<b>pap303-11 Studies on (Social) Media</b> UCK - Lokaal 115
16:15 - 17:45	<b>pap303-12 Self-regulation in Children and Adolescents</b> University Hall - Westerdijk	<b>pap303-13 Cognitive and Socio-Emotional Development</b> University Hall - Zaal 1636			
17:45 - 18:00	Break				
19:45 - 21:00	<b>Conference dinner</b> Winkel van Sinkel				

## Special Events

Abstracts are available in the app

### Tuesday August 29

17:00-17:30 Opening ceremony

17:30-18:30 Preyer Award

### Wednesday August 30

08:30-09:15 *Children's developing digital literacy: Dilemmas in linking evidence and policy*  
Sonia Livingstone (key01)

09:30-11:00 *Meet The Editors - ERU Round Table with Discussion*  
Pasquale Musso (sym101-8)

12:00-12:45 Butterworth Young Scientist award

16:15-17:45 *"An In Memoriam Symposium For Professor Çiğdem Kağitçibaşı"*  
Ype H. Poortinga (isym103-1)

16:15-17:45 *"Positive youth development in europe and other non-us contexts":*  
EADP-ISSBD symposium (sym103-7)

18:00-18:30 ERU Poster awards

18:30-19:00 ERU Meeting

### Thursday August 31

08:30-09:15 *Theory of mind development in childhood: The state of the art*  
Henry Wellman (key02)

09:30-11:00 *"Public debate on multidisciplinary approaches in practice: impossible or piece of cake?"*  
Dynamics of YOUTH (sym201-1)

12:00-12:45 *Trust and Self-Control in Relationships*  
Catrin Finkenauer (key03)

16:15-17:45 *"Building bridges between developmental and educational psychology"*  
Ersilia Menesini, Christiane Spiel, Frosso Motti, and Katariina Salmela-Aro (presidential symposium)

18:00-18:45 *"Translating knowledge into interventions: an 'individual by context' approach to bullying"*  
Ersilia Menesini (presidential address)

18:45-19:45 EADP Business meeting

19:30-20:00 ECDP2019 Reception



## Friday September 1

- 08:30-09:15 *The development of moral and social judgments: Coordination in decision-making, social inequalities, and resistance*  
Elliot Turiel (key04)
- 09:30-11:00 *“The dynamics of psychological processes: When intensive longitudinal data meet state-of-the-art statistical modeling”*  
Ellen Hamaker, Loes Keijsers, and Manuel C. Völkle (isym301-1)
- 12:00-12:45 *Applied games for increasing emotional health in youth: Opportunities and challenges*  
Rutger Engels (key05)
- 20:00 Conference Dinner

## Living Room of Science

### Wednesday August 30

- 11:10- 11:30 *Opening of the Living Room & some inspiring movies*  
Rens van de Schoot, Utrecht University, Department of Methods and Statistics/ Optentia  
Research Focus Area, North-West University, The Netherlands/ South Africa
- 11:30- 11:50 *JASP: A Fresh Way to Do Statistics.*  
Eric-Jan Wagenmakers, University of Amsterdam, The Netherlands
- 13:00 - 13:30 *Is there a Glass Ceiling in Developmental Psychology?*  
*Belle Derks, Utrecht University, The Netherlands*
- 15:25- 15:45 *How to reach your Horizon: 10 mistakes you shouldn't make when writing H2020 grants!*  
Claudia Nicolaije, Evers + Manders Grant Consultants, The Netherlands
- 15:45- 16:05 *How to get your paper published*  
Robin Banerjee, School of Psychology, University of Sussex, United Kingdom

### Thursday August 31

- 11:30- 11:50 *How to achieve impact with your research?*  
Stans de Haas, Utrecht University, The Netherlands
- 13:00 - 13:30 *Take care, make your data FAIR*  
Peter Doorn, DANS, Data Archiving and Networked Services, The Netherlands
- 15:30- 16:00 *Responsible research practices*  
Ton Hol, Utrecht University, The Netherlands

### Friday September 1

- 11:30- 11:30 *Ghost-authors on your paper: A problem or needed to get your paper published?*  
Rens van de Schoot, Utrecht University, Department of Methods and Statistics/ Optentia  
Research Focus Area, North-West University, The Netherlands/ South Africa  
Stefan van der Stigchel, Experimental Psychology, Utrecht University, The Netherlands
- 11:30- 11:50 *Researcher's degrees of freedom*  
Rens van de Schoot, Utrecht University, Department of Methods and Statistics/ Optentia  
Research Focus Area, North-West University, The Netherlands/ South Africa  
Jelte Wicherts, Tilburg University, The Netherlands
- 13:00- 13:30 *The benefits of open data*  
Jelte Wicherts, Tilburg University, The Netherlands

## Social Events

### Welcome Reception

Tuesday August 29, 2017

Time: 18:30-19:30

Location: Pandhof Garden & Utrecht University Hall, Domplein 29

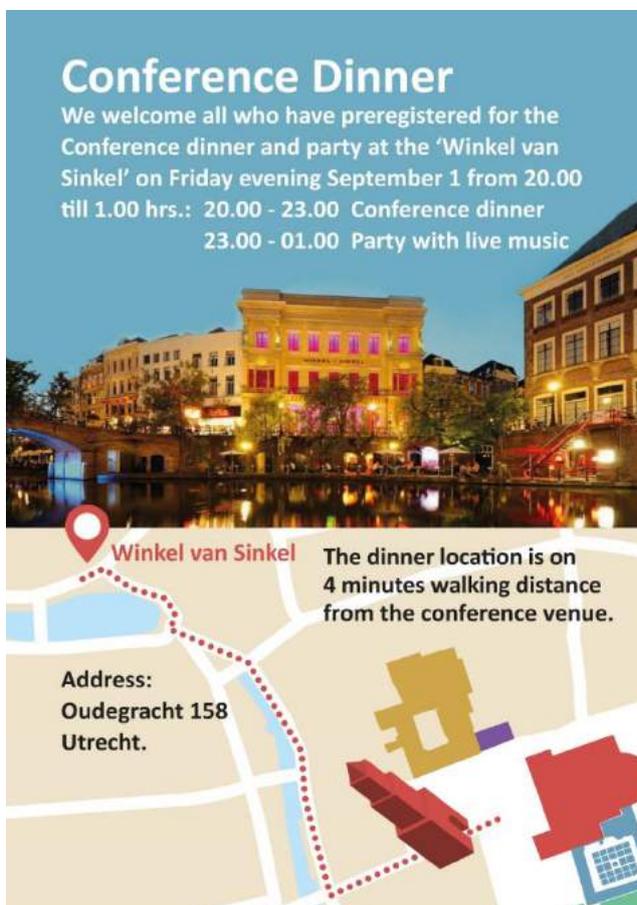
All conference delegates are warmly invited to attend the welcome reception on Tuesday 29th August. This event opens the 18th European Conference on Developmental Psychology, giving an excellent opportunity to network, meet old friends and colleagues, as well as meet new people as the program begins.

### Conference Dinner (Ticketed)

Date: Friday September 1, 2017

Time: 20:00

Location: Winkel van Sinkel, Oudegracht 158

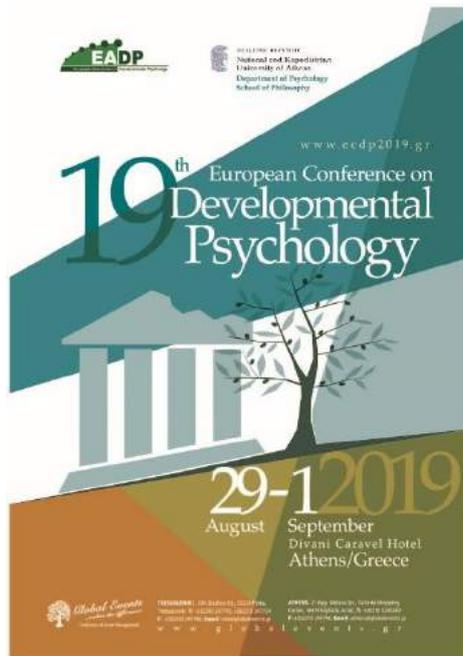


## ECDP Conference 2019

Dear Colleagues,

On behalf of the European Association for Developmental Psychology (EADP), it is my pleasure and honor to invite you all to the 19th European Conference on Developmental Psychology, which will take place in Athens, Greece, August 29th to September 1st, 2019.

The Organizing Committee of the Conference will be comprised of members of the Department of Psychology of the National & Kapodistrian University of Athens, as well as of members of other Psychology Departments in the country. The Scientific Committee will consist of both national and international scholars.



We are already preparing an exciting program and distinguished speakers will be invited to share with us their valuable knowledge and experience. As with previous conferences of the Association, the scientific program will also consist of such scientific activities as invited symposia, symposia, oral sessions and poster presentations.

Our aim is to offer a chance to all participants to exchange research interests, ideas, and experience in Developmental Psychology, as well as the latest developments in the field.

You can also count on an exciting social program, which will include the Opening Reception, city and museum visits, other leisure activities, as well as possible visits to archaeological sites such as Cape Sounio, Delphi, Mycenae and Epidaurus, and a one day cruise to the Saronic Gulf.

Athens is connected to all European cities with direct flights. The weather, at the time of the conference, is comfortably warm, with temperatures ranging from 27 - 32 degrees Celsius.

My colleagues and I look forward to welcoming you in Athens and hope that you will enjoy the Conference as well as your stay in Greece.

You are welcome to participate in the **ECDP2019 RECEPTION – Thursday, August 31 2017**, starting at 19:30

Spyridon Tantaros  
Professor of Developmental Psychology  
Department of Psychology  
National & Kapodistrian University of Athens

## Monday August 28

Preconference workshops, 10:00 – 16:00 hrs.

### **Introduction to R: How to get started**

Gerko Vink

*Columbia University, USA*

This workshop will introduce participants to statistical programming in *R*. This statistical programming software is becoming increasingly popular to conduct data analyses within the field of developmental psychology. *R* is a highly flexible statistical tool and is able to perform a wide range of statistical procedures. The aim of this workshop is to introduce attendees to *R* by teaching them how to operate *R*, read data from external files (e.g., spss, excel), make high quality graphs, run some basic statistics such as regression models and t-tests, and communicate with other software like Mplus. Participants will receive a certificate of attendance. Bring your own laptop with R and Rstudio installed (both are freely available).

### **Introduction to Mplus: How to get started**

Rens van der Schoot, Jan Boom

*Utrecht University, The Netherlands*

More and more researchers in the social and behavioural sciences are using, or want to use, Structural Equation Modelling (SEM) to investigate their theories. *Mplus* is a popular and flexible software package for doing SEM. This 1-day course provides an introduction on how to use *Mplus* to perform regression analysis and confirmatory factor analysis. The main objective of the course is to acquire a basic understanding of how to use *Mplus* for SEM as applied in the social and behavioural sciences. Moreover, participants will learn how to analyze data sets with *Mplus*, to interpret the output and to report the results. Participants are expected to have a basic knowledge of regression analysis and exploratory factor analysis. Some knowledge of SEM and software like AMOS, LISREL, Mx or EQS is helpful, but not mandatory. If you have no experience with SEM, please read the this paper. Participants need to bring their own laptop with the free demo version installed.

## Tuesday August 29

Preconference workshops, 10:00 – 16:00 hrs.

### **Bullying and Peer Relations: Multilevel and Social Network Analyses**

Rene Veenstra, University of Groningen, The Netherlands

Christina Salmivalli, University of Turku, Finland

Four decades of research on school bullying has taught us that personal characteristics alone do not explain why some children engage in bullying and why other children become victimized by their peers. Bullying is best understood as a group phenomenon where everybody plays a role. At the heart of the bullying dynamic are dyadic relationships – between bullies and their victims, or between victims and their defenders. These dyads are embedded in the wider social context of the peer group, classroom or school. It is essential that research on the causes and consequences of bullying as well as intervention strategies take into account these multiple levels of analyses (individual, dyadic, group) and the interactions between them. In this workshop, two world renowned experts in the field of school bullying and peer relations – Dr. Christina Salmivalli and Dr. René Veenstra – will present the latest research findings and discuss the most pressing questions related to bullying processes and anti-bullying interventions. They will demonstrate how these questions can be addressed with multilevel analyses and/or social network analyses.

### **Studying development with longitudinal models**

Alithe van den Akker, University of Amsterdam, The Netherlands

Loes Keijsers, Tilburg University, The Netherlands

In the first part of this workshop we will discuss key theoretical perspectives and empirical findings regarding adolescent development with examples from the personality and parenting literature. Topics include: the development of personality dimensions and types across adolescence; implications of adolescent personality development for emotional and behavioral adjustment; bidirectional associations between adolescent personality development and relationships with parents and peers. The second part of this workshop will highlight a range of longitudinal statistical models (e.g., latent growth curve analyses, cross-lagged panel modelling, mixture modelling) to answer important research questions in the field of adolescent development. Participants will receive a certificate of attendance.

### **Bayesian analysis to deal with small sample sizes**

Daniel McNeish, University of North Carolina, Center for Developmental Science, United States

Rens van de Schoot, Utrecht University, Department of Methods and Statistics/ Optentia Research Focus Area, North-West University, The Netherlands/ South Africa

Researchers in the social sciences often face a great difficulty: gathering enough data. The reason for this limited data is because in many fields data are sparse as a rule: the target group is very specific, the subjects are hard to follow over time, or data collection is extremely expensive. When research questions can be answered with 'simple' statistical models, a small data set may not be problematic. However, many research questions nowadays involve structural equation modeling (SEM), which typically requires large samples. When gathering more data is impossible, researchers with limited data are forced to drastically simplify their statistical models and only answer small parts of the bigger question, or, even worse, they decide to drop the data in a file drawer and abandon the entire project. Such strategies are obviously undesirable. Luckily there is a solution to the limited data issue: Bayesian estimation for SEM. That is, Bayesian estimation is *not* based on the central limit theorem, as is the case for maximum likelihood estimation (ML), the default estimator for SEM. In Bayesian analysis background information is captured by a, so-called, prior distribution and updated with observed data. Loosely formulated data is 'replaced' by background knowledge. In this workshop we gently introduce the participants to Bayesian analyses for SEM.



### **Getting the message across: Communicating research findings to the public**

Lara Wierenga, Leiden University, The Netherlands

Stephanie Helfferich, Utrecht University, The Netherlands

Ersilia Menesini, Department of Educational Sciences and Psychology – University of Florence, Italy

Maja Schachner, Utrecht University, The Netherlands

“I am still early in my academic career, why would anyone be interested in what I have to say?” – “I have only done research on a very specific issue, I probably do not know enough to advise practitioners or the general public” – “The academic job market is so competitive, I should rather focus on publications in high-impact journals” – “What if I say something wrong or the media misrepresent what I actually wanted to say?” These are just some thoughts that junior scholars may have when thinking about public science.

At the same time, the word “post-truth” as a characteristic of the contemporary public opinion in many societies has been selected as the word of the year 2016 by Oxford Dictionaries. In these times, it is even more important for scientists get their message across – in a way that is easy to understand and speaking to people’s everyday experiences, rather than using abstract terms and exclusively disseminating our findings in the scientific community.

In the first part of the workshop, we want to explore the many different ways of being active in public science, also at an early stage of the career, and discover the many benefits of public science – starting from how they can be useful for your own research to just seeing it as a fun and a very rewarding activity. This first part will be led by two junior scholars, both in the postdoc stage of their career, who have been active in public science in applied educational research (Maja Schachner) and in basic neuroscience (Lara Wierenga). In the second part of the workshop, we will do hands-on exercises on writing for the general public or an applied audience based on your own research. This second part will be led by Stephanie Helfferich from the press office at Utrecht University, Netherlands. Finally, the workshop will be closed by Ersilia Menesini, University of Florence, Italy and current president-elect of the EADP, who will take it back to the big picture, and how we can advocate for more recognition of public science in the scientific community.

## Wednesday August 30

### Keynote 1, Wednesday August 30, 08:30 – 09:15

key01 Children's developing digital literacy: Dilemmas in linking evidence and policy

Sonia Livingstone

*Dept. of Media and Communications, United Kingdom*

In my talk, I will critically examine how empirical research on children's internet use can and does inform policy and practitioner debates, building on three specific case studies in which I have been involved, each focused on matters of socio-cognitive development:

1. The European Commission's General Data Protection Regulation, determined that children under the age of 16 cannot not access "information society services" without parental permission. What does the evidence on children's developing media literacy, and on parental understanding of children's online activities, suggest about how evidence-based policy regarding age and maturity could improve the present situation?
2. In the UK, a national consultation on how to encourage social media companies to take responsibility for children accessing their services proposed a development analysis that, since is being used to guide policy decisions about children's maturity and resilience regarding online services. Is this wise? What are the developmental issues at stake?
3. The Council of Europe is currently developing guidance for its 47 member states, relying not on age restrictions as above, but on the UN Convention on the Rights of the Child's principle of policy and practice that represents the child's "best interests" in digital environments. Is this the optimal solution?

I will conclude by considering how developmental psychologists could further contribute to these crucial policy debates with widespread consequences for children's online experiences.

## Symposium sessions 101, Wednesday August 30, 09:30 – 11:00 hrs.

### isym101-1 Capturing individual variation in cognitive development during infancy: Does it scale up?

Infancy is a period of dramatic change for cognitive development, in which individual differences are already widespread. Traditionally, most prospective infant cohorts – interested in understanding individual growth trajectories – sample infancy mainly via parental questionnaires providing a coarse, indirect, and possibly biased overview of cognitive development. However, due to technological advances in EEG and eyetracking, it has become easy and cheap to collect task-related measurements from the infants themselves, within a visit. Further, several studies have linked such infant measures on cognitive development with future development, albeit with small sample sizes (20-50 infants). As a next step, it seems only logical that prospective cohort studies should implement such tasks tapping cognitive development. But are we really there yet? After all, evidence for the validity of these outcome measures at the individual level is scant: 1) sample sizes in infant studies are notoriously underpowered; 2) the settings of these paradigms are developed to highlight group effects, not to make them as sensitive as possible to individual variations; and 3) most infant paradigms do not provide test-retest results. In the current session, we have four presentations from prospective infant cohorts (Canberra Longitudinal Child Language Project, Language 0-5; EU-AIMS, Youth), informing us on how they optimized paradigms for large-scale infant measurements, while the final presentation from the ManyBabies project describes the multi-site approach to improve infant measurements. Thus, this symposium aims to unite researchers from all over the world on their quest for optimal infant paradigms.

#### isym101-1.1 Preparations for the infant Youth cohort: Measuring neurocognitive development longitudinally

Caroline Junge, Carlijn Boomen, van den, Charlotte Onland-Moret, Chantal Kemner  
*Utrecht University, Netherlands*

Although many relevant brain mechanisms develop rapidly during the first few years of life, it remains unclear how these changes relate to risk, resilience and the eventual development of (ab)normal behavior. The reason is that there is a paucity of longitudinal studies examining structure and function of the brain from infancy to adolescence: most studies use cross-sectional designs. There is also little insight into the factors that shape brain and behavior over development, nor whether such influences remain stable over time. The YOUth cohort therefore aims to investigate the neurocognitive development in two cohorts, each with 3000 children: an infant cohort (from fetus to child) and an adolescent cohort (from child to adolescent). Yet while suitable paradigms for children exist, there hardly exists any large-scale experimental research on infants that go beyond parental questionnaires. Here, we report how we developed the neurocognitive task battery of our infant cohort. First, we selected established tasks that measure key processes of neurocognitive development; are appropriate for infants but can be measured across all ages; tap into critical developmental periods; yield meaningful individual differences; and finally have high test-retest reliability. Although we found several candidates that fulfilled some criteria, we noticed that for most tasks, little was known about their test-retest reliability in infancy. We therefore ran a battery of these tasks with 10-month-olds ( $n=75$ ) who visited our lab twice within 2 weeks. We next examined for each task their test-retest reliability. Based on this, we decided to keep some of these tasks as is; changed some of the parameters for some other tasks (i.e. reducing conditions); while we decided against some other tasks. As a result, we now have an assessment battery that we believe is fine-tuned at the age of the participants (5 vs. 10 months) and stripped from unnecessary testing.

#### isym101-1.2 Charting individual differences in language processing and acquisition across development.

Evan Kidd, Seamus Donnelly, Anne Cutler  
*The Australian National University, Australia*

First language acquisition is a developmental process categorised by significant yet stable individual differences (Bates, Dale, & Thal, 1994; Bornstein & Putnick, 2012). Over the last few decades there has been an increasing accumulation of evidence to suggest that early proficiency predicts greater gains in subsequent linguistic knowledge across development (e.g., Cristia, Seidl, Junge, Soderstrom, & Hagoort, 2014; Fernald, Perfors, & Marchman, 2006). While we should expect individual differences to predict growth within domains (e.g.,

vocabulary at 12 months predicting vocabulary at 24 months), cross-domain predictive relations are particularly insightful because they can reveal important insights into the process of acquisition, serving to constrain our theoretical models by revealing patterns of representation and drivers of developmental change across time. In this talk we will introduce the Canberra Longitudinal Child Language Project, a longitudinal cohort study of approximately 120 children, which aims to chart individual variability in on-line language processing and children's input with the aim of determining their role in language acquisition. Children are being followed from the age of 9 months until they are 5 years. From 9 – 24 months the children are being tested every 3 months on on-line experimental tasks of language processing (probing different aspects of acquisition at developmentally appropriate time points, e.g., segmentation, lexical and syntactic processing). Additionally, measures of their input and their linguistic knowledge are being taken. From 30 – 60 months the children are tested every 6 months. This talk will describe our general approach, with a focus on methodological decisions made concerning the need to identify stable individual differences. These points will be illustrated with data yielded from the project.

### **isym101-1.3 Does variation in infants' statistical learning ability predict variation in vocabulary growth?**

Caroline Rowland, Michelle Peter, Samantha Durrant, Amy Bidgood, Padraic Monaghan, Rebecca Frost, Colin Bannard, Evan Kidd,  
*ESRC LuCiD Centre, University of Liverpool, United Kingdom*

It is generally accepted that children must be able to use statistical information in the speech stream to learn language. For example, robust results across multiple studies suggest that young infants can use transitional probabilities between adjacent phonemes to segment words from an artificial language speech stream (e.g. Saffran, Newport, & Aslin, 1996). This is considered to be a core precursor skill for the acquisition of language. However, most work to date focusses on identifying whether children can utilise statistical information in experimental paradigms. There is far less work on whether children's statistical learning ability predicts the speed with which they subsequently learn language. This is a problem, since a clear prediction of this work is that these precursor skills will have a direct impact on children's later language acquisition.

The aim of this study was to determine whether individual variation in children's statistical learning ability predicts how quickly they learn vocabulary. We present a subset of data from the longitudinal multi-method Language05 project, in which we are following 80 English-learning children from 6 months to 4;6 years, studying how and why children differ in the speed with which they develop language in the first five years of life.

We explain how we a) adapted a classic headturn preference paradigm into an eyetracker-based method for capturing individual differences in speech segmentation ability, b) adapted habituation and eyetracking visual learning paradigms to capture individual differences in visual sequence learning speed, and c) used growth curve analysis to test whether children's ability to learn from statistical regularities in auditory and visual stimuli predicted the speed of their later vocabulary growth. We discuss how these methods are helping us discover the learning mechanisms that underpin language development.

### **isym101-1.4 Biomarkers for ASD: Developing infant measures sensitive to neurocognitive causal mechanisms**

Emily Jones, Luke Mason, Eurosibs Team  
*Centre for Brain and Cognitive Development, Birkbeck College, United Kingdom*

Autism Spectrum Disorder affects social communication and flexible behaviour in up to 1% of the European population. Over the last 15 years, a large number of prospective cohort studies of infants at familial risk for ASD have revealed that behavioural symptoms of autism emerge gradually over the first three years of life. Developing effective new treatments for autism involves understanding the mechanisms underlying the emergence of these behavioural symptoms. But whilst we are beginning to be able to characterise the genetic architecture of ASD in exquisite detail, we have very little understanding of the neurodevelopmental paths that mediate between these genetic changes and behavioural symptom profiles. Developing infant 'biomarkers' of core neurocognitive systems that can be used in prospective studies of high risk infants is critical to this endeavour. In this talk, I will discuss how we selected core measures for use in the Eurosibs study, a multisite study of infants at high familial risk for ASD. Our protocol includes both measures designed to target particular

neurocognitive functions (like attention shifting), and measures designed to capture spontaneous eye movements and brain activity that can be subject to data mining approaches. I will present data suggesting that some of these measures predict autism outcome, are sensitive to intervention effects, and covary with risk for ASD in typical population samples. Thus, our protocol holds significant promise for new understanding of ASD. However, I will also highlight remaining challenges that are being addressed by Eurosibs, including the need for replication and larger sample sizes; and our solutions to scaling up our measures for multisite implementation. Finally, I will touch on the issue of test-retest reliability, and why this criterion may be hard to obtain for the measures most likely to be useful in understanding ASD.

### **isym101-1.5 A multi-site collaborative approach to infant research: The ManyBabies project**

Christina Bergmann

*Laboratoire de Sciences Cognitives et Psycholinguistique, Ecole Normale Supérieure, France*

The ManyBabies project exemplifies a new approach in psychology: collaborative, multi-site pre-registered projects. In a first study currently underway infants' well-documented preference of infant-directed over adult-directed speech is assessed in laboratories around the globe. This study shows how sample size can be increased with minimal cost and workload for single researchers, as the creation of stimuli and testing protocols is centralized and has been pre-registered before the start of data collection.

The project serves four purposes that are relevant for mapping out individual and group-level variation: First, we assess the size of the presumably robust effect in a large sample taken from diverse populations. Second, sources of individual and group-level differences can be examined directly and thus inform theories of infant development. For example, infants preference might change as they accumulate language experience. To address this question, we densely sample across ages where change is predicted and test infants aged 3 to 15 months. Further, while native language, and the associated linguistic and cultural differences, are often thought to explain (some) variability in infant data, directly assessing such predictions remains difficult without sizable cross-site coordination. At this time, labs representing 11 languages (and dialects within those languages) are poised to contribute data. Third, methods might differ in how noisy they are. Infant-directed speech preference can be assessed in a behavioral paradigm measuring headturns and by tracking eye movements automatically, or by hand. Fourth, all protocols, stimuli, analyses, and anonymized data will be freely available, setting a new standard for best practices in developmental research. Follow-up studies can use materials and compare their finding to our results, for example by expanding the present study to new populations.

In sum, multi-site approaches complement longitudinal data collection, cross-sectional studies, and meta-analyses, and allow unique insights into sources of group stability and individual variation.

## sym101-2 New insights into parents' self-efficacy: Links to parenting practices and in diverse parent samples

Terese Glatz, Chair

*Örebro University, Sweden*

Christy Buchanan, Discussant

*Wake Forest University, United States*

Parents' self-efficacy (PSE) concerns parents' beliefs about being able to influence their child in a positive way, and is an important predictor of parenting behaviors. This symposium presents data on different task-specific PSE, associations with parenting perceptions, and different parenting practices in understudied parent samples. The discussant is an expert in parenting research and the discussions will focus on implications for theory and practice.

The first study examines the association between PSE and parents' outcome expectations, and links to parenting practices. In line with theory (Bandura, 1977, 2006), the results suggest that PSE and outcome expectations should be conceptualized, and measured, as two distinct factors. PSE was a stronger predictor of promotive parenting practices than were parents' outcome expectations.

The second study examines the unique and interacting effect of PSE and social support on different parenting practices among a sample of urban American parents. The results showed that PSE and social support were associated with different parenting practices: PSE was strongly linked to parental discipline and standard setting, whereas social support might be critical for ensuring positive parent-child relationships.

The third study involves Asian American and Latin American parents and examines the links among parent-child acculturation conflict, PSE concerning cultural socialization, and perceptions of general parenting competence. Findings suggest that among Asian American parents, but not among Latin American parents, higher levels of ethnic PSE weakened the negative link between acculturation conflict and parents' sense of competence.

The fourth study focuses on parents' alcohol-specific rule setting and PSE, both as outcomes of a prevention program among Dutch parents of children aged 12 at baseline. The results showed that targeting parents as well as their children was effective in increasing parents' strict rule-setting about alcohol, which in turn predicted an increase in PSE and not vice versa.

### sym101-2.1 Examination of PSE: Associations with parents' outcome expectations and practices

Terese Glatz

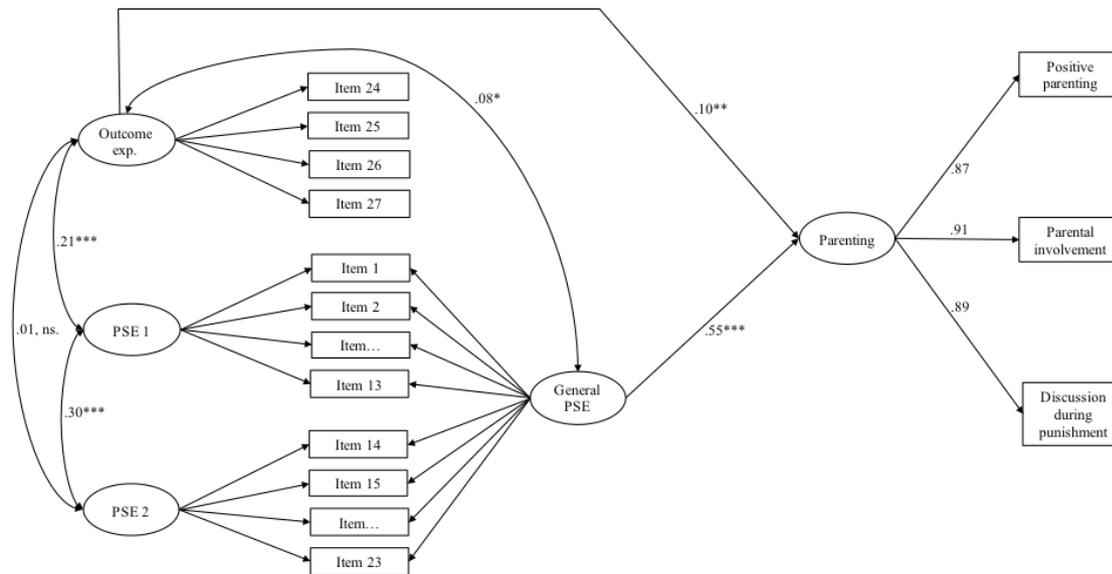
*Örebro University, Sweden*

**Aim:** This study examines the conceptualization of parental self-efficacy (PSE). Although Bandura (1977, 2006) made a distinction between a person's efficacy expectations (i.e., self-efficacy, judgments about the capability to execute given types of performances) and a person's outcome expectations (i.e., judgments about the outcomes that are likely to flow from such performances), this distinction has not been done in the PSE literature. We examined the factorial structure of PSE, whether or not it is distinguished from parents' outcome expectations, and how these two cognitive aspects are related to parenting practices.

**Methods:** A nationally representative sample of 968 American parents of children in ages 11 to 18 was used. Parents reported on their PSE and their parenting practices. Further, to operationalize parents' outcome expectations, we asked parents to report on their expectations that their practices will lead to an expected outcome in their child. Exploratory and confirmatory factor analyses were performed to examine the factor structure of PSE and parents' outcome expectations, and structural equation modeling was used to examine the links between these two cognitive aspects and parenting practices.

**Results:** The results suggested that PSE and parents' outcome expectations should be conceptualized, and measured, as two distinct factors, and not being part of the same overall factor. Additionally, the analyses showed that PSE might be seen as a unidimensional construct with multidimensional aspects (two dimensions). Specifically, we found two sub-categories of PSE, and the results showed that these were more strongly linked to parenting practices than were parents' outcome expectations (see Figure 1 for results).

**Conclusions:** In general, the results offer further understanding of the underlying processes of parenting showing that parents' beliefs about their abilities might be especially important for their behaviors. What cognitive mechanisms are at play should guide the way we implement this knowledge into practice.



Figure

1: Bi-factor SEM model with standardized coefficients

## sym101-2.2 Self-efficacy, social support, and parenting during early adolescence

Melissa Lippold

University of North Carolina at Chapel Hill, United States

**Aim:** More studies are needed that investigate predictors of positive parenting, especially during early adolescence, a time of high risk for negative youth outcomes. Prior studies on young children have found that parents' self-efficacy and their social support may both be important for parenting. This study investigated the unique and interactive effects of these on parenting behaviors during early adolescence and whether these differ by parent gender.

**Methods:** Longitudinal data were obtained from 647 mothers and fathers in two-parent families with early adolescents. Measures of parenting included youth and parent reports of maternal and paternal consistent discipline, standard setting, and the parent-child affective relationship (positive/negative affective quality). Multi-level models were used to account for the nesting of the data (parent within family). In separate preliminary models, parent self-efficacy and social support at Wave 1 predicted changes in parenting between Wave 1 and 2.

**Results:** Greater self-efficacy was associated with more consistent discipline and standard setting (Table 1). More social support was associated with more positive and less negative parent-child affective relationships. A marginal moderation effect by parent gender was found for the associations between social support and standard setting ( $p = .057$ ). Follow up tests of the simple slopes revealed significant associations for fathers ( $B = .21, SE = .06, p < .001$ ) but not mothers ( $B = .04, SE = .06, p > .05$ ). For our other outcomes, the interaction between social support and efficacy was nonsignificant.

**Conclusions:** Self-efficacy and social support had unique associations with different parenting practices. PSE may have important implications for parental discipline and standard setting, whereas, social support may be critical for ensuring positive parent-child relationships. Social support may also enable fathers to more effectively set standards. The presentation will include a discussion about intervention implications.

Table 1.  
*Parents' Self-Efficacy and Social Support Predict Changes in Parenting Behavior*

	Consistent Discipline		Standard Setting		Positive Affective Quality		Negative Affective Quality	
	Est	SE	Est	SE	Est	SE	Est	SE
<b>Fixed Effects</b>								
Parents' self-efficacy	.18***	(.04)	.10*	(.05)	-.05	(.03)	-.01	(.03)
Social support	.03	(.04)	.11*	(.04)	.07*	(.04)	-.07*	(.03)
T1 parenting	.44***	(.02)	.47***	(.03)	.75***	(.02)	.69***	(.02)
Youth gender	-.07	(.05)	-.07*	(.05)	-.09	(.05)	-.02	(.04)
Parent education	.02	(.01)	-.02	(.01)	-.01	(.01)	.01	(.01)
Dual bio parent	.02	(.05)	.10	(.08)	.06	(.06)	.06	(.04)
Condition	-.00	(.05)	.07	(.06)	-.01	(.05)	-.07*	(.04)
Parent gender	.01	(.03)	-.07*	(.03)	-.12*	(.03)	.00	(.02)
<b>Random effects</b>								
Intercept	.19****	(.02)	.35****	(.04)	.22***	(.02)	.11***	(.01)
Residual	.26***	(.02)	.34****	(.02)	.26***	(.01)	.18***	(.01)

\*  $p \leq .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 1: Parents' self-efficacy and social support predict changes in parenting behavior

### sym101-2.3 Cultural PSE and Perceived Parenting Competence in Asian American and Latino/a Families

Lisa Kiang

Wake Forest University, United States

**Aim.** Parenting among immigrant families is uniquely challenging and rewarding (Garcia Coll & Pachter, 2002). Above and beyond normative parenting demands, immigrant parents also face pressure to adapt to the mainstream while considering what heritage values to retain and communicate to their children (Jambunathan et al., 2000). Such acculturation pressures might have negative consequences for the degree to which parents feel capable in their general parenting role (Abidin, 1995). We examined independent and interactive effects of parent-child acculturation conflict and parenting self-efficacy that is specifically linked to cultural socialization (i.e., cultural PSE, parents' confidence in instilling heritage, bicultural, and American values in their children) on perceptions of parenting competence.

**Methods.** Our findings draw on surveys from 58 Asian American and 153 Latin American parents of children in grades 6-12, who represent rapidly growing but still understudied U.S. immigrant populations (U.S. Census, 2011). Parents were asked about parent-child acculturation conflict, their perceptions of competence as parents, and three questions measuring their cultural PSE.

**Results.** The results suggested that less acculturation conflict was associated with more perceptions of general parenting competence for both Asian and Latin American parents (Table 1). More cultural parenting self-efficacy was associated with more perceived parenting competence for Latino/a parents only. One significant interaction (acculturation conflict X heritage self-efficacy) was found, but only for Asian Americans, whereby the negative effect of acculturation conflict on perceptions of parenting competence was weaker for those who felt efficacious in transmitting heritage messages (Figure 1).

**Conclusions:** The findings suggest that cultural experiences play a highly salient role in determining parenting attitudes and perceptions. Specifically, the potential stress associated with a family's history of immigration might undermine parents' perceptions of general competence. However, helping parents from immigrant backgrounds feel confident about their cultural socialization is likely to carry some benefits for these parents.

Predictor	Latino/a parents ( <i>n</i> = 153)				Asian American parents ( <i>n</i> = 58)			
	<i>b</i>	<i>SE</i>	<i>P</i>	$\beta$	<i>b</i>	<i>SE</i>	<i>p</i>	$\beta$
Model 1								
Acculturation conflict	-0.25	0.04	<.001	-.43	-0.25	0.04	<.001	-.44
Heritage PSE	0.13 <sup>a</sup>	0.03	<.001	.36	0.04 <sup>a</sup>	0.04	.227	.15
Heritage PSE*conflict	0.03	0.03	.338	.07	0.07	0.03	.027	.26
Family income	0.07	0.03	.039	.13	0.07	0.03	.039	.11
Born in the U.S.	-0.16	0.09	.086	-.09	-0.16	0.09	.086	-.14
Child's grade	0.01	0.02	.702	.02	0.01	0.02	.702	.03
Model 2								
Acculturation conflict	-0.24	0.04	<.001	-.42	-0.24	0.04	<.001	-.41
Bicultural PSE	0.16 <sup>b</sup>	0.03	<.001	.43	0.01 <sup>b</sup>	0.05	.812	.03
Bicultural PSE* conflict	0.04	0.03	.117	.11	0.02	0.05	.330	.04
Family income	0.10	0.03	.003	.18	0.10	0.03	.003	.16
Born in the U.S.	-0.17	0.09	.068	-.10	-0.17	0.09	.068	-.14
Child's grade	0.02	0.02	.410	.05	0.02	0.02	.823	.06
Model 3								
Acculturation conflict	-0.22	0.04	<.001	-.38	-0.22	0.04	<.001	-.36
American PSE	0.15 <sup>c</sup>	0.03	<.001	.37	0.04 <sup>c</sup>	0.04	.342	.12
American PSE*conflict	0.02	0.03	.485	.04	0.05	0.04	.290	.13
Family income	0.10	0.03	.003	.18	0.10	0.03	.003	.16
Born in the U.S.	-0.16	0.09	.080	-.09	-0.16	0.09	.080	-.14
Child's grade	0.01	0.02	.452	.03	0.01	0.02	.452	.03

Table 2: Results Using Study Variables to Predict Parents' Perceptions of Parenting Competence

#### sym101-2.4 Outcomes of an alcohol prevention program on parents' rule setting and PSE

Ina Koning

University of Utrecht, Netherlands

**Introduction:** Most adolescents have their first encounter with alcohol in early or middle adolescence. Parents' rules about alcohol is important in delaying the onset and reducing the frequency of adolescents' alcohol drinking, and, therefore, it is important to know how to increase such parenting practices. In this study, we examined the direction of influence between parents' rule setting and PSE as outcomes of the program "Prevention of Alcohol use in Students" (PAS), a prevention program aiming to reduce underage drinking.

**Method:** PAS is a prevention program that targets Dutch parents and their children (age 12 at baseline). In this study, we used a sample of 2,562 parent-adolescent dyads followed annually over three years. Participants were randomly assigned to one condition: (1) a parent-only intervention, (2) a student-only intervention, (3) a combined intervention that carried out both the parent and student interventions, and (4) a control condition. We tested two mediation processes in which the program would (a) increase parents' rule-setting via an increase in PSE, or (b) increase parents' rule-setting, which in turn would increase PSE.

**Results:** The results showed that the combined intervention, only, increased PSE via an increase in parents' rule setting (see Figure 1). Hence, interventions that target parents rule setting and adolescents' attitudes about alcohol were shown to have a positive impact on parents' rule setting and in turn PSE, rather than the opposite direction of influence.

**Conclusions:** This is the first study to test the mediation processes involving PSE and parental rule setting in an experimental context where parenting practices are being actively changed. The results suggest that giving parents concrete advice on how to set rules about alcohol drinking in their adolescents, and at the same time helping adolescents to develop healthy attitudes about alcohol drinking have a positive influence on parents' self-efficacy.

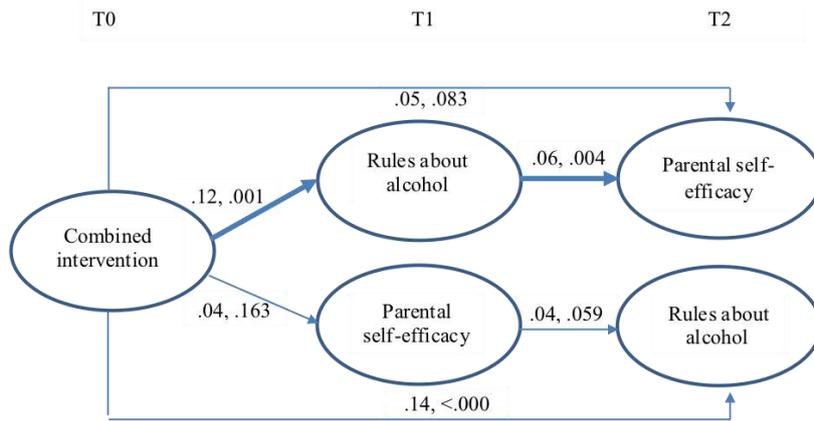


Figure 2: Effects of the combined intervention on (a) PSE via rules about alcohol and (b) rules about alcohol via PSE.

J. Loes Pouwels, Chair  
*Radboud University, Netherlands*  
Christina Salmivalli, Discussant  
*University of Turku, Finland*

The prevalence, formation, and development of bullying and peer victimization varies considerably between schools and classrooms (for a review, see Saarento et al., 2015). This symposium examines whether structural school and classroom characteristics explain these differences. It addresses the role of classroom and school size, stability in student composition within and across schools, and the proportion of (victimized) immigrant students in classrooms. By doing so, this symposium brings together data from international samples from Austria, Italy, and the Netherlands, that are analyzed with innovative methods (multi-level modelling and social network analysis).

Study 1 showed that the prevalence of bullying is lower in larger classrooms, especially in early adolescence, but not in middle adolescence. Study 2 suggests that school size and stability in student composition at primary school, in part, are likely to affect the formation and development of peer victimization at school. Study 3 revealed that stability in classroom composition protects socially rejected children against increases in victimization after the transition from primary to secondary school. Study 4 shows that in classrooms with larger percentages of immigrants and in which an immigrant classmate is victimized, bullying and supporting bullying are associated with potentially discriminatory cognitive processes.

Together, these studies demonstrate how various school and classroom characteristics may impact bullying and victimization. Some of the current studies extended previous research (for a recent overview, see Juvonen, 2017) by taking a longitudinal approach. This symposium also sheds new light on how the associations of bullying and victimization with individual characteristics, like peer rejection or cognitive processes, depend on structural classroom characteristics. The symposium highlights the importance of taking structural school and classroom characteristics into account in interventions. Prof. Salmivalli, a lead expert on prevention science, discusses practical implications and suggestions for further research.

### **sym101-3.1 Classroom Size and the Prevalence of Bullying and Victimization**

Claire F. Garandeau, Dagmar Strohmeier, Takuya Yanagida  
*Utrecht University, Netherlands*

Although a larger classroom size (e.g., higher number of students) is often believed to be associated with more bullying, few studies support this assumption. As bullying often involves the manipulation of a peer group by one or two bullies (see Garandeau & Cillessen, 2006), it might be more difficult for children who initiate bullying to control a large peer network. Moreover, victims may be more likely to have at least one defender in larger network, which in turn can help prevent bullying. The goal of this study was to further investigate the effects of classroom size on bullying by a) testing for its main effects on the prevalence of both self-reported and peer-reported bullying and victimization, and b) examining if these effects are moderated by grade level.

The sample includes 1,451 Austrian fifth- to eighth-graders (mean age: 12.3 years; 51.2% boys). Self-reported bullying and self-reported victimization were each a composite variable of eight questions (four about physical bullying and four about relational bullying; e.g., How often have you [hit, excluded, etc.] in the last two months) measured on a 5-point scale from 0 (= never) to 4 (nearly every day). Peer-reported bullying was the proportion of nominations received as perpetrators by victims. Peer-reported victimization was the proportion of nominations received as victims by perpetrators. Grade level was a continuous variable from 0 for fifth grade to 3 for eighth grade.

Results from the multilevel analyses conducted in Mplus are shown in Table 1. As expected, the higher the classroom size, the lower the prevalence of self-reported and peer-reported bullying, as well as peer-reported victimization. Interestingly, the effects of classroom size on bullying were moderated by grade level: A larger classroom size is associated with a lower prevalence of bullying only in lower grade levels.

Study 2 Table 1

Meta-analysis results with school stability as moderator, controlling for school size.

	Illustration	Intercept		+ Stability <sup>f</sup>		+ Size <sup>g</sup>		n
		Est.	SE	Est.	SE	Est.	SE	
<b>Rate effects</b>								
Network rate t1-t2		16.4625***	1.3909 <sup>b</sup>	5.0324*	2.9257	0.0253	0.0196	30
Network rate t2-t3		15.3780***	2.6022 <sup>b</sup>	-0.0924	5.4568	0.0859*	0.0371	30
<b>Network effects</b>								
Density		-2.7807***	0.1630 <sup>b</sup>	-1.5447***	0.3847	-0.0115***	0.0026	32
Isolates		-3.7963***	0.2149 <sup>b</sup>	-0.5454	0.4463	-0.0065*	0.0032	31
<b>Gender effects</b>								
Gender <sup>a</sup> alter		0.3768**	0.1181	-0.0172	0.1857	0.0005	0.0013	27
Gender <sup>a</sup> ego		-0.1583	0.1216	0.0366	0.1746	-0.0001	0.0013	26
Same gender <sup>a</sup>		0.2757**	0.1716	-0.0602	0.1843	0.0002	0.0013	32
<b>Grade/class effects</b>								
Grade <sup>b</sup> alter		0.1418*	0.0702	0.1034	0.1392	-0.0006	0.0009	32
Grade <sup>b</sup> ego		-0.1297*	0.0701	-0.0591	0.1345	0.0001	0.0008	32
Same grade <sup>b</sup>		1.0816***	0.1322	0.5244*	0.2263	-0.0031*	0.0014	32
Same class concurrently <sup>c</sup>		-0.2094	0.1361	0.2836	0.2391	0.0038*	0.0016	32
<b>Transition effects</b>								
Same class before <sup>d</sup>		-0.0403	0.1240	-0.2017	0.2060	0.0029*	0.0015	32
Newcomers ego <sup>e</sup>		0.3465*	0.1609	-0.3404	0.2651	0.0004	0.0017	32

Notes. All models showed good/acceptable convergence (t-statistics for convergence  $\leq 0.10$  in absolute terms; overall maximum t-statistics for convergence  $\leq 0.25$  in absolute terms) and most models showed good/acceptable goodness of fit (for out/indegree distribution, geodesic distance, and triadic census; see Ripley et al., 2017).

\*  $p \leq .10$ , \*  $p \leq .05$ , \*\*  $p \leq .01$ , \*\*\*  $p \leq .001$  (two-tailed test).

<sup>a</sup> Gender was coded 1 = male (Mean = 50.2% and 49.7% in highly stable and less stable schools, respectively).

<sup>b</sup> Grade was coded 1 to 8, following the Dutch educational system (Median = 5 in highly stable and less stable schools at T1, respectively). Grade 1 follows Kindergarten, Grade 8 precedes secondary education.

<sup>c</sup> Same class concurrently variable was based on class id (at each time point) and in combination with the same class before variable reflects peer victimization within the same class concurrently.

<sup>d</sup> Same class before variable was coded 0 = never or one year in the same class, 1 = two years in the same class, 2 = three years in the same class.

<sup>e</sup> We determined for each student whether he or she was new in school (transferred from another school) or in class (transferred from another class in the same school). This was done by calculating with how many classmates each student remained together in the same classroom across two consecutive school years (i.e., between T1 and T2, between T2 and T3). This resulted in a continuous measure that ranged from 0 (students share a classroom with all of their classmates from a previous school year) to 1 (students do not share a classroom with classmates from a previous school year).

<sup>f</sup> School stability was coded 0 = 'unstable' school (i.e.,  $\leq 70\%$  stability between T1 and T2 and between T2 and T3), 1 = 'stable' school (i.e.,  $> 70\%$  stability between T1 and T2 and between T2 and T3,  $> 80$  stability overall). Following this procedure, 9 schools including 1,514 students were identified as 'stable' and 23 schools including 2,051 students were identified as 'unstable'.

<sup>g</sup> School size variable was coded as a continuous variable and median centered to facilitate the interpretation of the results (school size varied between 36 and 311, Median = 84). As an example, the results indicate that a one unit increase in school size corresponds to a change of 0.0038 units in terms of the average effect estimate for same class concurrently.

<sup>h</sup> Significant differences found between schools according to the test statistics (and p-values) for the tests of heterogeneity in Metafor (Viechtbauer, 2010).

Table 1: Classroom Size and the Prevalence of Bullying and Victimization

### sym101-3.2 Stability in Student Composition at School and its Impact on Peer Victimization

Ashwin Rambaran, Marijtte van Duijn, Jan Kornelis Dijkstra, René Veenstra  
University of Groningen, Netherlands

Peer victimization is widespread in many elementary schools across the world. Previous studies have mainly focused on individual and peer risk factors leading to peer victimization (Juvonen & Graham, 2014; Salmivalli, 2010). What is lacking is research on contextual features of schools (Brendgen & Troop-Gordon, 2015). We expected that high school stability may help produce stable social structures (peer hierarchies) that promote

and strengthen bullying (Farmer et al., 2011). Accordingly, we expected to find stronger same class/ same grade effects in this school context. Moreover, we expected that newcomers were more likely to be victimized by schoolmates because they may experience more difficulties with peer acceptance than established members.

Data were derived from KiVa, among children from grades 3-6 in elementary education (8-12 years; 50% boys) in the Netherlands. For the current study, only data from the control schools were used. 32 school-level networks (containing 3,565 students) are available. Each school network was analyzed separately with longitudinal social network analysis (RSiena). The results are summarized in a meta-analysis in Table 1.

We assessed whether the effects of main interest were stronger depending on school stability and school size. Taking the reference category into consideration (i.e., an unstable school with a median size of 84 students), same grade victimization was more likely in stable schools. This tendency decreased as school size increased. In contrast, as school size increased, same class victimization was more likely instead. Moreover, as school size increased, students who shared the same class before were also more likely to be victimized by these classmates. Finally, newcomers in unstable schools were more likely to be victimized by schoolmates than established members. This did not depend much on school size. The findings suggest that school stability and school size are potentially contextual risk factors for peer victimization at school.

	Illustration	Intercept		+ Stability <sup>d</sup>		+ Size <sup>e</sup>		n
		Est.	SE	Est.	SE	Est.	SE	
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Notes. All models showed good/acceptable convergence (t-statistics for convergence  $\leq 0.10$  in absolute terms; overall maximum t-statistics for convergence  $\leq 0.25$  in absolute terms) and most models showed good/acceptable goodness of fit (for out/indegree distribution, geodesic distance, and triadic census; see Ripley et al., 2017).

\*  $p \leq .10$ , \*\*  $p \leq .05$ , \*\*\*  $p \leq .01$ , \*\*\*\*  $p \leq .001$  (two-tailed test).

<sup>a</sup> Gender was coded 1 = male (Mean = 50.2% and 49.7% in highly stable and less stable schools, respectively).

<sup>b</sup> Grade was coded 1 to 8, following the Dutch educational system (Median = 5 in highly stable and less stable schools at T1, respectively). Grade 1 follows Kindergarten, Grade 8 precedes secondary education.

<sup>c</sup> Same class concurrently variable was based on class id (at each time point) and in combination with the same class before variable reflects peer victimization within the same class concurrently.

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<sup>e</sup> We determined for each student whether he or she was new in school (transferred from another school) or in class (transferred from another class in the same school). This was done by calculating with how many classmates each student remained together in the same classroom across two consecutive school years (i.e., between T1 and T2, between T2 and T3). This resulted in a continuous measure that ranged from 0 (students share a classroom with all of their classmates from a previous school year) to 1 (students do not share a classroom with classmates from a previous school year).

<sup>f</sup> School stability was coded 0 = 'unstable' school (i.e.,  $\leq 70\%$  stability between T1 and T2 and between T2 and T3), 1 = 'stable' school (i.e.,  $> 70\%$  stability between T1 and T2 and between T2 and T3,  $> 80\%$  stability overall). Following this procedure, 9 schools including 1,514 students were identified as 'stable' and 23 schools including 2,051 students were identified as 'unstable'.

<sup>g</sup> School size variable was coded as a continuous variable and median centered to facilitate the interpretation of the results (school size varied between 36 and 311, Median = 84). As an example, the results indicate that a one unit increase in school size corresponds to a change of 0.0038 units in terms of the average effect estimate for same class concurrently.

<sup>h</sup> Significant differences found between schools according to the test statistics (and p-values) for the tests of heterogeneity in Metafor (Viechtbauer, 2010).

Table 2: Meta-Analysis Results with School Stability as Moderator, Controlling for School Size.

### sym101-3.3 Peer Rejection Predicts Victimization after the School Transition in New Classrooms

J. Loes Pouwels, Tessa A. M. Lansu, Yvonne H. M. van den Berg, Antonius H. N. Cillessen  
Radboud University, Netherlands

When transitioning from primary to secondary school, some children are enrolled in classrooms consisting of new classmates. In these classrooms, they do not have an existing peer reputation as victim or being rejected at the beginning of the year, as their reference group is unstable. Children who are rejected among their peers are at risk for being victimized across the transition from primary to secondary school (Pellegrini & Long, 2002). The present study examined whether the (in)stability of the reference group affects how peer rejection is related to changes in victimization across the transition from primary to secondary school.

This study was conducted among 227 children (41% girls) who completed self-reports of victimization and peer nominations of rejection (Who do you like least?) in Grade 6 in primary school and Grade 7 in secondary school. For each child, we also examined the stability of his/her reference group (0 = unstable,  $n = 86$ , 1 = stable: at least one Grade 6 classmate transferred to the same Grade 7 classroom as the child,  $n = 141$ ). Regression analysis revealed that victimization before the transition predicted victimization after the transition ( $\beta = .15$ ,  $p = .04$ ). After controlling for victimization in Grade 6, peer rejection in Grade 6 was related to victimization in Grade 7 ( $\beta = .34$ ,  $p < .001$ ). This association was moderated by the stability of the child's reference group ( $\beta = -.16$ ,  $p = .03$ ). Rejection was positively related to relative increases in victimization for children with an unstable reference group but not for children with a stable reference group (Figure 1). To conclude, children who were rejected before the school transition were protected against relative increases in peer victimization if they transferred to the same secondary school classroom as at least one of their primary school classmates.

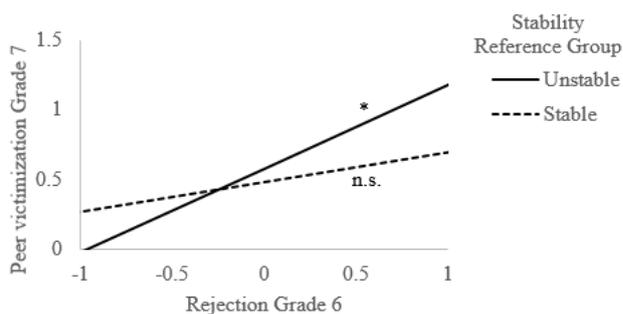


Figure 1. Effects of peer rejection in Grade 6 and stability of the child's reference group on peer victimization in Grade 7, after controlling for peer victimization in Grade 6.

Note. \*  $p < .05$ . Children's peer rejection score was long transformed to control for positive skew. Examination of the region of significance showed that there was a significant difference between children with a stable and unstable reference group for values of peer rejection higher than .16.

Figure 1: Effects of peer rejection in Grade 6 and stability of the child's reference group on peer victimization in Grade 7, after controlling for peer victimization in Grade 6

### sym101-3.4 When the Victimized Classmate is Immigrant: Risk Factors for Pro-Bully Roles

Simona C. S. Caravita, Elisa Donghi, Barbara Ambrosini, Sara Stefanelli  
Università Cattolica del Sacro Cuore, Italy

International studies indicate that immigrants are at higher risk to be bullied (Elamé, 2013). Nevertheless, the research on factors which are associated to bullying immigrants is scarce (Strohmeier, Kärnä, & Salmivalli, 2011). Results from two studies are presented, which were aimed at investigating risk factors for bullying and supporting bullying, at the individual and the class level, in situations in which an immigrant classmate is victimized.

Study 1. 771 fourth to eight-graders attending Italian schools (47.6% girls; 22.4% immigrants) answered self and peer-report measures assessing roles in bullying, peer-status, attitudes towards bullying, and moral disengagement for bullying when the victim is native vs. immigrant. Whereas moral disengagement for the

native victim was associated to assisting and reinforcing the bully in all the classrooms, moral disengagement for bullying an immigrant victim was associated to reinforcing the bully (classroom level: .16\*\*), and to assisting the bully (individual level: .04\*) only in classrooms in which an immigrant classmate was actually victimized.

Study 2. 697 sixth to tenth-graders attending Italian schools (54.5% girls; 20.3% immigrants) answered peer-report items assessing peer-status, and self-report measures assessing bullying, cyber-bullying, prejudice against immigrants and school climate perception. The negative associations between perceiving that the cultural diversity is accepted in the school and being a bully or a cyber-bully were stronger in classrooms in which an immigrant pupil was victimized or cyber-victimized (being a bully: -.70\*\*; being a cyber-bully: -.66\*), than in classrooms without immigrant victims (being a bully: -.59\*; being a cyber-bully: -.51 ns).

In both the dataset, the classrooms with immigrant victim(s) were characterized by significantly higher percentages of immigrant students than the other classrooms.

Hence, these studies indicate that in classrooms with larger percentages of immigrants and in which an immigrant classmate is victimized, bullying and supporting bullying are associated to potentially discriminatory cognitive processes.

## sym101-4 Nonverbal behaviors as protective and risk factors in youth internalizing symptomology development

William Hale, Chair & Discussant

*Research Center Adolescent Development, Utrecht University, Netherlands*

When examining the development of internalizing symptomology of youth, many times examination is given to how the adolescent interacts with others in his/her environment. It is held that these interpersonal interactions between the adolescent and the other may provide insights into risk factors (or protective factors) that can strengthen (or weaken) the development of adolescent internalizing symptomology. In previous research, little attention has been given to the actual emitted behaviors of these interpersonal interactions, this despite knowledge that much human communication is nonverbal. Therefore, the goal of this symposium is to focus on four divergent studies that specifically target these nonverbal interpersonal interaction behaviors in order to illustrate the importance nonverbal behaviors have on the development of internalizing symptomology of youth.

In the first study, the nonverbal behaviors of parents interacting with their infant were studied and demonstrated that when fathers “step forward” and mothers “step back” that this serves as a protective factor in the development of child anxiety.

The second study examined whether nonverbal behaviors of emotional flexibility differed between parent-child dyads with and without children with an anxiety disorder. This study concluded that emotional flexibility of parent-child dyads is a potential process of change associated with treatment success for childhood anxiety.

In the third study, examined whether non-verbal behaviors of therapists and adolescent patients with internalizing disorders influence therapy outcomes, such as patient and therapist nonverbal behaviors of high ‘restlessness’ and low ‘active listening’ predicting therapy non-response.

Finally, the fourth study tries to be understand the non-verbal behaviors of adolescent patients with internalizing disorders by studying their decoding facial expressions. This study found that these patients tend to have a negative bias in judging facial expressions and this bias predicts poorer therapy outcomes. A discussant will relate this studies to one another and invite audience discussion.

### sym101-4.1 The Role of Simultaneity in Coparenting in the Development of Children’s Anxiety

Cristina Colonnesi, Mirjana Majdanžić, Susan Bögels

*Department of Child Development and Education, University of Amsterdam, Netherlands*

Infants’ negative affectivity is a predictor of child anxiety. Coparenting might influence anxiety development by weakening this association in the case of positive coparenting, or by strengthening this association in the case of undermining coparenting. Parents can display coparenting behaviors simultaneously (both parents being positive or undermining), or divergently (only one parent being positive or undermining). We investigated whether coparenting at 1 year moderated the relation between infant negative affectivity at 4 months and child anxiety symptoms at 2.5 years. Cooperative, mutual, neutral, and competitive coparenting behaviors were assessed at a micro-level in observations of 116 couples when changing the clothes of their infant. At 2.5 years, fathers and mothers completed the Dutch version of the revised Preschool Anxiety Scale (PAS-R, Broeren & Muris, 2008; Edwards, et al., 2010) to measure children’s anxiety symptoms. Since parents’ competitive and mutual coparenting were infrequent, only simultaneous and divergent cooperative coparenting were investigated. Both parents rated infant negative affectivity and child anxiety symptoms. Children’s negative affectivity significantly predicted child anxiety. Only parents’ divergent cooperative coparenting moderated the relation between infant negative affectivity and child anxiety symptoms: only mothers being cooperative strengthened the association, while only fathers being cooperative weakened this association. Interaction patterns in which fathers step forward, by being cooperative in their coparenting, and mothers step back, by leaving space for father, might serve as a protective factor in the development of child anxiety for infants at risk.

## **sym101-4.2 Associations between emotional flexibility of parent-child dyads and children's anxiety disorders**

Daniëlle Van der Giessen, Susan Bögels

*Department of Child Development and Education, University of Amsterdam, Netherlands*

Emotional flexibility reflects the ability of dyads to switch from moment-to-moment among a broad range of positive and negative emotions during interactions. A lack of emotional flexibility (i.e., rigidity) of parent-child dyads has been associated with internalizing and externalizing problems in childhood and adolescence (Hollenstein et al., 2004; Van der Giessen et al., 2014), as well as with reductions in children's aggressive behavior due to treatment (Granic et al., 2007). However, we still lack fine-grained descriptions of how emotional flexibility during parent-child interactions relates to children's anxiety disorders and how it relates to reductions in anxiety due to treatment. This observational study examined whether emotional flexibility differed between parent-child dyads with and without children with an anxiety disorder (AD). It was also examined how emotional flexibility of parent-child dyads with anxious children changes from pre- to post-treatment. The sample consisted of 128 referred children (59.4% girls) with an AD (8–18-year-olds) and both of their parents, and 44 matched non-AD children (63.6% girls) and both of their parents. To assess children's diagnostic status the Anxiety Disorder Interview Schedule (ADIS; Silverman & Nellis, 2001) was administered to parents and children. Father-child and mother-child dyads were videotaped separately while discussing a conflict. Measures of dyadic emotional flexibility (transitions, dispersion, average duration) were derived from these interactions using state space grid analysis. Father-child and mother-child dyads with a child with an AD displayed less emotional flexibility during interactions than healthy controls. Significant improvements in children's anxiety were associated with increases in emotional flexibility of father-child and mother-child dyads from pre- to post-treatment. To conclude, the inability to flexibly move in and out of different emotions distinguishes healthy dyads from non-healthy dyads. Treatment programs for anxiety disorders should consider facilitating the development of emotional flexibility skills.

## **sym101-4.3 Non-verbal behavior and therapy outcomes in adolescents with internalizing disorders**

William Hale, Anne Berg, Saskia Wijsbroek, Susan Branje

*Research Center Adolescent Development, Utrecht University, Netherlands*

Previous research has shown that non-verbal behaviors of therapists and adult internalizing disorders patients influence therapy outcomes. In the current study, it is examined whether the same holds for adolescents. The aim of the current study is to identify which non-verbal behaviors of adolescents and therapists are predictive for improvement or deterioration of internalizing disorders. Approximately 40 adolescents, aged between 13 to 26, with depressive or anxiety disorders, and their therapist participated. To examine non-verbal behavior of adolescents and therapists, the first part of one of the first therapy sessions was recorded on video. Depressive and anxiety symptoms were assessed at the beginning and completion of therapy. Various behaviors (speech, gazing, head-, hand-, and leg movements) were observed in a 15-minute period and the frequency and duration of these behaviors were transformed into behavioral factors based on a factor analysis of Bouhuys and colleagues (1991a; 1991b). While the data is still being analyzed, it is expected that comparable results will be found for adolescents as in previous adult studies. These studies showed that depressed patients who did not improve showed significantly more 'speaking effort' (looking at the other, gesturing and head movements during speaking), more 'restlessness' (head and leg movements and object touching) and less 'active listening' (head movements and body touching during listening). Therapists showed significantly less 'active listening' in interactions with non-improving patients, as well as less 'restlessness' and more 'encouragement' (verbal back-channeling and yes-nodding). Moreover, these therapists looked away more frequently during 'encouragement'. In conclusion, the results of this study will provide knowledge regarding the influence of behavioral interaction factors for improvement of depressed and anxious adolescents. This knowledge can contribute to the improvement of therapy for adolescents with internalizing disorders.

#### **sym101-4.4 Facial expression judgment and therapy outcome in depressed and anxious adolescents**

Anne Berg, William Hale, Saskia Wijsbroek, Susan Branje  
*Research Center Adolescent Development, Utrecht University, Netherlands*

Both cognitive and interpersonal factors play a role in the development and persistence of internalizing problems. Facial expression judgment, which provides essential information in social interactions, is one of the factors that is studied in this regard. Several studies suggest that individuals with internalizing problems make more errors in decoding facial expressions, or judge facial expressions more negative. Research in depressed adults suggests a relation between judgment of (negative) facial expressions and improvement and relapse of internalizing problems. Since such research in adolescents is lacking, the current study examined the relation between facial expression judgment and therapy outcome in adolescents. Approximately 40 adolescents with depressive or anxiety symptoms, aged between 13 to 26, completed, at the beginning and completion of therapy, mood and anxiety questionnaires and rated for twelve schematic facial expressions to what extent these faces displayed negative (fear, sadness, disgust, anger, rejection) and positive (happiness, invitation) emotions. Three 'ambiguous' faces displayed equal amounts of positive and negative emotions, nine 'non-ambiguous' faces displayed negative or positive emotions. While the data is still being analyzed, preliminary results show that adolescents rated facial expressions less negative at the end of treatment, when compared to the start. Non-ambiguous faces were judged as less sad and fearful after treatment. When depressed and anxious adolescents were analyzed separately, results only showed significant differences in depressed adolescents. In depressed adolescents, negative judgments of non-ambiguous facial expressions at the start of treatment also predicted therapy outcome. Judging more fear, anger and rejection, and less disgust, tended to predict higher post-treatment depression scores. In conclusion, it seems that adolescents with internalizing problems have a negative bias in judging facial expressions and this negative bias predicts less favorable therapy outcomes.

## sym101-5 Pathways to Positive Youth Development for African American Children's Development: Context Matters

Ecological theory and positive youth development model framed our set of papers. In this symposium we challenge the common approach to understanding youth growing up in poverty -- which focuses on the disadvantages they encounter and the limited opportunities. Highlighting risk has hindered our understanding of ways in which racial/ethnic minority families raise healthy and successful children. While understanding the pathways through which risk forestalls development is important to recognize, this focus may have important limitations for understanding the contributors to resilience and health and for most effective interventions. This symposium takes an alternative frame, positive youth development, to identify longitudinal predictors of healthy and successful development among youth in poverty and to then relate those to intervention implications. Each presentation traces predictors of adequate or exceptional functioning in emotional regulation, behavior, and/or school engagement and behavior of youth facing economic and social disparities. For example, one presentation will focus on the transition to elementary school. A second will examine the long-term effects of parent involvement in school for inner-city children and its modification by a parent-support intervention. A third will focus on the impact of a family intervention that promotes and supports vigilant involved parenting for promoting pathways to successful development for rural African-American youth, teasing out differential pathways to positive outcomes for males and females. The fourth presentation poses the question: What is the protective nature of racial identity in the relation as a buffer against racial discrimination experiences? Implications for approaching child and adolescent health and clinical interventions will be emphasized. Implications for preventive interventions and policy will be offered

### sym101-5.1 Promoting Success in African American Youth through Family-Based Interventions

Oscar Barbarin

*University of Maryland, United States*

African American youth are among the most at risk for acquiring STIs, including HIV infection. Efforts to reduce new cases of HIV/AIDS among African American youth are challenged by barriers associated with poor access to preventive interventions. The contributions of technology as a venue for tailored preventive interventions for those most at risk for contracting the human immunodeficiency virus (HIV) and other sexually transmitted diseases have received increase consideration over the past few years. Increase access to and familiarity with computer technology make computer-based prevention a feasible option among rural Africans to overcome the logistical and practical barriers that limit program participation for a segment of rural African American families. The Pathways for African American Success (PAAS) program is the only universal preventive intervention designed to be delivered via three modalities to deter HIV-related risk behavior specifically among rural African American youth that has been evaluated in a randomized prevention trial. The current study tested the efficacy of PAAS in producing changes in the intervention-targeted mediators that were hypothesized to promote resilience in youth to safeguard them from HIV-related risk behaviors. Compared to PAAS group, instructional led participants, PAAS tech participants evinced greater change in both parent and youth intervention targeted behaviors at post-intervention, and PAAS tech youth which predicted with sustained effects in delayed sexual onset and substance use and HIV risk prevention

### sym101-5.2 School Context Effects on African American Children's Development

Velma McBride Murry

*Vanderbilt University, United States*

The socio-emotional development of African American (AA) males from early childhood through adolescence is inherently puzzling. This puzzle arises from the startling contrast between the relatively unremarkable early development and the high prevalence behavioral and socio-emotional difficulties that differentiate young AA men as a group from peers belonging to other ethnic groups. Hints about the timing of this rather dramatic turnabout in development are available both from cross-sectional studies of emotional functioning across different age cohorts and from several longitudinal studies that follow reveal downward developmental trajectory during this period they evidence higher rates of internalizing and externalizing problems than other groups of boys than African American girls. While acknowledging these adverse trends this adverse trajectory is not absolute. A majority of AA boys evidence patterns that are typical of development in other groups.

Research on the socio-emotional development of AA boys provides some hints about what the conditions that give rise to and maintain the increasing trajectory of maladjustment that characterizes development between the ages of five and fifteen when antisocial behavior reaches its peak prevalence. This presentation reviews the research on the developmental status of AA boys, proposes a set of processes to account for adverse development. Family socio-economic status (SES) and poverty have been offered as explanations. However, economic factors are too global and imprecise. Moreover poverty and SES fail to account for within group differences.

### **sym101-5.3 The contributions of school transition family support programs for inner-city youth**

Patrick Tolan

*University of Virginia, United States*

Children in high-risk communities face multiple impediments to successful development. It is very important to identify support mechanisms that might mitigate that risk. 482 families residing in impoverished urban communities with elevated rates of violence and school failure were engaged to participate in a randomized control trial of the SAFEChildren program. SAFEChildren is a 15-session group-family support program offered to families with a child starting first grade in the 8 participating schools. The sample was approximately 60% African American and 40% Latino, with 50% males. The goals of the family intervention included increasing social connection among families and facilitating efficacy for school involvement. In addition, students assigned to the program were also offered twice weekly mastery learning oriented reading tutoring. Students were randomized within school to the intervention and no-intervention control during first grade. Follow up for immediate effects was measured until the end of the second grade. Intent to treat analyses showed significantly greater maintenance of parental enthusiasm about and involvement in school and child reading capabilities. More recently, the sample was engaged for long term follow in 11th and 12th grade with measurement of violence, school completion, risky sex practices, and substance use (alcohol, tobacco, other substances). This presentation will review the long-term effects (11 years post intervention) on multiple outcomes marking developmental success/risk and tests of the mediation of these long-term outcomes by short-term intervention differences in parental involvement and child-reading level (found at second grade). For example, intervention student had lower rates of violent behavior at follow-up and the early intervention effects on parental involvement mediated this impact. Both direct mediation and indirect effects will be described. Implications of engaging families in group-based support programs for protection of healthy development in high-risk communities will be discussed.

### **sym101-5.4 What is the protective nature of racial identity against racial discrimination experiences?**

Enrique Neblett

*University of North Carolina, Chapel-Hill, United States*

Racism-related stress constitutes a significant risk to the mental health functioning of African American children and adolescents. In light of theoretical predictions that personal and social factors might influence the association between racial discrimination and youths' health outcomes (e.g., García Coll et al., 1996), and given the extensive literature suggesting the protective effects of racial identity for African American youth, we examined the moderating role of racial identity and socioeconomic status (SES) in the prospective association between racial discrimination experiences and anxiety in a sample of late African American adolescents. Participants were 170 African American teenagers (68% female; mean age at Wave 1 = 18.3) in their first year of attendance at a predominately White southeastern university in the United States. Regression analyses indicated that racial identity during the first semester of university attendance moderated the impact of high school (i.e., senior year) racial discrimination experiences on youths' anxiety levels at the end of the first year. Contrary to expectations, high levels of nationalist ideology – identity attitudes emphasizing the uniqueness of being African American – exacerbated the racial discrimination-anxiety link, but only for African American youth from poor and working class socioeconomic backgrounds. These findings suggest a complex interplay between racism-related stress experiences, racial identity, and SES to influence mental health functioning following exposure to racism-related stress. We discuss how this knowledge might be used to inform assessment, optimal racial identity, and cultural adaptations of evidenced-based treatment for African American youth from lower SES backgrounds during the transition to young adulthood.

## sym101-6 Emotion Regulation, Prosociality, and Adjustment: A Life-Span Perspective in Mediterranean Countries

Throughout the life-course, patterns of emotion dysregulation are related to both externalizing and internalizing behaviors (Moffitt et al., 2013; Valiente & Eisenberg, 2006). The association between emotion regulation and adjustment may depend on the type of strategy used and the type of emotion being managed, so many scholars have shifted from focusing on global emotion regulation to the regulation of specific emotions (Rivers et al., 2007). Being able to regulate one's emotions and behaviors may also affect the tendency to behave prosocially (Luengo et al., 2013). Studies have shown the beneficial role played by prosociality in successful youth development, life satisfaction and psychological well-being (Caprara & Steca, 2005; Lerner et al., 2002). Nonetheless, compared to antisocial behavior, the development of prosociality has received less attention. Furthermore, there is a need to improve understanding of normative age changes in predictors of psychosocial adjustment (e.g., emotion regulation), to better understand individual's development across the life-span. Moreover, cultural issues have been indicated as important variables to be considered when evaluating the emotional significance given to situations, the manner in which emotions are conveyed from one person to another, the manner in which people deal with situations that elicit emotion (Mesquita, 2001), and their impact on prosociality (Pastorelli et al., 2015), and behavioral problems (Lansford et al., 2015). However, Mediterranean countries, which show among the highest rates of problematic behaviors (Van de Velde et al., 2010; Kokkevi et al., 2005), have been under-studied. Finally, developing empirical knowledge on emotion regulation, prosociality, and adjustment over the life-course could advance efforts to identify, prevent, and ameliorate the antecedents and negative consequences of poor psychological adjustment. This symposium will provide insight about the aforementioned issues and have translatable implications for enhancing empirically-based prevention and intervention methods with children, adolescents, and adults.

### sym101-6.1 Adolescent expression, regulation, and self-efficacy beliefs about anger: A Daily Diary Study

Laura Di Giunta, Nancy Eisenberg, Jennifer E. Lansford, Candice Odgers, Concetta Pastorelli, Carolina Lunetti, Emanuele Basili, Martina Rosa  
*Sapienza University of Rome, Italy*

This study investigates the reciprocal relations between anger expression, anger regulation, and self-efficacy about anger regulation in a sample of Italian adolescents. We focus on these mechanisms because they have strong independent empirical support for their relations to psychological adjustment in adolescence and are closely aligned with techniques frequently used in prevention programs and interventions for adolescents. Longitudinal data were gathered with a mobile ecological momentary assessment (EMA). For 15 days, adolescents were prompted via mobile-phones to respond to questions about their emotions and behaviors to study the flow of daily relations between the expression, regulation, and self-efficacy beliefs about anger within everyday life. Items were adapted from previous validated measures used in EMA studies (Ottaviani et al., 2015; Russell et al., 2016).

We expect stability between expression, regulation, and self-efficacy beliefs in relation to anger, and a significant association between expression, regulation, and self-efficacy beliefs in relation to anger. We will examine inter-individual differences in intra-individual change of the three aforementioned mechanisms (as well as their reciprocal relations) within an integrative Autoregressive-Latent-Trajectory framework (ALT; Bollen & Curran, 2004). Our primary hypothesis is that anger expression will predict fluctuation in self-efficacy beliefs about anger regulation. Our secondary hypothesis is that self-efficacy beliefs about anger regulation will predict fluctuation in anger regulation. If anger expression predicts self-efficacy beliefs about anger regulation (and not vice versa), high levels of anger expression over time might hinder the development of self-perception as being competent in anger management. If self-efficacy beliefs about anger regulation predict anger regulation (and not vice versa), the control people believe they can exert over the causes of anger and over the consequences of their angry reactions might influence their regulatory strategies to handle anger (Bandura, 1986; Lazarus, 1991; Weiner, 1992). Theoretical and practical implications of these results will be discussed.

## sym101-6.2 Self-efficacy in dealing with 5 discrete negative emotions, life satisfaction, and aging

Maria Giovanna Caprara, [Laura Di Giunta](#), Sonia Janeth Romero Martínez  
*Open University of Madrid, Spain*

A cross-sectional study examined stability and change in personality over the course of life by measuring the relations linking age to self-efficacy beliefs regarding the management of anger/irritation, despondency/sadness, fear, shame/embarrassment, and guilt in a large samples of Spanish male and female participants. However, before drawing conclusions about sex differences and developmental trends, one needs to ensure that the same construct is measured across sex and time. The present study tested measurement invariance of self-efficacy about dealing with the aforementioned negative emotions across sex and across age-groups in a sample of 1935 adults (50% male: mean age = 41.21, SD=11.45), divided in 5 age groups (ages 20-30; 30-40; 40-50; 50-60, and > 60). Adults filled in the Multidimensional Negative Emotions Self-Regulatory Efficacy Scale (Caprara et al., 2013; 1= very well – 5 = not well at all) with its five subscales designed to assess self-efficacy beliefs regarding managing anger/irritation, despondency/sadness, fear, shame/embarrassment, and guilt (SE\_AI, SE\_DS, SE\_F, SE\_SE, SE\_G, respectively), the Positive Affect and Negative Affect Scale (Watson et al., 1988), and the life satisfaction scale (Diener et al., 1985). Alphas were all above .75.

Measurement invariance of the five self-efficacy scales was supported between males and females and across the age groups. Differences in scales scores due to sex and age differences have been examined within a MANOVA approach. MANOVA results evidenced significant multivariate effects due to gender,  $F(5, 1935) = 9,33$ ,  $p < .01$  and not to age or to ageXsex interaction. Turning to univariate effects, significant effects of gender showed that men believe to be more capable than women in dealing with despondency, shame, and guilt. The various modes of self-efficacy correlated positively with life satisfaction and positive affect and negatively with negative affect. Findings are discussed in terms of their implications for personality theory and social policy.

	N	Self-efficacy beliefs in dealing with anger/irritation				Self-efficacy beliefs in dealing with despondency/sadness				Self-efficacy beliefs in dealing with fear				Self-efficacy beliefs in dealing with shame/embarrassment				Self-efficacy beliefs in dealing with guilt			
		Males		Females		Males		Females		Males		Females		Males		Females		Males		Females	
Age		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
20-30	320	3.10	0.73	3.18	0.75	3.26	0.66	3.03	0.74	3.25	0.83	3.15	0.70	3.24	0.77	3.09	0.76	3.06	0.80	2.75	0.80
30-40	602	3.17	0.76	3.18	0.73	3.41	0.62	3.15	0.73	3.30	0.73	3.20	0.74	3.22	0.80	3.06	0.80	2.94	0.70	2.77	0.73
40-50	643	3.21	0.76	3.17	0.70	3.33	0.70	3.17	0.67	3.25	0.83	3.18	0.76	3.22	0.78	3.04	0.76	2.95	0.74	2.77	0.74
50-60	244	3.20	0.84	3.27	0.74	3.26	0.71	3.18	0.67	3.40	0.78	3.27	0.78	3.25	0.79	3.17	0.79	2.98	0.85	2.92	0.75
>60	126	2.98	0.79	3.08	0.84	3.31	0.76	3.13	0.84	3.40	0.92	3.29	0.89	3.20	0.81	2.96	0.93	2.98	0.81	2.96	0.87

Table 1: Means and standard deviations of the five types of Emotional Self-Efficacy, shown separately by sex and age.

## sym101-6.3 Prosociality and Life Satisfaction: A Daily-Diary Study among Spanish University Students

[Antonio Zuffianò](#), Manuel Marti-Vilar, Belen Lopez-Perez  
*Liverpool Hope University, United Kingdom*

Understanding students' life satisfaction (a major indicator of subjective well-being; Diener & Diener, 2009) is at the core of developmental psychologists' research agenda. Previous works have highlighted the importance of both self-oriented variables (e.g., self-esteem, body satisfaction) and other-oriented variables (e.g., prosociality) in sustaining students' subjective well-being. However, only a few studies have analyzed simultaneously both self-oriented and other-oriented variables in relation to life satisfaction. In the present study, we aimed to fill this gap by investigating their independent and joint effects on students' daily reports of life satisfaction.

A sample of 56 Spanish university students (80% girls; Mage= 21.7, SD= 2.08) was assessed over 5 days (Monday to Friday) using well-validated instruments (e.g., Rosenberg Self-esteem Scale). Data were analyzed using multilevel modeling (MLM). Student's sex and daily-life events were included as control variables. MLM analyses indicated that higher self-esteem (both at level-1 [within-subject] and level-2 [between-subjects]), body satisfaction (level-2), and prosociality (level-1) significantly predicted higher life satisfaction. Next, we explored the joint effects of our predictors by considering all possible cross-level interaction terms. Interestingly, body satisfaction at level-2 significantly interacted with prosociality at level-1 in predicting students' life satisfaction ( $b = -.33$ ,  $p < .001$ ). Simple slope analyses indicated that, only for those students with

medium (mean) or low (-1SD) general level of body satisfaction, being more prosocial than usual on a given day was associated with higher life-satisfaction (see Figure 1).

Although self-esteem was the most important positive predictor, prosociality played a unique positive effect on students' life satisfaction. Interestingly, our results also suggest that behaving more prosocially than usual might help students with low body satisfaction to live a happier life, as this might promote positive relations that can enrich their life. We elaborate on the practical implications of these findings thereof.

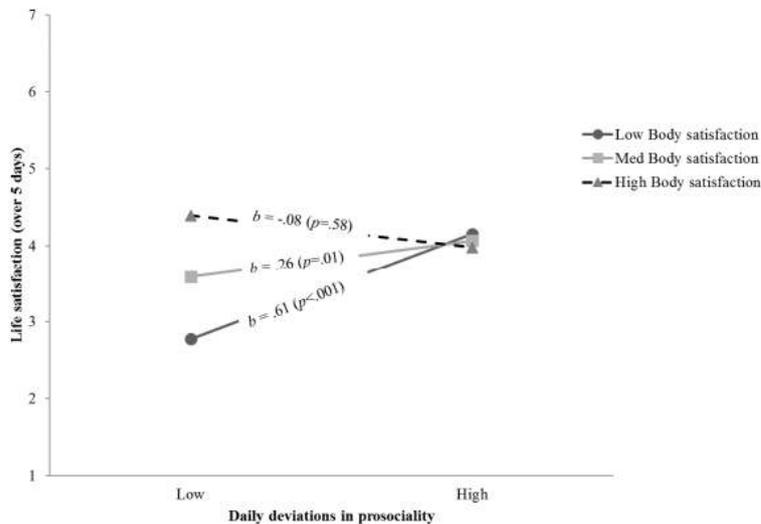


Figure 1. Daily prosociality deviations in relation to life satisfaction at low (-1SD), medium (mean), and high (+1SD) levels of body satisfaction. Dotted lines represent non-significant effects ( $p > .05$ ).

#### sym101-6.4 Bidirectional relations between effortful control, youth disclosure and adolescent maladjustment

Maria Concetta Miranda, Gaetana Affuso, Concetta Esposito, Dario Bacchini  
Sapienza University of Rome, Italy

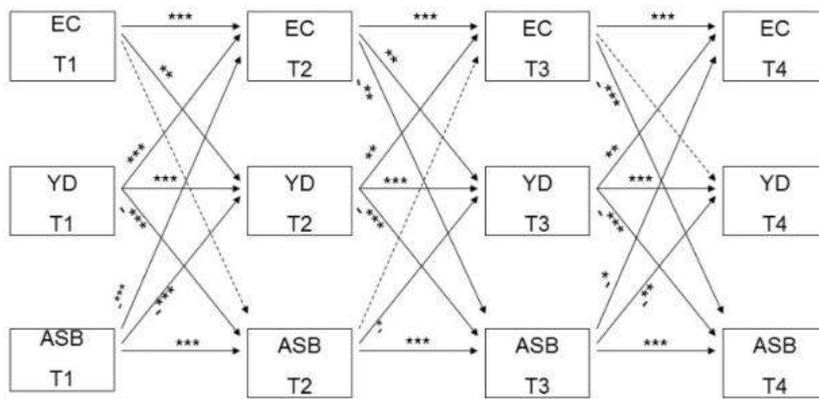
Childhood temperamental characteristics are wellknown predictors of adolescent problem behaviors (Nigg, 2006). In particular, low levels of effortful control (EC) contribute to the risk for antisocial behaviors (ASB; Wang et al., 2015). Moreover, numerous studies have examined the role parenting plays in the cause and prevention of adolescent antisocial behavior, suggesting that parental knowledge may be more related to individual differences in youth self-disclosure (YD) than the result of parental practices (Kerr and Stattin, 2000). To date, few studies have investigated the simultaneous effects of these variables, and there is no study in the literature examining their reciprocal associations over time.

To test the longitudinal associations between EC, YD and ASB, we used a four-waves cross-lagged panel in order to examine the transactional nature and the direction among the aforementioned variables, considering the moderating role of adolescents' age (pre-adolescents vs. adolescents).

Participants were 837 Italian adolescents (51% girls) attending at time 1 the 6th and 9th grade (pre-adolescent age at T1=11.17 years; SD=1.49, adolescent age at T1 =14.32 years; sd=.71). Self-report measures of EC (Rothbart & Bates, 2006), YD (Stattin & Kerr, 2000), and ASB (Bacchini et al., 2011) were used.

A multiple-group structural equation model, considering age as the grouping variable, was used. The model fit the data well:  $\chi^2 = 298.9$ ,  $p = .001$ , RMSEA=.06 (.05 - .08), TLI=.92, CFI=.95, SRMR=.07. The analysis showed that low EC predicted youth ASB, whilst a reciprocal influence was found between low EC and low YD and between low YD and ASB over time. Furthermore, low EC indirectly affected ASB via low YD ( $\beta = .01^{**}$ ).

YD and low EC are confirmed to be important predictors of adolescent maladjustment. Noteworthy, low self-regulatory abilities (in our study, EC) seem to exert an influence on the quality of communication between parents and adolescents over time.



Indirect Effects: EC\_T1;YD\_T2;ABS\_T3  $\beta=.01^{**}$ ,  
 EC\_T2 YD\_T3ABS\_T4 $\beta=.01^{**}$

Note: \*  $p<.05$ ; \*\*  $p<.01$ ; \*\*\*  $p<.001$

Figure 2: Cross-lagged relationships between Effortful Control (EC), Youth Disclosure (YD), and Antisocial Behavior (ASB). Adolescent's age is the grouping variable and Gender covaried.

### sym101-6.5 Prosocial education: Evidence from a school-based intervention in primary school

Giovanni Maria Vecchio  
 Roma 3 University, Italy

Promoting prosocial behaviours represents a way to increase school adjustment, but also to sustain equity and active citizenship later in adolescence, one of the main goals set by the Council of Europe for education in 2020. The purpose of this study was to evaluate the effects in primary school children of a pilot school-based intervention called CEPIDEAS Junior, an intervention model validated for junior high school (Caprara et al., 2014), designed to reduce aggressive behaviour and promote prosocial behaviour. This intervention was designed in accordance with a theoretical model that views emotional related self-efficacy beliefs as crucial vehicles of change.

The three-month intervention was carried out in five schools in the metropolitan area of Rome. The intervention group included 109 students (47.0% males; Mage9.08), and the control group 98 students (49.3% males; Mage9.21). Both groups were assessed at the beginning and at the end of the intervention. Outcomes assessed: teacher-reports of prosocial behaviours, physical and verbal aggression, and emotional instability (Caprara et al., 1992); student-reports of emotional and empathic self-efficacy (Caprara, Gerbino, 2001; Di Giunta et al., 2010; 2013) and emotional regulation (ERC: Molina et al., 2014).

Preliminary results of the repeated measures ANOVA evidenced timeXgroup interactions: in particular, at the conclusion of the intervention, it emerged an increase in students' self-efficacy beliefs regarding the management of sadness [ $F(1,172) 5.77$ ;  $p<.05$ ;  $\eta^2 .03$ ] and anger [ $F(1,172) 10.68$ ;  $p<.01$ ;  $\eta^2 .03$ ] and prosocial behaviours [ $F(1,172)3.10$ ;  $p=.05$ ;  $\eta^2 .04$ ]. It also emerged a decrease in their aggressive behaviours [ $F(1,172)7.19$ ;  $p<.01$ ;  $\eta^2 .04$ ], emotional instability [ $F(1,172) 24.79$ ;  $p<.001$ ;  $\eta^2 0.13$ ] and emotional lability/negativity [ $F(1,172) 7.26$ ;  $p<.01$ ;  $\eta^2 .04$ ].

Overall, findings suggest that promoting prosocial behaviour may serve to counteract aggressive conduct and enhance emotional regulation. These results are promising and confirm that school-based social-emotional learning programs can promote and enhance students' connection to school.

	range	Pre-test				Post-test			
		Intervention group		Control group		Intervention group		Control group	
		M	(SD)	M	(SD)	M	(SD)	M	(SD)
<i>Self-report</i>									
Self-efficacy Management	in Anger	1-5	2.77 (0.98)	2.90 (0.95)	2.97 (1.01)	2.69 (0.95)			
Self-efficacy Management	in Sadness	1-5	3.00 (0.74)	2.97 (0.74)	3.19 (0.85)	2.88 (0.81)			
Self-efficacy Expression	in Happiness	1-5	4.27 (0.61)	3.93 (0.64)	4.14 (0.68)	4.00 (0.66)			
Empathic Self-efficacy		1-5	3.82 (0.77)	3.83 (0.78)	3.85 (0.79)	3.79 (0.86)			
<i>Teachersevaluation</i>									
Prosocialbehaviors		1-3	2.45 (0.53)	2.40 (0.58)	2.57 (0.43)	2.43 (0.60)			
Aggressivebehaviors		1-3	1.27 (0.38)	1.39 (0.55)	1.18 (0.28)	1.40 (0.59)			
Emotionalinstability		1-3	1.61 (0.50)	1.61 (0.55)	1.49 (0.42)	1.67 (0.55)			
Emotional lability/Negativity		1-4	1.74 (0.57)	1.60 (0.55)	1.62 (0.50)	1.57 (0.56)			
Emotional regulation		1-4	2.87 (0.58)	2.81 (0.54)	3.03 (0.52)	2.88 (0.48)			

Table 2: Descriptive statistics

## sym101-7 An International Perspective on School Climate and Skipping School Among Youth: Japan, Canada, Turkey, and Hong Kong

Tracy Wong, Chair

*McGill University, Canada*

Ersilia Menesini, Discussant

*Università degli Studi di Firenze, Italy*

Being late for school and skipping school is a serious problem in education. Aspects of truancy have been linked to poor academic performance, delinquency, and school dropout among youth (Mallett, 2016). Different risk factors for truancy have been identified; however it is unclear in the literature if school climate is also related to truancy. Four dimensions to school climate have been identified: Safety, teaching/learning, relationships, and environment (Cohen et al. 2009). School morale has also been recognized as an important aspect of school climate (Miller, 1981). This symposium addresses whether school climate is related to truancy among youth around the world.

Using an international perspective, this symposium presents four studies that explored teaching/learning (teacher morale), and relationships (students' sense of belonging and student-teacher relationships) in relation to truancy among youth in four different countries on three continents. These studies also investigated whether the relationship dimension was a mediator between teaching/learning and truancy. Using survey-based methodology, these studies collected data from adolescents in Japan, Canada, Turkey and Hong Kong. Across all studies, a positive school climate was related to lower levels of truancy. However, no consensus was reached regarding the mediating effect of the relationship dimension between teaching/learning and truancy. In Japan, students' sense of belonging and positive student-teacher relationships mediated the link between teachers' engagement and skipping school. In Canada, a positive student-teacher relationship partially mediated the link. In Turkey, no mediation roles were found. In Hong Kong, both sense of belonging and student teacher relationship partially mediated the effect between teacher's moral and being late. This symposium uses a global perspective and will discuss educational implications and potential reforms.

### sym101-7.1 Examining School Climate and School Skipping in Japan

Satoshi Oda, Takashi Oba, [Chiaki Konishi](#)

*McGill University, Canada*

Truancy, including being late for class and skipping school, is a concern during adolescence. Various risk factors (e.g., academic challenges or family dysfunction) are linked to an increase in truancy (Abram et al., 2013; Leone & Weinberg, 2010). However, little is known about the influence a school's climate has on truancy. Teacher morale, an aspect of school climate, may impact skipping school behaviour (Baker et al., 2001); however little is known regarding their role in reducing school skipping behaviour in Japan. In this study, we explored how aspects of school climate would be associated with skipping school among Japanese youth. We addressed the following questions: (1) Does a student's sense of belonging mediate the link between teacher morale and skipping school among Japanese youth? (2) Does the student-teacher relationship mediate the link between teacher morale and skipping school behavior among Japanese youth?

In 2012, the OECD surveyed 485,490 adolescents from 66 countries and economies as part of the Programme for International Student Assessment. Data from 6,351 Japanese students (15 years old,  $n = 3,021$  girls) and 191 principals were analyzed. This study used three student-measured variables (i.e., skipping school, sense of belonging, and teacher-student relationship) and one principal-measured variable (i.e., teacher morale). Following Baron and Kenny (1986), regression analyses confirmed that teacher morale predicted the prevalence of skipping school behavior in Japan (see figure 1 and 2). When the mediators (i.e., sense of belonging and student-teacher relationships) were added to the model, teacher morale no longer predicted school skipping behaviour. The Sobel test confirmed that sense of belonging and student-teacher relationships were significant mediators,  $z = -4.06$ ,  $p < .001$ ,  $z = -2.85$ ,  $p < .001$ . A student's sense of belonging was a stronger mediator than student-teacher relationships. Results will be considered in relation to the Japanese society.

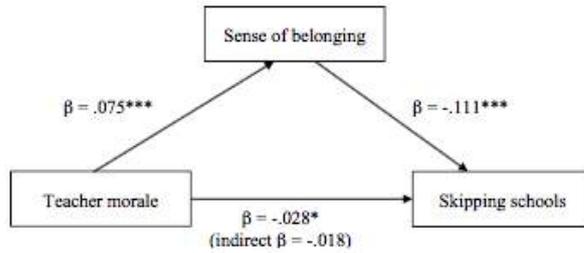


Figure 1. Mediation effect of students' sense of belonging to school on the relationships between teacher morale and skipping schools with standardized coefficients and their significances.

Note. \* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

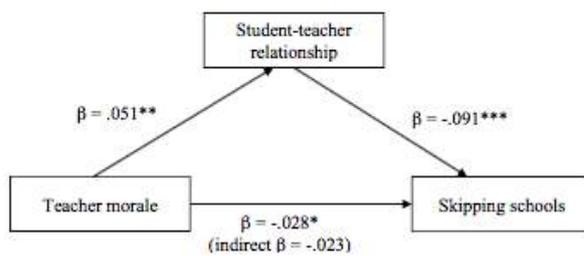


Figure 2. Mediation effect of students' perceptions of student-teacher relationships on the association between teacher morale and skipping schools with standardized coefficients and their significances

Note. \* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Figure 1

## sym101-7.2 School Climate and Skipping School in Canada

Chiaki Konishi, Matthew Danbrook  
McGill University, Canada

An increasing number of studies has documented the importance of school climate (e.g., Durlak et al., 2015), and much of the research focused on demonstrating links between school climate and academic outcomes (e.g., Stewart, 2007), with emphasis on students' reports of school climate. There is a dearth of research considering school climate perceived by teachers, in particular, teachers' engagement/morale in students' success at school in relation to students' school adaptation, specifically skipping school. To fill this gap, the present study examined associations between important aspects of school climate - students' connectedness with teachers and school belonging - and students' school adaptation, specifically skipping school in relation to teachers' engagement/morale in students' school success.

Using the 2012 data collected in Canada for the Programme for International Student Assessment (PISA) project, participants included 21,544 students aged 15 years (10,943 girls) and 1,8139 school principals. Four variables were considered in this study: student reported skipping school behavior, connectedness with teachers, sense of belonging to school, and principals' perceived teacher engagement/morale.

Of interest was whether connectedness with teachers or belonging mediated the relationship between teacher engagement/morale and skipping school. As shown in Figure 1, results indicated that connectedness with teachers mediated the relationship between teacher engagement/morale and skipping school, with the Sobel test,  $z = -5.39$ ,  $p < .001$ . Specifically, connectedness with teachers had a significant impact on skipping school, such that its inclusion in the model reduced the impact of teacher engagement/morale on skipping school. The mediation role was not found for sense of belonging.

This study suggests unique and important role of the school-climate components (i.e., student-teacher relationship and teacher engagement/moral) on students' adaptation to school, specifically skipping school in Canada. Results are discussed within the sociological construct of collective efficacy and implications for school-based efforts to enhance climate are considered.

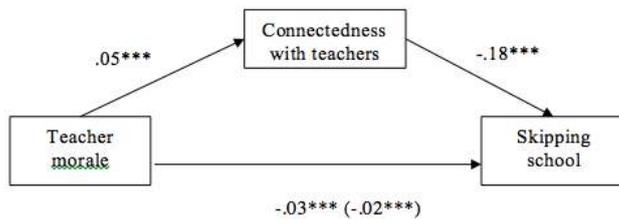


Figure 1. Standardized regression coefficients for the relationship between teacher morale and skipping school as mediated by students' connectedness with teachers. The standardized regression coefficients for partial effects are in parentheses.

\*\*\* $p < .001$

Figure 2

### sym101-7.3 School climate and School Skipping in Turkey

Muge Orucu, Tracy Wong  
TED University, Turkey

Truancy is a prevalent school discipline problem in Turkey. According to results from the 2012 Programme for International Student Assessment (PISA) collected by the Organization for Economic Co-operation and Development (OECD), more than 40% of students in Turkey reported skipping at least one day of school or one class. This alarming percentage exceeds the average truancy score across all OECD countries. As truancy is associated with decreased academic achievement (OECD, 2014), it is critical to identify factors that may contribute to this behaviour so as to prevent its future occurrence. Guided by previous studies (e.g., Wang, Selman, Dishion, & Stormshak, 2010) that have indicated a link between student-teacher relationships and behavioural problems, the present study suggests that students-related variables would be one potential factor. Further, given the important role that teachers play within the school, this study will also consider a teacher-related variable that addresses the extent to which they work with enthusiasm (Mackenzie, 2007; OECD, 2013), specifically, teacher morale.

This study made use of the 2012 PISA data. Participants included 3,009 15 years old students from Turkey. School climate variables included students' reported sense of belonging, their relationship with teachers, and principal's reported teacher morale. Through a series of linear regression analyses, results indicated that only sense of belonging and student-teacher relationship emerged as significant predictors of truancy,  $R^2 = .009$ ,  $F(2, 3009) = 13.750$ ,  $p < .001$ . There was a significant ( $p < .01$ ) negative partial effect between school climate and skipping school.

These interesting findings are explored from a cultural standpoint. Specifically, this study suggests that changing societal attitudes and political issues in Turkey towards the teaching profession, in addition to students' general behaviour, may have mitigated the influences of teacher morale and relations with their students on truancy (Siyez, 2009).

## sym101-7.4 Student Lateness and School Climate in Hong Kong

Tracy Wong, Anne-Marie Parent, Chiaki Konishi  
 McGill University, Canada

School discipline problems, such as student truancy and lateness, are a continuing concern for educators across cultures (e.g., Kee, 2005; Sheldon & Epstein, 2002). To minimize these problems, recent studies (e.g., Koth, Bradshaw, & Leaf, 2008) have called for a need to consider the role of school climate, as manifested through dimensions such as students' relationship with teachers. Nonetheless, the extent to which school climate would also be associated with school discipline problems in the East-Asian context is unclear because extant studies have focused primarily on Western and European contexts (Kutsyruba, Klinger, & Hussain, 2015; Yang et al., 2013). The purpose of the present study was to address this gap by exploring school climate in relation to one common discipline problem, specifically, student lateness, in Hong Kong.

The present study used data collected by the Organization for Economic Co-operation and Development in 2003 for the Programme for International Student Assessment (PISA) in Hong Kong. Participants included 4,478 students aged 15 years (2,259 girls) and 145 school principals. School climate was operationalized by three variables from the survey, including principals' report of teacher's morale, students' reported sense of belonging and relationship with teacher. Data was analyzed with linear regression analyses.

Findings indicated that higher teacher morale predicted lower prevalence of lateness,  $F(1,4461) = 41.25$ ,  $R^2 = .009$ ,  $\beta = -.096$ ,  $p < .001$ . The addition of sense of belonging and student-teacher relationship as mediators also respectively lowered the predictive ability of teacher morale,  $\beta = -.090$ ,  $\beta = -.087$ ,  $ps < .001$ . Further analyses with the Sobel test confirmed the two mediation effects,  $z = -3.75$ ,  $z = -4.47$ ,  $ps < .001$ . Findings suggest that the socio-emotional aspect of school climate contributes to disciplinary problems, albeit weakly. A cultural lens will be used to understand this relationship.

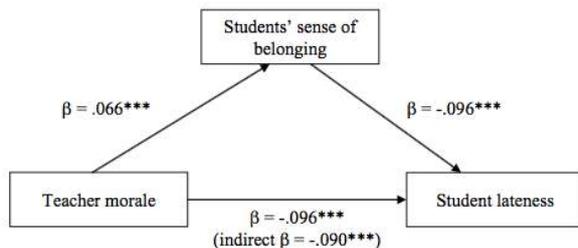


Figure 1. Students' sense of belonging as a mediator in the relationship between teacher morale and students' lateness, \* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

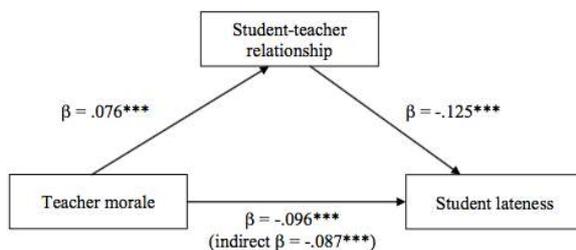


Figure 2. Student-teacher relationship as a mediator in the relationship between teacher morale and students' lateness, \* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Figure 3

## sym101-8 Meet The Editors - ERU Round Table with Discussion

Pasquale Musso, Chair

*University of Studies of Palermo, Italy*

Building upon the popularity of the 'Meet the Junior Editors' ERU lecture at previous EADP conference 2015 in Braga, this round table with discussion will provide a new opportunity, for early career researchers and for all those seeking advice on publication, to meet, listen to and discuss with distinguished scholars involved in editorial activities of leading peer-reviewed journals in the developmental psychology field.

After an introductory statement by the chairs, the invited scholars will converse on what they expect from good submissions in terms of conceptual development, research methods, and data analysis as well as how to demonstrate papers' added value. Then, the session will be open for participants questions and discussions about both positive and negative experiences of writing, revising and publishing.

Willem Koops

*Utrecht University, The Netherlands; Editor (and founder) of European Journal of Developmental Psychology; Consulting Editor (and founder) of Infant and Child Development, Netherlands*

Patrick Leman

*King's College London, United Kingdom; Editor of British Journal of Developmental Psychology, United Kingdom*

Manfred van Dulmen

*Kent State University, Ohio, USA; Founding Editor of Emerging Adulthood, United States*

Wim Beyers

*Ghent University, Belgium; Assistant Editor of Journal of Adolescence, Belgium*

Luna Centifanti

*University of Liverpool, United Kingdom; Co-Editor of Social Development, United Kingdom*

## Paper sessions 101, Wednesday August 30, 09:30 – 11:00 hrs.

### pap101-9 Social and Emotional Cognition in Children with Mental Disorders

#### pap101-9.1 Differential social skill training effects on emotion recognition in children with ASD

Hadjira Sellès, Claudine Mélan, Stéphanie Courty, Claudine Mélan  
*Université Toulouse-II, France*

In addition to low social motivation, children with Autism Spectrum Disorders (ASD) experience social cognition deficits expressed in tasks exploring Theory of Mind, emotion recognition or empathy. Most social skill training groups (SST) focus on improving social motivation and Theory of Mind abilities. The present study investigated the incidence of SST on emotion recognition abilities in children with ASD.

Sixteen children, aged 7-12, with ASD and IQs in the normal range were matched with fifteen neurotypical children. Emotion-recognition was tested with realistic stimuli (video sequences of children and adults miming happiness, sadness, anger, fear, neutral expression) and responses were performed on a key-board showing 5 response-keys.

Children with ASD displayed lower hit rates and response speed during emotion recognition, though non significantly (response speed for sadness  $p=.01$  and for neutral expressions  $p=.078$ ). Emotion recognition scores were not correlated with Vineland-II socialization scores, empathy and SST, but positive correlations were observed between the systematization quotient (analyze detailfully different elements of the environment to find an answer) and recognition misses ( $p=.036$ ). Negative correlations occurred between Vineland-II socialization scores and response-times of overall emotion recognition ( $p=.01$ ), sadness ( $p=.003$ ), fear ( $p=.027$ ), and neutral expressions ( $p=.005$ ), but also with SST ( $p=.007$ ). Positive correlations were observed between Vineland-II socialization scores and happiness recognition ( $p=.001$ ), and between SST and response-times for sad and neutral expressions ( $p=.046$  and  $.013$ ) as well as between age of starting SST and fear recognition ( $p=.039$ ).

Despite the great heterogeneity of our population, these results highlight the possibilities for ASD children to learn social skills as they identify basic emotions at a rather high rate though they appear to need more time to analyze the stimuli. They encourage future research on more subtle emotions, and by exploring the relationships between a systematisation quotient, SST and social cognition development in a longitudinal study.

#### pap101-9.2 Social cognition and pragmatics: a study with Brazilian autistic children

Sara Del Prete Panciera, Maria Stephani de Lima Buso, Andrea Perosa Saigh Jurdi  
*Federal University of São Paulo, Brazil*

The comprehension of the social world is connected to the social cognitive abilities that develop progressively and that allow us to assign mental states to other people, like desires, intentions, and beliefs. The goal of this study was to investigate the interface between social cognitive and language developments, analysing the relations between theory of mind and pragmatics in autistic children. Twenty-four Brazilian autistic children, between 6 and 12 years of age, participated in the study. For the evaluation of social cognitive abilities, the theory of mind scale was used; and, to evaluate pragmatics, it was used tasks that requested the child to make judgments about literal and non-literal statements (the later considered in two subcategories: conversational implicatures and idiomatic expressions). The results indicated that both instruments were suitable to the use of autistic children of the age group studied, with no evidence of floor effect or ceiling effect. The data doesn't indicate a statistical relationship between age and performance on the theory of mind tasks, nor of pragmatics tasks, even though the age difference between the children was broad. However, an statistical correlation was found in two cases: 1) the children, as a whole, manifested a comprehension of literal language significantly superior to the comprehension that they showed towards conversational implicatures and idiomatic expressions ( $p>0.05$ ), as expected; but also, 2) the children who had success in the performance of tasks specific to false belief were the ones who had better performance particularly towards the tasks of idiomatic expressions ( $p>0.01$ ). Those results, obtained about Brazilian children, reinforce the fundamental importance of language for the social cognitive abilities and agree with recent studies that indicate and explore the relevance of the pragmatic dimension of language in the development of a theory of mind, especially to the comprehension of false belief.

### **pap101-9.3 Service access, barriers, and needs in adolescents and young adults with autism**

Mateusz Platos, Ewa Pisula  
*University of Warsaw, Poland*

Research shows that youth with autism spectrum disorders (ASD) are more underserved as they approach final years of their high school education and that adequate services for individuals with ASD after the transition to adulthood are even scarcer. However, few studies directly compared differences in service use between adolescents and adults with ASD, and even fewer studies are published on service use outside Anglo-Saxon countries. The present study aimed at bridging these gaps by examination of service access, satisfaction, barriers and unmet needs of adolescents and young adults with ASD in Poland. 57 young adults with ASD (from 18 to 39 years old) and 307 parents of adolescents and young adults with ASD (from 12 to 38 years old) completed a survey on number and type of therapeutic service use, perceived barriers and service needs, and satisfaction from amount, type and quality of these services. Results indicate that 1 in 3 individuals with ASD have not received any service during preceding 12 months, although most of them would like to. The number of services decreased from primary to secondary and from secondary to high school. Most participants identified at least one barrier to access services, with the unavailability of services and high costs of services being most prevalent, and at least one unmet service need. The number of perceived barriers was higher for older individuals and those who left the education system. Therefore, results point to important gaps in therapeutic services for adolescents and young adults with ASD and should inform both future research and policy on lifespan support of people with autism.

### **pap101-9.4 Speech features and communication skills of children with autism spectrum disorders**

Elena Lyakso, Olga Frolova  
*Saint Petersburg state university, Russia*

The project is aimed at investigating how psychophysiological characteristics and neurological state of children influence on their speech features and communication skills. The goal of the study is to find out the data about the correlation between psychophysiological characteristics and neurological state of 5-12 years old children, typically developing (TD, n=140) and children with autism spectrum disorders (ASD, n=30), and speech features and verbal communications with adults. For this study the ASD sample was divided into two groups according developmental features: presence of development reversals at the age 1.5-3.0 years (first group) and developmental risk diagnosed at the infant birth (second group). Analysis of phonemic hearing, dichotic listening test, lateral profile (asymmetry), questionnaires, listeners analysis of child speech, description of dialogues, spectrographic analysis of vocalizations and emotional, spontaneous speech, and repetition of the words was executed. The results of the study showed that speech skills of TD children are reflected in the replicas in dialogues with adults and strong depended on child's cognitive development. ASD children differ from TD children on the base of higher values of pitch, pitch values variability, well-marked high-frequency in spectrum; replica in dialog. Communications with adults are absence or ASD children used simple replica with syllable, one word, simple phrases, and repetition part of adult's replica. Adults recognize the meaning of words, intonation, emotion state and child's age with different probability for TD & ASD children. Correlations between physiological indicators at the birth (gestation and Apgar scores) and at the current state, scores on the CARS, phonemics hearing, and ASD groups and speech features are revealed. The study results could be used in the construction of adult - ASD child interaction with considering the psychophysiological and neurological state of a child. The work was supported by Russian Foundation for Basic Research (grants 15-06-07852, 16-06-00024).

## pap101-9.5 Parental emotion regulation and parental mentalization in families of children with ADHD

Naama Gershby, Sarah A. O. Gray  
*The Hebrew University of Jerusalem, Israel*

**Aim:** developmental studies have demonstrated the role of parental emotion regulation (ER) and parental mentalization as moderators of the relationship between the parent's experience of stress and the parent's disciplinary and emotional response. In families of children with ADHD, this relationship may be of particular importance as parents often report on elevated stress level and the implications of hostile and coercive parenting is considered a major risk for symptom exacerbation. The aim of the current study is therefore to examine the role of parental ER and mentalization in relation to coercive and hostile parenting in families of children with ADHD. **Methods:** 65 mothers and 47 fathers arriving for parent training for ADHD completed study measures during intake. Parents completed the Child Behavior Checklist (Achenbach, 1991), Difficulty in Emotion Regulation Scale (Gratz & Roemer, 2004) and the Negative Feelings and Coercive Behaviors Scales of the Parents' Escalation Questionnaire (Lavi-Levavi, 2009). Mentalization was assessed using the mind-mindedness interview (Meins et al., 2003). **Results:** A multilevel modeling approach yielded three main findings: 1. Parental ER accounted for significant variance in parents' coercive behaviors ( $\beta = .10$ ,  $p = .002$ ) beyond child symptoms severity and beyond the parents' capacity for mentalization. 2. Child age ( $\gamma = 0.84$ ,  $p < .001$ ) and child symptoms severity ( $\gamma = 0.14$ ,  $p = .02$ ) accounted for significant variance in the level of parenting negative feelings (See Table 2). 3. The relationship between parental ER and parental negative feelings was moderated by the parents' level of mentalization ( $\beta = -.25$ ,  $p = .04$ ) (Figure). **Conclusions:** Study findings highlight the importance of evaluating and addressing parental emotion regulation in interventions attempting to reduce coercive parent child dynamics. Findings also highlight the potential role of parental mentalization as a possible protective mechanism against hostile parenting in families of children with ADHD.

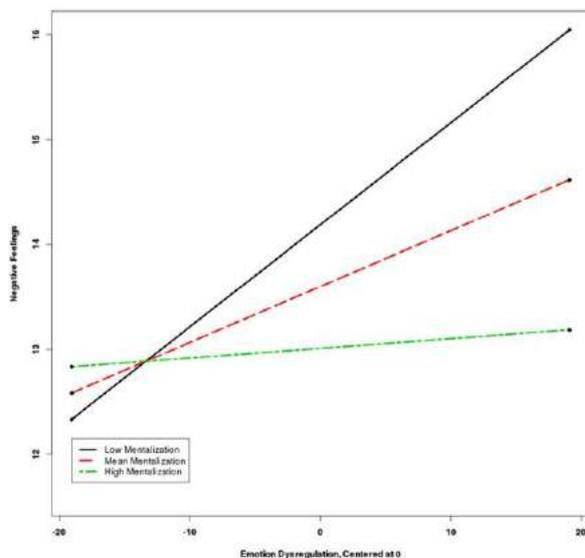


Figure 1: Difficulties in emotion regulation predict parental hostility only at low levels of parental mentalization

## pap101-9.6 IQ and brain abnormalities in offspring of patients with schizophrenia

Neeltje van Haren, Sonja de Zwarte, Manon Hillegers, Wiepke Cahn, Hilleke Hulshoff Pol, Rene Kahn, Rachel Brouwer  
*University Medical Centre Utrecht, Netherlands*

**Aim:** Offspring of schizophrenia patients (SZo) are a valuable population to observe clinical, biological and behavioral changes close to, but prior to the onset of symptoms. In order to investigate the generalizability of findings from offspring studies to other familial at-risk subjects, we compare global and local measures of the brain between different types of relatives of SZ patients.

Methods: 1011 participants were included, i.e. 41 offspring, 211 siblings, 44 parents, 26 dizygotic co-twins, 20 monozygotic co-twins, each with their own control group (HC: n=438). FreeSurfer was used to estimate brain measures from MRI, i.e. total brain (TB), gray (GM) and white matter (WM) volumes, global and local cortical thickness (CT) and surface area (SA). Age and gender effects were regressed out per cohort and standardized residuals were calculated. Linear mixed model analyses were performed comparing each relative group to their own control group, taking family relatedness into account. Effect sizes were calculated. All analyses were repeated with correcting for IQ.

Results: SZo showed the greatest effect sizes in all measures, except CT where MZ co-twins showed the largest effect. Locally, SZo showed reduced CT and smaller SA, particularly in frontal and temporal cortex. Reduced CT was also present in the other relative types (except siblings; see figure 1), while smaller SA was only present in siblings. After IQ correction, most effects were less pronounced or disappeared.

Conclusions: These results suggest a familial (possibly genetic) component to GM, TB, WM and SA decreases in SZ. Results indicate that SZo show more abundant brain abnormalities as compared with parents, siblings and twins, which in line with the high relative risk for developing SZ in SZo. Importantly, brain abnormalities in relatives were less prominent when correcting for IQ, suggesting that genetic vulnerability for SZ is also related to IQ.

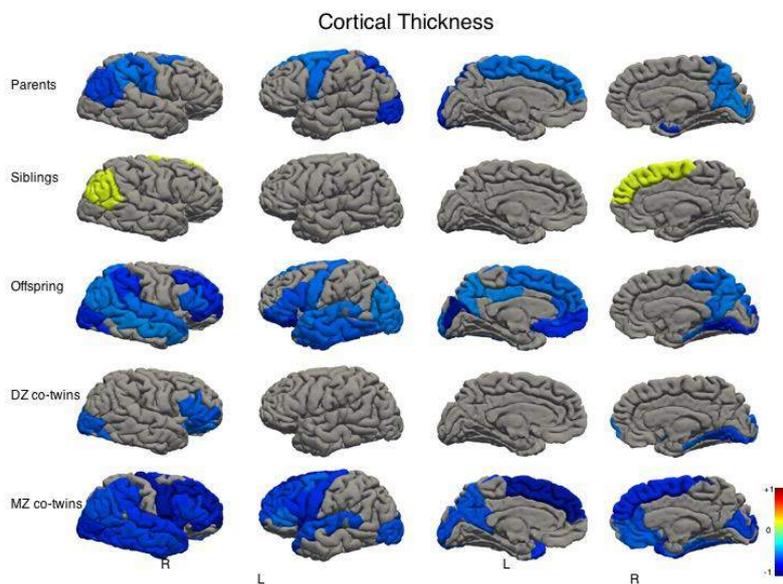


Figure 2: Differences in cortical thickness between different types of relatives and their own control group.

**pap101-10.1 Predictive Validity of Behavioral Risk-Taking Tasks for Early Adolescent Korean Students**

Joshua Weller, Hyoun Kim  
*Tilburg University, Netherlands*

**AIM:** In many cultures, early adolescence is a developmental period in which the initiation of risk behaviors, such as substance use, health-risking sexual behavior and criminality begin, potentially marking the prelude to a problematic life trajectory. However, less research has examined the (a) decision processes the early adolescents may utilize when making choices in the face of uncertainty, (b) the antecedent variables that may predict suboptimal decision processes, and (c) whether process-level decision components may predict health and psychological outcomes. Moreover, past research has disproportionately focused on Western cultures, leaving opening research questions surrounding the development of advantageous decision making and associated variables. **METHODS:** In a sample of 150 Korean children (12.9 – 15.5 years), we assessed risky decision-making using two frequently used and validated tasks: the Balloon Analogue Risk Task (BART; Lejuez et al., 2002) and the Cups Task (Weller et al., 2007). Risk-taking was operationalized as the number of choices made that had a greater outcome variance than an alternative option (e.g., 50% chance to win 20 vs. 100% chance to win 10). Additionally, we measured individual differences in temperament, impulsiveness (i.e., delay discounting), and numeracy. Gender, pubertal timing, and parental education level were also considered as covariates. These variables were selected due to prior associations with risky decision-making in child and adult samples. Finally, students completed the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), a measure shown to predict problem behaviors. **RESULTS/DISCUSSION:** Although we recently have completed data collection, we plan to report results that examine (a) the associations between antecedent predictors and risky decision-making, (b) how components of behavioral risk-taking tasks (e.g., sensitivity to outcome valence and magnitude, expected value sensitivity) differentially predict interpersonal difficulties, and (c) the degree to which the associations between antecedent predictors and outcomes are mediated by suboptimal decision processes.

**pap101-10.2 The constructs of parental knowledge and longitudinal associations to adolescent risk behaviors**

Sabina Kapetanovic, Therese Skoog, Margareta Bohlin, Arne Gerdner  
*Jönköping University, Sweden*

Parents' actions and knowledge play a key role in reducing the sharp increase in risk behaviors in early adolescence, but it is still unknown how the underlying processes of parenting work on different types of risk behaviors. This longitudinal study investigated relations among parent reports of parental self-efficacy, adolescent connectedness to their parents, parental knowledge of adolescents' whereabouts and three ways of acquiring such knowledge (parental control, solicitation, and adolescent voluntary disclosure) and associations to three types of adolescents' self-reported risk behaviors (bullying, delinquent behavior, and substance use). Participants were 550 parent-adolescent dyads from two small and two mid-sized municipalities in Sweden. Parental data were collected when adolescents were aged 12 or 13 years, and adolescent data on risk behaviors were collected two years later. Structural path models with multi-group analyses were conducted. The results showed that parental knowledge was predicted by adolescent disclosure, parental solicitation, parental control and parental self-efficacy and indirectly by adolescent connectedness to parent. While parental knowledge was associated to adolescent substance use, adolescent disclosure was the single predictor of adolescents' involvement in bullying and delinquent behavior over time. Adolescent gender was found to moderate the associations between parenting variables, where the associations were stronger for girls, as well as the stability in bullying and delinquent behavior over time, where associations were stronger for boys. No moderation was found regarding substance use. We conclude that parental trust in their parenting, as well as perceived closeness between parent and the adolescent are important contributors to the understanding of the construct of parental knowledge. Confident parenting skills and emphasis on close relationships with open communication seems protective of adolescent engagement in risk behaviors, while parental awareness of adolescent activities is especially relevant regarding adolescent engagement in substance use.

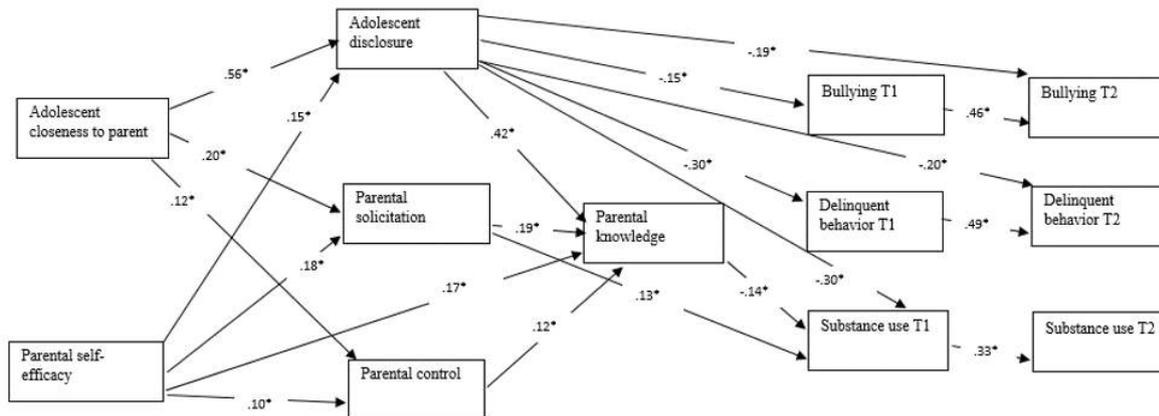


Figure 1: Structural model showing relations between parenting variables and their longitudinal associations to adolescent risk behaviors

### pap101-10.3 The impact of peer encouragement and discouragement on adolescent risk taking

Anouk de Boer, Zeena Harakeh  
 Utrecht University, Netherlands

**Aim:** Empirical evidence showed that risk taking occurs in the presence of peers. Nevertheless, the question how peer presence leads to more risk taking has hardly been studied. Furthermore, little is yet known about whether peers may also decrease adolescent risk taking. In this present study we focus on the impact of active (pressure) and passive (imitation) peer influence on adolescent risk taking.

**Methods:** The first experiment focused on active and passive peer encouragement. 138 Dutch secondary school students between the ages of 11 and 19 played a computer task (BART; the Balloon Analogue Risk Task) simultaneously with a peer (an e-confederate). We performed four conditions: neutral, passive (two updates received about the amount of pumps of the e-confederate indicating peer's high risk taking), active (two risk-encouraging messages from the e-confederate were received), and combined (two updates and two messages were received). The second experiment, with similar design and procedure, focused on peer discouragement. 269 Dutch adolescents aged between 11 and 16 completed the BART in the presence of an e-confederate who demonstrated very little risk taking (passive discouragement) and/or sent risk-discouraging messages to participants (active discouragement).

**Results:** The experiment on peer encouragement showed that participants exposed to passive encouragement took significantly more risk than participants in the control condition. In contrast, the experiment on peer discouragement showed that only participants in the combined condition took significantly less risk than participants in the control condition. Furthermore, the results in both experiments showed that there were no sex differences.

**Conclusion:** Peer influence affect adolescent's increase as well as decrease in risk taking. Moreover, the underlying mechanisms of this increase/decrease in risk taking seem to differ, and need to be considered in current health education programs. In addition, challenges and suggestions for future research will be discussed.

### pap101-10.4 Resiliency and risky behaviors - moderating effects of gender and sport

Mariusz Lipowski, Małgorzata Lipowska, Magdalena Jochimek, Daniel Krokosz  
 Department of Health Psychology, Gdansk University of Physical Education and Sport, Poland

**Aim.** Practicing sport is connected with higher levels of traits being considered personal resources - resiliency. This predisposition is also factors protecting youth against involvement in risky behaviors. Despite possible benefits of sport participation, involvement in regular sport activities does not protect from some risky behaviors. The aim of the following work is to specify to what extent resiliency may protect adolescents against risky behaviours, and that both the practicing of sports, and gender are moderating variables in relationships between resiliency and risky behaviours.

Methods. The research group constituted of 556 pupils from the secondary schools in Three-City (Gdansk-Sopot-Gdynia; Poland). A total of 188 individuals practiced competitive sports and the remaining 368 participants were non-athletes. Participants completed the Resiliency Assessment Scale for Children and Adolescents (SPP-18) and a questionnaire “experiments with adulthood”, which contains question about alcohol abuse, cigarette smoking, drug abuse and risky sexual behaviors.

Results. Athletes showed higher levels of resiliency than their peers. The power of the “Determination and Persistence in Action” effect on “Alcohol” scale differed significantly between male athletes and male non-athletes. It is possible to observe differences in undertaking risky behaviour between male and female athletes. The analysis of risky sexual behaviour suggests that sport is a risk factor for men, and a protective factor for women.

Conclusion. Although practicing sport may modulate involvement in risky and problematic behaviours, this relationship should be interpreted in broader individual and psychosocial contexts, with special consideration of differences between genders. Sport coaches and specialists in prevention should promote the development of independent thinking and reflective decision-making, especially among male athletes. Moreover, they should encourage the adolescents’ ability to plan for the future, define objectives and practice self-management in this critical period of life.

### **pap101-10.5 Risk and protective factors of conduct problems from ages 3 to 11**

Leslie Gutman, Heather Joshi, Michael Parsonage, Ingrid Schoon  
*UCL, United Kingdom*

There is robust evidence that early intervention can be successful in preventing the development of serious conduct problems in at-risk children. An understanding of the heterogeneity in developmental trajectories of conduct problems and the risk and protective processes that distinguish these pathways are important for prevention purposes. Few studies, however, have both identified distinctive developmental trajectories of conduct problems and assessed the relative importance of multiple risk and protective factors at different ages, especially using a nationally representative sample from early childhood. Using the Millennium Cohort Study (MCS), the current study (a) identified trajectories of conduct problems and (b) assessed significant risk and protective factors from ages 3 to 11. MCS is a representative sample of children born in the UK in 2000/01 and the data are from surveys at 9 months and at ages 3, 5, 7 and 11. Conduct problems from ages 3 to 11 were assessed by the Strengths and Difficulties Questionnaire (SDQ) completed by mothers. A clinically-meaningful score was computed, where 1 = high-risk of conduct problems. Using group-based trajectory modelling, four distinct trajectories of conduct problems were identified: low; school-age onset; early-onset, desisting; and early-onset, persisting (see Figure 1). An individual risk score based on socio-demographic factors will then be constructed at ages 3, 5, 7 and 11. Protective factors including child (e.g., cognitive development and self-control) and family (e.g., relationships and parenting) characteristics measured from ages 3 to 11 will also be examined. This paper will contribute to the literature by: (1) assessing the interactive effects of risk and protective factors at different points in development, (2) examining the impact of change in risk and protective factors; and (3) determining the cumulative influence of risk and protective factors on trajectories of conduct problems. The implications of these findings for preventive interventions will be highlighted.

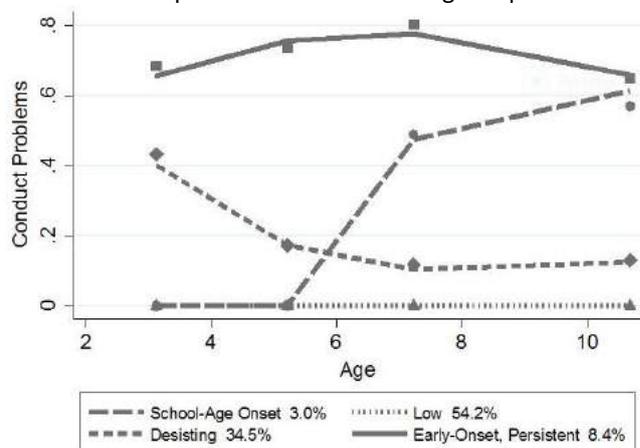


Figure 2: Group-based trajectories of conduct problems from ages 3 to 11

**pap101-10.6 Transactional links between social relations and behavior problems of primary school students**

Nouchka Tick, Rinske Windig, Kirsten Hoogendijk, Adriaan Hofman, Dolf van Veen  
 Utrecht University, Netherlands

**Introduction:** A substantial number of primary school students exhibit behavior problems in class. Although social relationships have been shown to predict the development of behavior problems, students’ behavior is likely to have an impact on these relationships as well. This study focuses on transactional relations between primary school students’ behavior problems and their social relationships with teachers and peers.

**Methods:** Participants were 103 primary school teachers and 858 of their 8-12 year-old students. Assessments were conducted at the start of the school year (T1), halfway through the schoolyear (T2) and at the end of the school year (T3). Teachers completed the Conduct Problems subscale of the SDQ-T and the Conflict subscale of the STRS. In addition, students provided peer nominations of classmates they liked and disliked, from which a social preference score was calculated. A cross-lagged panel design that accounted for dependency in the data was used to examine transactional relations over time.

**Results:** Results showed significant stability coefficients for all variables, as well as significant cross-sectional correlations. Cross-lagged links showed that behavior problems at T2 and T3 were predicted by student-teacher conflict and low peer social preference at the previous time point, with strongest links from student-teacher conflict to behavior problems (Figure 1). In addition, behavior problems at T1 was predictive of student-teacher conflict at T2, whereas behavior problems at T2 predicted peer social preference at T3.

**Conclusion:** This study offers some insight into the underlying dynamics of problem behavior development. Student-teacher conflict, and to a lesser extent low peer social preference, are relevant risk factors for the development of behavior problems. The impact of behavior problems on social relationships appears to be less consistent. These findings suggest that one way to reduce problem behaviors in the classroom context may be to improve the quality of children’s social relations.

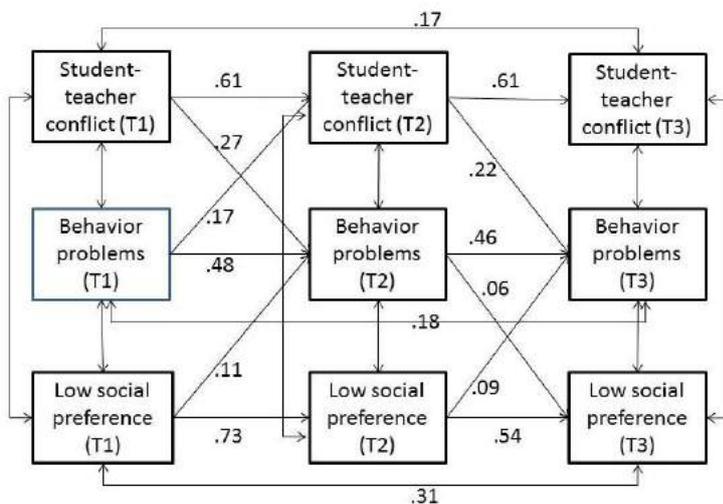


Figure 1: Final autoregressive cross-lagged model.

**pap101-11.1 Comparison of different response formats of an attachment questionnaire for school-age children**

Tatiana Marci, Francesca Lionetti, Ughetta Moscardino, Massimiliano Pastore, Gianmarco Altoè  
*University of Padova, Italy*

Several studies suggest that item response format has important implications for the psychometric properties of questionnaires and for the quality of data (Bell, 2007). While much attention has been devoted to testing how variations in Likert-scales (e.g., number of response options) may affect instrument measurement proprieties, differences among available formats have not yet been explicitly addressed.

This study aims to test whether answer format influences the psychometric proprieties of the Security Scale (SS; Kerns et al., 1996), a widely used self-report measure of attachment in middle childhood. The original response format (i.e., Harter's) was compared with two adapted versions (i.e., 4-point Likert scales) using the third ("Some children think that..."; version 1) and first person ("I think that..."; version 2), respectively. Participants were 438 Italian children aged 8-10 years. In Study 1, 94 children (49% boys), completed the original SS, and 97 filled out version 1. In Study 2 (45,7% boys), 107 children completed the original SS and 140 filled out version 2. Confirmatory Factor Analyses (CFAs) for ordinal data were performed to explore and compare the different factor structures. Measurement invariance was tested through Multi-Group (MG) analyses.

CFA fit indices indicated a good fit for the Harter format and an unacceptable fit for both Likert formats. Also, MG analyses did not support measurement invariance (configural invariance fit indices, Study 1: CFI = .89, RMSEA = .080; Study 2: CFI = .89, RMSEA = .095). Our results support the Harter response format as a psychometrically robust answer-format for the SS. Further studies should evaluate whether these findings can be generalized to other questionnaires designed for school aged children.

**pap101-11.2 The role of emotion in the relationship between attachment and dispositional mindfulness**

Karen Goodall, Zara Brodie  
*University of Edinburgh, United Kingdom*

Previous research on adults has demonstrated an association between attachment and dispositional mindfulness, suggesting that the tendency to attend to the present moment without judgement may be nurtured through early interpersonal relationships. Little is known about the nature of this relationship in young populations. This study investigated the relationship between mindfulness, attachment and related variables in young people age 12-24 years. 284 participants completed measures of mindfulness, emotion regulation and attachment. There was no relationship between age and dispositional mindfulness. Regression analysis indicated that attachment dimensions (anxiety and avoidance) jointly explain 19% of variance in mindfulness. Parallel mediation analysis indicated that the relationship between avoidance and mindfulness was mediated by emotion clarity, limited access to emotion regulation strategies and difficulties in remaining on task when distressed. The relationship between attachment anxiety and mindfulness was mediated by low emotion awareness, low emotion clarity and limited access to emotion regulation strategies. The results suggest that the dispositional tendency to be mindful in young people may be related to social relationships predominantly via the nurturing of skills in being aware of, and recognising emotions in oneself. The results will be discussed in relation to literature on attachment and its role in promoting self regulation competencies.

**pap101-11.3 Avoidant suppression and anxious aggression: Attachment-related responses to an anger induction procedure**

Zara Brodie, Karen Goodall, Stephen Darling, Chris McVittie  
*University of the West of Scotland, United Kingdom*

Previous research indicates an association between insecure attachment and the development of ineffective approaches to emotion regulation in adulthood. This is thought to be down to a lack of opportunity to build an adaptive repertoire of regulation techniques within the inconsistent or neglectful confines of an insecure infant-caregiver relationship. However, at present there is a distinct lack of research considering attachment-

related differences in anger regulation, specifically. The present study utilised an anger induction procedure to investigate the relationship between attachment insecurity, self-reported and physiological responses to an anger episode, and subsequent aggressive behaviour in 60 participants aged 18-60 (81.7% female). An interpersonal insult-based anger induction procedure was used, in which participants received negative feedback on their likability and performance on a discursive writing task. Blood pressure, finger temperature and self-reported anger were measured at baseline and post-induction. Following the anger induction, aggression was measured using the Taylor Aggression Paradigm, in which participants believed they were competing in a reaction time task, and had the opportunity to administer noise blasts of varying volume to their competitor when they lost a trial. Results indicated that neither attachment dimension was significantly associated with physiological reactivity; however attachment avoidance was negatively associated with self-reported anger change. Attachment avoidance was also a significant predictor of anger suppression (increased discrepancy between self-report and physiological scores), while attachment anxiety significantly predicted variance in aggressive behaviour. Taken together, the findings suggest that there are distinct attachment-related differences in responses to an anger induction procedure, in that those high in avoidance respond by suppressing their anger, while those high in anxiety respond aggressively. These findings highlight the long term maladaptive regulatory processes associated with insecure attachment, and support the importance of taking attachment insecurity into account in anger management interventions throughout the lifespan.

#### **pap101-11.4 Need Satisfaction and Romantic Relationship Quality: The Role of Partner Attachment**

Ali Serdar Sağkal, Yalçın Özdemir  
*Adnan Menderes University, Turkey*

Emerging adulthood is a crucial developmental period for individuals in the age range of 18-25 years to invest in romantic relationships. Although it is important to engage in romantic relationships in this period, the quality of these relationships and its predictors matter to researchers in the field of developmental psychology. Particularly, self-determination theory proposes that satisfaction of autonomy, competence, and relatedness needs are positively correlated with well-being. Based on this theory, it is logical to expect links between satisfaction of these needs and relationship quality in emerging adulthood. However, it is also necessary to explore the mechanisms between need satisfaction and relationship quality. In that respect, partner attachment might be an important mediator between these two variables. Therefore, the objective of the present study was to explore the direct effects of need satisfaction in romantic relationship both on partner attachment and romantic relationship quality and also indirect effects of need satisfaction on relationship quality through partner attachment. The study included 309 participants (252 women, 81.6%; 57 men, 18.4%) being in a heterosexual relationship from a western Turkish university. Participants' ages ranged between 18 and 25 ( $M = 20.91$ ,  $sd = 1.96$ ). The Perceived Relationship Quality Components Inventory, The Relationship Structures Questionnaire, and Need Satisfaction Scale were used as measuring instruments. Single-step multiple mediator model was tested by using the Hayes PROCESS macro. The results indicated that total indirect effect of need satisfaction on romantic relationship quality was significant. A closer look at the specific indirect effects revealed that the indirect effect of need satisfaction on romantic relationship quality through partner attachment avoidance was significant, but not attachment anxiety. Discussions, conclusions and implications will be presented.

#### **pap101-11.5 Effects of war on moral reasoning and attachment style**

I. Ercan Alp, H. Zehra Evliya, Merve Karaman, Sezgin Bayar  
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An earlier study found that war exposure has a detrimental effect on moral reasoning (Haskuka, Sunar, & Alp, 2008). Moreover, effect on moral reasoning was not moderated by attachment style, although attachment style itself seemed to have changed from secure to insecure. War exposure groups comprised Kosovar college students who were (a) in Kosovo during the war (high exposure) and (b) in Turkey during the war (low exposure). The control group comprised Turkish college students in Istanbul who only got exposure over the media (no exposure group). Although Kosovar and Turkish societies are culturally very similar, it might still be the case that the results show cultural differences between the two societies rather than the effects of war.

In the present study, the experimental group comprises Syrian refugees in Turkey, all ethnic arabs of alluwrite conviction and there are two Turkish control groups none of whom have present-day relatives in Syria: (1) citizens residing in Hatay (close to Syrian border) who share the same ethnic and religious background as the refugees, and (2) college students in Istanbul. Only young adults with a minimum of high school education are qualified as subjects.

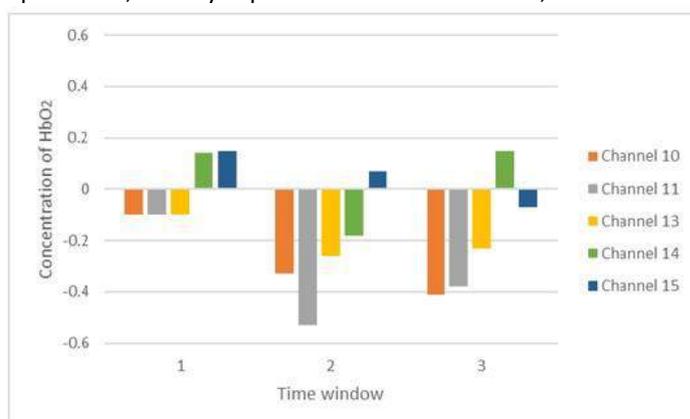
The data collection is still continuing and we aim at a total of 300 participants (roughly 100 in each group). Defining Issues Test (Rest, 1986) and Experiences in Close Relations questionnaire (Brennan, Clark, & Shaver, 1998) are administered to all participants, following a short set of background questions.

One-way ANOVA is performed to compare the three groups on each: Moral reasoning level, Avoidance and Anxiety (following preliminary analyses checking for effects of gender, etc.). Those yielding significant results are further examined pairwise to differentiate between war and culture effects on the dependent variable. Additional analyses check for a possible moderation of attachment style between war exposure and moral reasoning.

### **pap101-11.6 Maternal attitude relates to brain activity to affective touch in 12-month-old infants.**

Helga Miguel, Sara Cruz, Marta Alves, Tiago Ferreira, Óscar Gonçalves, Adriana Sampaio  
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Affective touch activates a brain network responsible for processing social-emotional stimuli including the posterior superior temporal sulcus (pSTS) in children, adolescents and adults. However, very few is known about the processing of affective touch in the first year of life, and to what extent maternal attitude towards touch has an impact in its development. Purpose: In this study, we used functional near-infrared spectroscopy (fNIRS) to examine affective touch in 12-month-old infants. The purpose of this study was to 1) examine the activation in infant's brain activity in a social-emotional region (pSTS) upon two different types of touch stimuli (i.e., affective and discriminative touch) and 2) determine the relation between brain activation and mother's attitude toward social touch. Methods: Twelve-month infants (n=20) were given affective and discriminative stimuli to the forearm for 10 seconds followed by 20 seconds of a rest period while they were looking at a mute movie. Brain activation was recorded in somatosensory cortex and temporal region for measures of oxy-hemoglobin and deoxy-hemoglobin. Mothers' attitude toward social touch was measured using the Social Touch Questionnaire (STQ). Results: There was evidence of activation (i.e., pattern of increase in oxy-hemoglobin (HbO<sub>2</sub>) and decrease in deoxy-hemoglobin (Hbb)) in channels over the temporal region (pSTS) for affective touch. Increases of HbO<sub>2</sub> for affective touch in 4 channels placed over the temporal region (pSTS) correlated negatively with scores obtained from the STQ (i.e., higher brain activation was associated with lowest avoidance of social touch). Conclusion: The findings suggest that 12-month-olds recruit already social-emotional regions of the brain, namely the pSTS, to process affective touch. The results also suggest that this activity can be related with the mother's attitude towards touch, and that that early mother-infant physical experiences, namely exposure to tactile behaviors, can have an important role shaping the developing brain.



*Figure 1. Correlation values (r) between HbO<sub>2</sub> response and Social Touch Questionnaire (STQ) for channels placed over the temporal region (pSTS). Lower scores in STQ mean lowest avoidance behaviors toward social touch, whereas greater scores in STQ mean mo*

**pap101-12.1 The role of sibling in relation between self-esteem and parentification in adolescence.**

Judyta Borchet, Aleksandra Lewandowska-Walter, Piotr Połomski, Aleksandra Peplińska, Maria Kaźmierczak  
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Parentification is a form of distorted division of roles and responsibilities in the family where those roles are being reversed (cf. Minuchin, 1984; Jurkovic, 1997; Hooper, 2008, 2011; Schier, 2010, 2014; Haxhe, 2016). A situation which goes beyond the child's capabilities and exhausts resources usually yields numerous negative consequences. Nevertheless, in some circumstances the child may feel helpful and valuable by performing certain functions and roles in the family, so parentification may be beneficial by boosting one's self-agency (cf. Chase, 1989; Hooper, 2008, 2011). Additionally, when parents are inefficient, siblings may become important figures in one's development (Bowlby, 1988; Byng-Hall, 2008).

The main aim of the study was to establish whether parentification is connected with self-esteem. Second aim was to answer whether siblings relationship may mediate the relation between parentification and self-esteem.

There were 218 late adolescents ( $M=21.37$ ;  $SD=2.49$ ) surveyed using three questionnaires: polish adaptation of Rosenberg's Self-esteem Scale (SES) (Łaguna, Lachowicz-Tabaczek, Dzwonkowska, 2007), polish adaptation of Hooper's Parentification Inventory (Borchet, Lewandowska-Walter, Połomski, Peplińska, in press) and The Questionnaire of Relationships with Siblings (Lewandowska-Walter, Połomski, Peplińska, 2016).

The assumed model for perceived benefits of parentification was confirmed due to statistically significant partial mediation effect (direct effect: .272;  $p < .001$ ; indirect effect: .124;  $p < .01$ ). The model parameters were satisfying ( $CMIN = 5.201$  (4);  $p = .267$ ;  $RMSEA = .037$ ;  $GFI = .991$ ;  $CFI = .997$ ). Additionally, the participant's gender was not moderating the effect. The model was not confirmed for neither parentification towards parents nor sibling-focused parentification.

Therefore, it can be concluded that relations between perceived benefits of parentification and self-esteem should be considered through the prism of siblings relationships. The obtained results are novel and show that it is important to note the sibling relationships quality while assessing perceived benefits of family roles dysfunctions.

**pap101-12.2 Adolescent's perceptions of father's and mother's parenting as predictors of their adjustment**

Orlanda Cruz, Catarina Canário, Maria Ducharne  
*University of Porto, Faculty of Psychology and Educational Sciences, Portugal*

**Aim:** The purpose of this cross-sectional study was to examine how adolescent's perceptions of father's and mother's parenting behaviors predicted outcomes in the domains of social skills and academic achievement. **Methods:** Participants included 168 students who attended the 10th (13.14%) and 11th (86.86%) grades in Portuguese public schools, boys (42.26%) and girls (57.74%), aged between 16 and 19 years ( $M=16.76$ ;  $SD=0.45$ ).

Measures included the adolescent's perceptions of father's and mother's parenting behaviors (Parenting Behavior Questionnaire), the adolescent's social skills (Social Skills Rating Scales), the adolescent's grades (measure of academic achievement), adolescent's age and mother's and father's years of schooling. Multiple linear regression models were performed using structural equation modeling. Models included the latent variables of the adolescent's perception of father's and mother's parenting behaviors (autonomy support, positive climate, and knowledge of behaviors and activities) as predictors. Models regarding academic achievement additionally included adolescent's age and mother's and father's years of schooling.

**Results:** Fit indexes, proportion of explained variance and standardized regression weights of the models are depicted in Table 1. Adolescent's social skills were positively predicted by their perception of mother's knowledge, whereas academic achievement was negatively predicted by their perception of father's and mother's positive climate, and positively predicted by their perception of father's knowledge, and by father's and mother's years of schooling.

**Conclusions:** Adolescent's perception of mother's knowledge was relevant to their social skills, whereas the perception of father's knowledge was relevant for their academic achievement. The same parenting behavior had a different outcome according to the parental role (father/mother). The adolescent's perceptions of

father's and mother's positive climate were relevant for their academic achievement, suggesting that a less positive climate benefits academic achievement. Results highlight the relevance of parenting behaviors in adolescent's social skills and academic achievement, and make a relevant contribution to the existing literature.

	Social skills		Academic achievement	
	Father's model	Mother's model	Father's model	Mother's model
<b>Model fit indexes</b>				
$\chi^2/df$	1.54	1.48	1.48	1.47
CFI	.96	.95	.96	.94
TLI	.95	.94	.94	.91
PCFI	.80	.79	.70	.69
RMSEA ( $p \geq .13$ )	.06	.06	.06	.06
Proportion of explained variance (%)	6	14	32	19
<b>Standardized regression weights</b>				
Autonomy support	0.01	0.17	0.21	0.03
Positive climate	0.17	-0.01	-0.60***	-0.25*
Knowledge	0.11	0.29**	0.49***	0.13
Years of schooling	-	-	0.18*	0.31***
Adolescent's age	-	-	-0.13	-0.10

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 1. Fit indexes, proportion of explained variance and standardized regression weights of the multiple linear regression models performed to test adolescent's perceptions of father's and mother's parenting behaviors as predictors of social skills and

### **pap101-12.3 Adolescents' perceived gratification of basic psychological needs and conflict resolution with parents**

Ayfer Dost-Gozkan, Seda Dinçkan  
Ozyegin University, Turkey

Based on the self-determination theory perspective, the present study examined the relationships between the perceived gratification of basic psychological needs of autonomy, relatedness, and competence, and conflict resolution strategies (conflict engagement, problem solving, withdrawal and compliance) that adolescents employed in their relationships with their parents. The path model included family cohesion as the mediating variable. The sample consisted of 1357 Turkish adolescents (798 girls and 559 boys) ( $M = 15.05$ ,  $SD = 1.5$ ; range = 12-19). Adolescents from eight public schools filled out a battery of questionnaires on family relationships and psychological outcomes. A mediational path model was created predicting conflict resolution strategies with mother and father directly and via family cohesion.

It was hypothesized that the perceived gratification of basic psychological needs would be directly and indirectly linked (via family cohesion) to conflict resolution strategies. Fit indices indicated good fits between the data and the models (path analysis for mother:  $\chi^2 = 28.12$ ,  $df = 22$ ,  $p = .17$ ;  $\chi^2/df = 1.28$ ; CFI/TLI = .999/.997; RMSEA = .015 [.00-.028]). Findings showed that mother's basic needs gratification directly and indirectly predicted lower conflict engagement and withdrawal, and higher problem solving with mother. Similarly, father's basic needs gratification directly and indirectly predicted lower conflict engagement and withdrawal, and higher problem solving with father. There was also an indirect negative link between paternal basic needs support and withdrawal in relationship with mother. Interestingly, higher levels of mother's needs gratification predicted lower levels of compliance with father; although the indirect link (via family cohesion) was positive, the total effect was negative and significant.

Findings pinpointed the importance of gratification of basic psychological needs in adolescent-parent relationships. Gratification of the autonomy, relatedness and competence needs influence adolescents' conflict resolution behaviors not only directly but via cohesion created in the family environment. This study implies

that parent-training programs may incorporate empowerment of parents as to how to support autonomy, give competence feedback and provide a caring environment for their adolescents.

Variable	Direct Effects			Indirect Effects			Total Effects		
	Estimate	SE	p-value	Estimate	SE	p-value	Estimate	SE	p-value
Conflict engagement	.10	.03	.002	.04	.01	.000	.15	.03	.000
Problem solving	--	--	--	.11	.02	.000	.11	.02	.000
Withdrawal	--	--	--	.11	.02	.000	.11	.02	.000
Compliance	.10	.04	.017	.10	.02	.000	.20	.04	.000

Table 2. Mediation path analysis predicting conflict resolution with father from perceived gratification of basic psychological needs as mediated by family cohesion

Variable	Direct Effects			Indirect Effects			Total Effects		
	Estimate	SE	p-value	Estimate	SE	p-value	Estimate	SE	p-value
Conflict engagement	--	--	--	-.08	.01	.000	-.08	.01	.000
Problem solving	.11	.03	.000	.04	.01	.001	.143	.03	.000
Withdrawal	--	--	--	-.08	.01	.000	-.08	.01	.000
Compliance	--	--	--	.04	.01	.004	.04	.01	.004

Table 1. Mediation path analysis predicting conflict resolution with mother from perceived gratification of basic psychological needs as mediated by family cohesion/ Table 2. Mediation path analysis predicting conflict resolution with father from perc

#### pap101-12.4 Autonomy, Community, and Divinity: Ethical Worldviews and Psychological Outcomes among Adolescents

Ayfer Dost-Gozkan, Ebra Uraloglu  
Ozyegin University, Turkey

Based on the three ethics perspective (Jensen, 2015; Shweder et al., 1997) and self-determination theory (Deci & Ryan, 1985), the present study examined two research questions in a sample of 1357 Turkish adolescents (M =15.05, SD=1.5): 1) How do different constellations of ethical worldviews (autonomy, community, and divinity) differ in certain psychological outcomes (life satisfaction, lower anxiety, and problem solving confidence)? 2) To what extent does the gratification of basic psychological needs (autonomy, relatedness, and competence) in relationship with parents account for the psychological outcomes among adolescents with different constellations of ethical worldviews? In order to answer these research questions, first, a hierarchical cluster analysis was performed on the autonomy, community, and divinity scores. Analysis yielded a six cluster solution, indicating six constellations of ethical worldviews: 1.) High in Three Ethics, 2.) High in Divinity, 3.) Moderate in Three Ethics, 4.) High in Autonomy and Community, 5.) Low in Three Ethics, 6) High in Autonomy. An ANCOVA was performed to examine the cluster differences in the perceived gratification of psychological needs and psychological outcomes. Results showed that groups which had higher commitment to any ethical worldview or constellations of worldviews (except higher commitment to autonomy only) had better positive psychological outcomes and higher gratification of psychological needs (Table 1). A mediation path analysis predicting positive psychological outcomes from the perceived gratification of psychological needs indicated that needs-gratification, directly and indirectly via family cohesion, predicted positive psychological outcomes in all groups, except for adolescents who scored lower on all three ethical worldviews, and those who scored higher only on ethic of autonomy, ( $\chi^2 = 91.72$ ,  $df = 13$ ,  $p = .14$ ,  $RMSEA = .028$ ,  $CFI = .993$ ,  $TLI = .979$ ). Results are discussed in view of the resilience and risks that the levels of commitment to ethical values might pose.

	Group 1 High in three ethics	Group 2 High in divinity	Group 3 Mid in three ethics	Group 4 High in autonomy & community	Group 5 Low in three ethics	Group 6 High in autonomy	
Psychological Outcomes	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	p-value
Life Satisfaction	4,11 (.03)	3,70 (.04)	3,54 (.04)	3,84 (.04)	3,08 (.09)	3,49 (.06)	1>2,3,4,5,6*** 2>3*,5*** 3>5*** 4>3,5,6*** 6>5**
Problem Solving Confidence	4,03 (.04)	3,55 (.05)	3,45 (.05)	3,78 (.05)	3,14 (.10)	3,57 (.08)	1 > 2, 3, 4, 5, 6*** 2 > 5**; 4 > 2*, 3***, 5*** 6 > 5**
Trait Anxiety	2,27 (.02)	2,36 (.03)	2,36 (.03)	2,32 (.03)	2,48 (.06)	2,30 (.05)	5 > 1*
Gratification of basic needs in relationship with mother	4,48 (.03)	4,19 (.04)	4,12 (.04)	4,35 (.04)	3,93 (.08)	4,25 (.07)	1>2,3,4,5***,6* 4>3**,5*** 6>5*
Gratification of basic needs in relationship with father	4,32 (.03)	4,06 (.05)	3,87 (.05)	4,24 (.05)	3,72 (.09)	4,06 (.07)	1>2,3,4,5***,6* 2>5* 3>4* 4>5*** 6>5*

Table 1. Means, Standard Deviations and p-values for the Differences among Ethical Worldview Clusters

### pap101-12.5 Which activities promote what patterns of individual changes in adolescents' competences?

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Universidad de La Laguna, Spain

The objective of this study is to identify patterns of individual changes in adolescents' personal, social and community competences after taking part in the 'Building My Future' program, focusing on the types of complementary activities that are associated with these changes. Participants were 410 adolescents who filled out three pre-post self-report measures: the Self-Concept and Social Realization Questionnaire, the Coping Scale for Children and Youth Questionnaire and the Perceived Community Support Questionnaire. The program's facilitators also filled out a datasheet with personal and implementation information concerning the activities performed during the program. Three patterns of competence changes were identified using cluster analysis, and were then related to the types of activities performed: 1) Positive changes in personal, problem solving and community competences with more problem avoidance, that was characterized by not doing the pre-intervention activity, not doing excursions and having more meetings with town hall resources; 2) Negative changes in personal and community competences, that was characterized by participating in several types of pre-intervention activities for the weekend, having less amount of meetings with external resources, and not engaging in creative or artistic activities, volunteering or games; and 3) Positive changes in personal competences with less problem avoidance, that was characterized by performing various sessions of group dynamics as pre-intervention activities, meeting up with associations, and carrying out creative or artistic activities, volunteering, games, and no sports. These results reveal the importance of the types of activities that are carried out during a psycho-educational and community-based intervention program to promote positive development, and can help us to incorporate recommendations for future editions.

Keywords: adolescents, competence, activities, intervention program, positive youth development.

### pap101-12.6 Tuning into Teens: Improving parent emotion socialization to reduce adolescent internalizing difficulties

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The transition from childhood to adolescence coincides with an increase in anxiety, a peak in somatic complaints, and a post-pubertal rise in depression by mid-adolescence. For those affected, internalizing difficulties result in considerable stress and impairment for the young person even if symptoms do not reach criteria for clinical diagnosis. Emotional competence has been found to be an important protective factor for

healthy social, emotional, and behavioral functioning. Research suggests that parents' emotional competence and emotion socialization practices continue to influence adolescent's emotional functioning, including internalizing difficulties. Yet, when parenting programs are offered to parents of adolescents, few parents attend and many do not complete all sessions offered. The Tuning in to Teens parenting program teaches parents to respond to their teens emotions in a way that enhances parent-child connection and helps the young person develop emotional skills. The current study involved 308 parents of adolescents aged 11 to 14 years (mean age = 12.3), who were recruited from secondary schools in Melbourne to evaluate the Tuning in to Teens program. A group-randomized control design was used where participants were recruited from schools and randomized into intervention and wait-list control conditions. Data were collected pre-intervention and 12 months post intervention with 94% of participants retained at follow-up. Preliminary results showed intervention parents reduced negative responses to adolescents' emotions after participation in the program. Implications for family functioning and adolescent internalizing outcomes will be discussed. The findings suggest that an emotion-focused approach to parent work engages parents and could be considered as an alternative to the dominant behavioral parenting approaches when working with parents of adolescents.

**pap101-13.1 Parental modeling of nonhostile attributions decreases hostile attribution bias in their children**

Anouk van Dijk, Astrid Poorthuis, Sander Thomaes, Bram Orobio de Castro  
 Utrecht University, Netherlands

**Aim.** Parents comment on their children’s social endeavors on a daily basis, providing rich input for children’s interpretations of their social world. As such, parents who frequently model hostile attributions may induce a hostile attribution bias in their children. We investigated this hypothesis using both an observational (Study 1) and an experimental design (Study 2).

**Methods.** In Study 1 (n = 109, Mage = 4.90, SDage = 0.75) parental modeling of attributions was observed using a picture book containing four stories of ambiguous social provocations. Children’s attributions of these stories were assessed before and after the modeling session. In Study 2 (n = 89, Mage = 4.88, SDage = 0.82) parental modeling of attributions was experimentally manipulated, instructing half of the parents to discuss nonhostile attributions. Children’s attributions were assessed after the modeling session, using different stories than those from the picture book.

**Results.** Study 1 showed that children’s hostile attributions reduced if their parents made relatively few hostile attributions (p = .021, d = 0.30) but did not reduce if their parents made relatively many hostile attributions (p = .499, d = -0.11; moderation effect: F(1, 105) = 5.92, p = .017). Study 2 showed that children whose parents modeled nonhostile attributions made less hostile attributions than children whose parents did not, t(58.92) = -2.35, p = .022, d = 0.27.

**Conclusions.** These studies provide converging evidence for a short-term effect of parental modeling on children’s attributional styles. Study 1 indicated that parents’ spontaneous modeling of nonhostile attributions leads to reduced hostile attributions in their children, and Study 2 showed that encouraging parents to model nonhostile attributions leads children to make less hostile attributions. These findings provide insight into the mechanism by which parents’ daily discussion of social situations may impact children’s long-term development of hostile attribution biases.

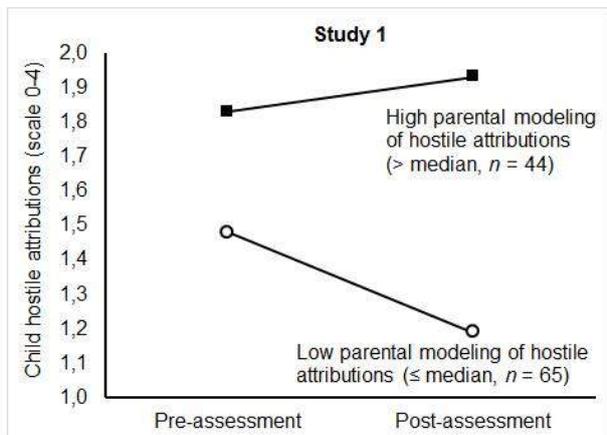


Table 1: Hostile attribution bias scores on pre- and post-assessment for children whose parents who were high versus low on modeling of hostile attributions

**pap101-13.2 Children’s Motivation in Interpersonal Affect Worsening: the Role of Emotion-Outcome Expectancies**

Belen Lopez-Perez, Antonio Zuffiano  
 Liverpool Hope University, United Kingdom

**AIM:** Every day in their interactions, people shape others’ emotions. Children at two years of age are able to provide comfort when facing another in distress (Persson, 2005). Despite this, little is known about children’s affect worsening (Niven, Totterdell, & Holman, 2009), or their attempts to make others feel a negative emotion. Recent research with adults has found that they can make close ones to feel bad if this entails a benefit for them (Netzer, Van Kleef, & Tamir, 2015). Thus, in the present study, we tested whether children (8-

10 year-olds) were able to anticipate the potential personal long-term benefits of negative emotions and therefore chose to make others feel bad.

**METHODS:** Children (n = 79) were involved in an experimental task in which believed they were either competing or in partnership with another child in a fighting computer game. To assess affect worsening, children were asked to make choices about how they would like the game to be presented and how they wanted the other child to feel.

**RESULTS:** A repeated measures ANOVA with condition (partnership vs. rivalry) as a between-subjects variable, and emotion preference (anger, fear, and happiness) as within-subject variable showed a significant emotion preference × condition interaction,  $F(1, 77) = 80.24, p = .001, \eta^2 = .51$ . Namely, children in the rivalry condition wanted to induce more anger in the child they were paired, whereas children in the partnership condition wanted to induce more happiness (Table 1).

**CONCLUSIONS:** Although the emotion of anger would be objectively the most beneficial emotion for partners to succeed in a confrontational context (e.g., Tamir, 2015), only children in the rivalry condition indicated their preference for the other child to experience anger. Thus, unlike adults, children’s interpersonal affect worsening was driven for hedonic reasons.

	Anger explicit preference	Fear explicit preference	Happiness explicit preference	Anger-inducing clip preference	Fear-inducing clip preference	Happiness-inducing clip preference	Anger-inducing description preference	Fear-inducing description preference	Happiness-inducing description preference
Partnership condition	1.18 (.50) <sup>a</sup>	1.30 (.61) <sup>a</sup>	4.57 (.78) <sup>a</sup>	2.25 (.95) <sup>a</sup>	2.45 (.87) <sup>a</sup>	4.70 (.61) <sup>a</sup>	2.05 (.90) <sup>a</sup>	2.03 (1.09) <sup>a</sup>	4.65 (.70) <sup>a</sup>
Rivalry condition	4.28 (.88) <sup>b</sup>	3.38 (1.35) <sup>b</sup>	1.38 (.81) <sup>b</sup>	4.33 (.87) <sup>b</sup>	3.36 (.95) <sup>b</sup>	1.56 (.75) <sup>b</sup>	4.52 (.72) <sup>b</sup>	3.12 (1.32) <sup>b</sup>	1.41 (.64) <sup>b</sup>

Note: Columns with different superscripts indicate statistically significant differences at  $p < .05$ . Standard deviations in parentheses.

Table 1: Descriptive Statistics of the Main Variables in the Study

### pap101-13.3 Young children's and adults' preferences on how to distribute resources

Hajimu Hayashi  
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**Aim:** This study investigates the developmental differences between children and adults in their preferences for the type of fairness applied to resource distribution. Previous studies indicated that children under age 4 dislike divisions where they get less, whereas children over age 5 or 6 prefer equal distributions. However, in daily life, either party often already has resources before starting the distribution of new resources. We consider two types of equal distributions: by the equality-of-process principle or the equality-of-outcome principle. The former means true equality: distributing new resources without considering currently possessed resources; the latter means equity: equal outcome amounts after distribution by considering current resources. Which do children and adults prefer?

**Methods:** Young children aged 5 to 6 and university undergraduates participated in six trials. In each trial, the participant initially received two sets of two marbles (participant-already-possesses condition) or each of two puppets received two marbles (puppet-already-possesses condition). Then one puppet distributed new marbles between itself and participant by the equality-of-outcome principle. Next, the other puppet distributed new marbles between itself and participant by the equality-of-process principle. Finally, the participant had to select the best distribution.

**Results:** Figure 1 shows the percentage of participants selecting each type of distribution. For adults, 76% of participants selected distribution by the equality-of-outcome principle for both participant-already-possesses and puppet-already-possesses conditions. For young children, 63% of participants selected distribution by the equality-of-outcome principle for the participant-already-possesses condition but 83% for the puppet-already-possesses condition. All results except for participant-already-possesses condition of young children were significantly above chance, with a significant difference between the two conditions only for young children.

Conclusions: The majority of participants prefer distribution by equality-of-outcome, or equity, to distribution by equality-of-process. However, as a developmental difference, some young children think distribution by equality-of-process is better even when the opponent already has resources.

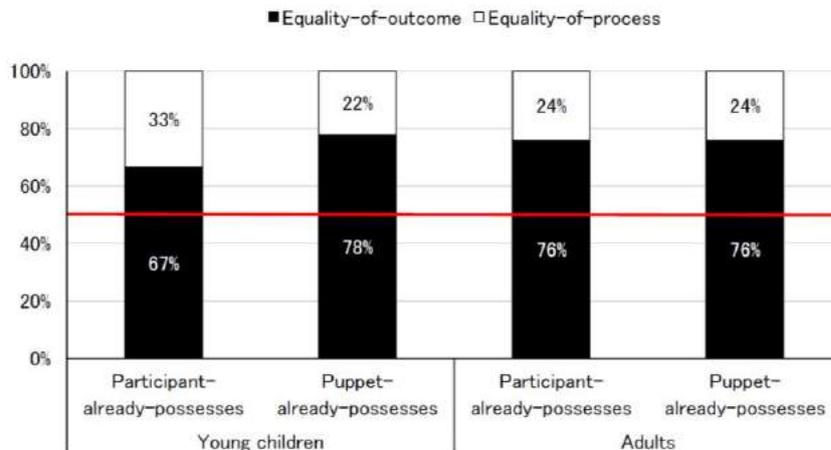


Figure 1. Percentage of participants selecting each of the two types of distribution (\* $p < .05$ ; \*\* $p < .01$ ).

#### pap101-13.4 "I'd better wait!": Prospective and Strategic Thinking at 10 years of age.

Cinzia Di Dio, Elisabetta Lombardi, Ilaria Castelli, Davide Massaro, Antonella Marchetti  
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Decision-making represents a fundamental aspect of social behaviour. Studies on decision-making during development have commonly addressed constructs such as fairness, altruism and inequality aversion, often discussing them against behavioural, relational, socio-economic and even neurocognitive factors. One component that, in our view, greatly affects the outcomes of these decisional tasks is prospective thinking, which critically involves a temporal aspect of decision making, insofar poorly addressed to. A decisional task that clearly involves this temporal component is delay of gratification, and namely the capacity to forgo current gains for greater future outcomes. Here we present data from ninety-one children clustered in three age-based groups (6, 8 and 10 years), who underwent three different decision-making tasks. More specifically, participants were presented with an intertemporal choice task, testing their ability to delay gratification; the dictator game, assessing altruism; and the ultimatum game, assessing fairness/inequality aversion. By relating results from the three tasks, our findings highlight overall changes in the children's approach to decision-making, particularly at age 10, when the relationships between the manifold components of decisional dynamic are differently shaped. Such changes appear to be associated with a greater control to delay gratification, reflecting the ability to account for outcome optimization when making decisions. We suggest that this is due to the use of prospective thinking, which allows children to fully assess the advantages and disadvantages of the different decision strategies.

#### pap101-13.5 Children prefer restoration instead of revenge in third-party conflicts

Nereida Bueno-Guerra, María Teresa Martínez-Navarrete, David Leiva, Montserrat Colell, Josep Call  
*University of Barcelona & Max-Planck Institute for Evolutionary Anthropology, Spain*

In some conflicts, the victims suffer losses. In response to the offenders, bystanders may prefer to apply retributive or restorative justice. Retributive justice holds that responses must be proportionate to the damage inflicted (i.e. revenge) therefore the judge is focused on punishing the offender. Restorative justice aims to retribute the damage (i.e. compensation) therefore the judge is focused on compensating the victim. Whether one type is preferred may depend on the offender's intentionality, so that intentional acts might be punished with revenge and accidental acts might be punished with compensation. We told 90 five-year-olds and 84 eight-year-olds a story about a character that destroyed someone's favorite piece of clothes (i.e. scarf, woolen hat) intentionally or accidentally while preserving his. We used laminated sheets depicting the situations (i.e.

baseline, destruction, final outcome). Then we presented four smaller laminated sheets with potential responses: no response (0-1, first number is the victim's possession and second number is the offender's), revenge (0-0), not costly compensation (1-1), costly compensation (1-0). Children decided what response to apply to the offender by pointing at their preferred option. Five-year-olds mainly chose not costly compensation (1-1) regardless of the offender's intentionality ( $n=90$ ,  $z=-.201$ ,  $p=.840$ ). Eight-year-olds mainly preferred that option (1-1) in both conditions as well. However, they significantly varied the cost of the punishment for the offender depending on his intention. This means that costly compensation (1-0) was much more selected than not costly compensation in intentional losses ( $n=84$ ,  $z=-2.236$ ,  $p=.025$ ). Revenge was rarely chosen by both age groups. There were no sex-differences. In conclusion, it seems that children preferentially want the victim to recover his loss by coming back to the original situation before the offense (1-1). However, apart from the compensation, 8-year-olds apply some punishment (i.e. cost) if the offender acted intentionally.

### **pap101-13.6 Happiness as Personal or Social? Chinese Children's Model of Happiness**

Xinmei Deng

*Shenzhen University, China*

There is a growing consensus that the meanings of happiness are not evenly distributed across cultures. For example, previous cross-cultural studies indicated that Chinese are more likely than Americans to define happiness as harmonious, relational and social. However, little is known about how the culturally specific definition about happiness develops. In the present study, we explored what Chinese children knew about happiness by asking 483 Chinese children (Grade 4 = 122, Grade 5 = 181, and Grade 6 = 180) to report ten happy things/events in their daily lives. Also, emotional ability and well-being were assessed to explore their relations with the definitions about happiness. Results shown that, with the increasing emotional autonomy in late childhood and early adolescence, personally hedonic experiences appeared to be more frequently in Chinese children's daily lives when they grew up. However, the intensity of socially hedonic experiences was much stronger than the intensity of personally hedonic experiences during development. Furthermore, Chinese children who had more socially hedonic experiences would have higher general well-being. Chinese children who had higher level of emotional ability reported higher frequency of socially hedonic experiences in their daily lives. Taken together with previous evidence from the cross-cultural studies, these findings suggest that the Chinese model of happiness is predominately social. Examining definition about happiness in a development scope could be a possible way to explore human emotion socialization in a specific cultural context.

## 2017 Butterworth Award, Wednesday August 30, 12:00 – 12:45

### Eddie Brummelman

*Stanford University, USA, UvA Amsterdam, The Netherlands*

Eddie Brummelman, for his 2015 dissertation at Utrecht University Childhood Origins of Narcissism and Self-esteem Over the past decades, Western youth have become increasingly narcissistic. Narcissistic youth feel superior to others, believe they are entitled to privileges, and crave to be admired by others. When they do not get the admiration they crave, they may lash out aggressively or even violently. In this talk, I ask: What is the nature of narcissism? And what are its developmental origins? This developmental perspective opens up novel possibilities for interventions to help raise children's healthy self-esteem rather than narcissism. Eddie currently is a Marie Skłodowska-Curie Fellow at Stanford University, and a postdoctoral researcher at U Amsterdam.

## Symposium sessions 102, Wednesday August 30, 13:45 – 15:15 hrs.

### isym102-1 Roundtable discussion - The role of agency in adolescent research

Frank Kessel, Chair  
*University of New Mexico, United States*

Why is a young person's own agency not represented more in adolescent research? Consider just two research areas. In parenting research, the most influential model is the parenting styles model. Parents who are high on warmth/involvement, and are high on strictness/supervision will foster well-adjusted behavior and prevent antisocial behavior, and parents who are low on these dimensions will foster antisocial behavior or allow it to develop. The adolescent is not part of this model. Parents are the causal agents and adolescent behavior is the outcome. In political socialization research, the general idea is that external conditions – like parents, peers, media, and school – influence adolescents' political development.

This socialization tradition needs to be complemented with an opposite perspective. The adolescent agency perspective implies a shift from viewing adolescents as recipients of socializing influences to an active view of adolescents as having an ownership of their own development. Adolescents have different daily life experiences that trigger their interests. Based on those, they engage in behaviors that satisfy their needs, are attentive to things that are personally relevant to them, and ignore other things, and set personal goals. Many adolescents talk to their parents about this. Here, parents often respond to their adolescents' intentional behaviors rather than initiate these conversations. Also, some adolescents have a strong internal motivation to know more about political/societal issues and they engage in things that deepen this further. Why does political socialization research persist using parents, peers, media, and school as independent variables and adolescent behavior as dependent, when there are good reasons to expect that some adolescents generally drive their own political development?

Adolescents, as others, actively choose their activities based on their own views, attitudes, and feelings. The purpose of this workshop is to discuss theoretical models that highlight the role of adolescent agency, both in pro-social and antisocial developments.

#### isym102-1.1

Pannelists in this round table session are: Prof Dr Luc Goossens (Univeristy of Leuven, Belgium); Dr Loes Keijsers (Tilburg University, The Netherlands); Dr Theo Klimstra (Tilburg University, The Netherlands); prof dr Wim Meeus (Utrecht University, The Netherlands).

After a presentation by Prof. Dr Håkan Stattin, panellists will comment and indicate their conception of agency. There will be ample opportunity for the audience to take part in the discussions.

Mediator: prof dr Frank Kessel (University of New Mexico, Albuquerque, USA)

Hakan Stattin  
*Örebro University, Sweden*  
Luc Goossens  
*Univeristy of Leuven, Belgium*  
Loes Keijsers  
*Tilburg University, Netherlands*  
Theo Klimstra  
*Tilburg University, Netherlands*  
Wim Meeus  
*Utrecht University, Netherlands*

## sym102-2 Parental self-efficacy modification to improve parenting and child behavior

Isabelle Roskam, Chair

*Psychological Sciences Research Institute, University of Louvain, Belgium*

Geertjan Overbeek, Discussant

*University of Amsterdam, Netherlands*

The extent to which parents believe that they are able to positively influence the development of their child has a great influence on the way they parent and their child's development. Conceptualized as parental self-efficacy (PSE), it relates to beliefs, thoughts, values and expectations which are activated when one is in charge of a child's upbringing. Literature on parental self-efficacy has shown for several decades its key role in parenting and child development, mainly through longitudinal and correlational studies. Experimental manipulations of this variable have been scarce so far, while a strong theoretical background, based on Bandura's social learning theory, provides effective ways to manipulate it.

This symposium will contribute to the current knowledge on parental self-efficacy by presenting and discussing several experimental studies in which parental self-efficacy was manipulated. The first paper will focus on the resilience of self-efficacy from situation to situation, through a computer task. It will discuss how resilient or influenced self-efficacy can be by negative or positive feed-backs given to parents about child behavior. The second paper will present an experimental study in which mothers' self-efficacy is enhanced using positive feed-back on genuine parenting skills and social comparison. The issue of implementing these results into a parenting intervention to reduce preschoolers' externalizing behavior will also be discussed. The third paper will present a cry-response task paradigm used to measure and manipulate parental self-efficacy and its predictive role in analyzing changes in parental self-efficacy across parenting transitions. The last paper will further investigate the effect of infant crying on parental self-efficacy, affect and anxiety.

### **sym102-2.1 From experiment to intervention: using parental self-efficacy to decrease child externalizing behavior**

Benedicte Mouton, Laurie Loop, Marie Stievenart

*Psychological Sciences Research Institute, University of Louvain, Belgium*

This paper will present two empirical studies in which PSE was manipulated to improve parent and child behaviors. Study 1 is a randomized experimental laboratory experiment testing the relationship between mothers' PSE and children's behavior. It assesses if mothers' PSE can be improved using the social learning theory processes of social comparison and positive feedback on parenting experience. PSE was manipulated in a convenience sample of mothers (N=42) and their 4-5 year-old preschoolers. Mothers' and children's behaviors were assessed during a mother-child interaction session with free-play, frustration and problem-solving tasks. Both observational and self-report measures were used.

Results show that mothers who received a positive feedback had more positive parenting behaviors with their child than non-reinforced mothers in the control group. Children of these reinforced were more positive. This study contributes to discuss the quite complex causal nature of the relation between PSE, parenting behavior and child behavior. Its results confirm that mothers' PSE could be manipulated and it influenced positively mothers and children's behaviors.

These results were implemented in Study 2 in which a focused parenting program targeting PSE was experimented and its effects on children's behavior were analyzed. This program was experimentally tested on parents of 3-6-year-old preschoolers (n=80) with moderate to clinical levels of Externalizing behavior (EB). Thirty-seven parents participated to the program and were compared to a waiting-list control group (n=43). Results, based on observational and parent-report measures, show a decrease in child's EB, and an improvement in PSE and both parent's and child's observed behaviors. Through a multi-level analysis, PSE increase predicts the change in children's behavior. The more difficult children were initially, the more they benefited, whereas socio-economic risk predicted a reduced effect. The results illustrate that improving parental cognition of PSE could be a direction to explore further in parenting research and intervention.

## **sym102-2.2 Experimental study on parental self-efficacy resilience**

Jorg Huijding, Marjolein Verhoeven  
*Utrecht University, Netherlands*

This paper will present the first study to investigate transactional relationships between parental self-efficacy, parental attributions, and parenting behaviors in moment-to-moment parenting situations. In addition, we studied short term variations of these parental constructs and the role of child responses on their relationships. Dutch mothers (N=361) of toddlers (24-48 months old) completed an online experiment in which they encountered a series of 8 consecutive situations during a virtual day with their child. Each situation presented a challenging parenting situation (e.g., the child breaking a vase or making a mess in his/her room) in which the cause of the situation is unclear. For each situation mothers reported on how competent they would feel to adequately handle the situation (Parental self-efficacy: PSE), the likelihood of making certain attributions (child-responsible and parent-causal), and how they would respond (parenting behaviors). Mothers were then presented with a child response, before going on to the next situation. Participants were randomly assigned to 4 conditions varying in received child responses (all positive, half positive with half negative, half negative with half positive, and all negative). Results showed that when facing repeated difficult situations, mothers' PSE, child-responsible attributions and positive parenting behaviors decreased, while parent-causal attributions increased. Mothers who tended to make more child-responsible attributions reported lower PSE in the next situation. Lower PSE, in turn, predicted more child-responsible attributions and less positive parenting behaviors consequently. Parent-causal attributions were not correlated with other variables. Thus a transactional relationship was only found between PSE and child-responsible attributions. Unexpectedly, child responses did not influence these relationships. These findings provide insight into the transactional process of parenting and highlight the importance of child-responsible attributions and PSE in influencing parenting behaviors in moment-to-moment situations.

## **sym102-2.3 Determining different trajectories of parenting self-efficacy across the transition to parenthood**

Marleen de Moor, Marije Verhage, Mirjam Oosterman, Carlo Schuengel  
*Vrije Universiteit Amsterdam, Netherlands*

This paper examined trajectories of PSE in the transition to parenthood and the role of experimentally tested PSE resilience in these trajectories. Around 1500 Participants filled out questionnaires on PSE at 12, 24, and 32 weeks of pregnancy and on PSE and temperament at 3 and 12 months postpartum. A subsample of 236 women participated in the Cry Response Task (CRT) during pregnancy. 73 of these women were considered 'at-risk' for parenting problems due to reporting childhood trauma or current mental health problems. The CRT consisted of a baseline, and two episodes of 10 cry sounds, during which participants chose a caregiving response. Participants received feedback regarding their soothing abilities. Feedback was manipulated to reflect an easy-to-soothe infant (80% positive feedback) and a difficult-to-soothe infant (20% positive feedback). PSE was filled out after baseline and after each infant. Based on their PSE resilience to the difficult-to-soothe infant, participants were grouped in a high or a low resilience group (median-split). Preliminary results from repeated measures ANOVAs revealed that the low-resilient mothers reported lower PSE at all time-points than high-resilient mothers and at-risk mothers reported lower PSE than low-risk mothers. Overall, slopes were similar between women who were prenatally identified as high or low resilient or between low-risk and at-risk mothers. Regression analysis showed that PSE resilience moderated the association between negative reactivity and change in PSE from 32 weeks pregnancy to 3 months after birth (Table 1). For low-resilient women, this association was stronger than for high-resilient women. The moderating effect of PSE resilience did not differ between low-risk and at-risk mothers. Experimentally induced individual differences in PSE resilience are thus predictive for adaptation to challenges that some mothers may encounter. Latent growth curve modeling will be performed to examine the patterns of PSE trajectories in more detail.

	B	Std. error	$\beta$	p
<b>Block 1</b>				
PSE 32 weeks	0.48	0.06	.48	< .001
Negative reactivity	-4.87	1.03	-.27	< .001
PSE resilience	-1.10	1.20	-.05	.362
<b>Block 2</b>				
PSE 32 weeks	0.49	0.06	.50	< .001
Negative reactivity	-1.95	1.61	-.11	.226
PSE resilience	12.25	5.79	.59	.035
PSE resilience*Negative reactivity	-4.92	2.08	-.69	.019

Table 1: PSE resilience as a moderator of the association between negative reactivity and change in parenting self-efficacy from 32 weeks pregnancy to 3 months after birth

#### sym102-2.4 Infant crying and parental self-efficacy

Hedwig van Bakel, Evi de Cock, Catharina H.A.M. Rijk, Jens Henrichs  
Tilburg University, Netherlands

Parental self-efficacy is expected to depend on infant characteristics, like infant crying. In the present study we aimed to examine the effect of infant crying on affect, anxiety and expected parenting self-efficacy in an experimental setting. The participants were psychology students (n=116) who were asked to babysit a lifelike programmable doll for 10 minutes and were randomly assigned to one of three conditions (i.e., no crying, 5 minutes of crying, 10 minutes of crying). Questionnaires about affect, anxiety, and expected parenting self-efficacy were completed before and after the experimental condition. Results showed that exposure to 5 or 10 minutes of crying caused more negative affect, more state anxiety and less perceived parenting self-efficacy than exposure to a non-crying doll. Main effects of gender were found, indicating a higher increase in negative affect and state anxiety while taking care of the lifelike doll, and a lower level of expected parenting self-efficacy after exposure to the doll for males compared to females. Although long-term effects need to be further explored by future research, these findings stress the importance of acknowledging the effects of infant crying on parental distress and feelings of parenting competence.

## sym102-3 Attachment difficulties behind the dykes: screening instruments for attachment in different settings

Carlo Schuengel, Chair  
VU University Amsterdam, Netherlands

Attachment quality is a powerful predictor of a child's later social, emotional, and cognitive development. An estimated 15% of all children are seriously affected by a disturbed attachment relationship and may encounter problems. Timely identification of children's attachment problems is thus crucial. In this symposium we focus on the validity of four screening instruments for attachment: the Attachment Insecurity Screening Instrument (AISI), the observational checklist for disturbed attachment behaviors (Attachment Checklist), Disturbances of Attachment Interview (DAI) and the Secure Base Safe Haven Observation list.

The first presentation (Spruit et al.) focuses on the AISI: a parent-report questionnaire for assessing attachment insecurity in preschoolers (Wissink et al, 2016). Aim of a study, that is currently being conducted at University of Amsterdam, is to improve the AISI. In the second presentation (Hall et al.) a short checklist for attachment will be discussed. The checklist is based on Boris and Zeanah's (2005) 'Behavioral Signs of Disturbed Attachment in Young Children'. Tilburg University and TNO just started the data collection for a validation and feasibility study. The third presentation (Giltaj, et al.) focuses on the DAI, an interview to assess signs of clinically disturbed attachment in children. Convergent and discriminant validity of this interview are presented using the Clinical Observation of Attachment as criterion. In the last presentation (de Schipper) validity outcomes of the Secure Base Safe Haven Observation list are shown within a group setting for adolescents with intellectual disabilities. The validity of this interview across different informants is also shown.

In this paper symposium we take stock of different validity studies into attachment instruments: which is most useful for which informants and in which settings? The first two presentations primarily focus on what is currently known about the instruments and the design of new studies. The last two present new research findings.

### sym102-3.1 How to develop a screening instrument for early attachment difficulties? A study-protocol.

Ruby Hall, Hedwig van Bakel, Marianne de Wolff, Mariska Klein Velderman  
Tilburg University, Netherlands

**Aim:** The aim of the present research project is to improve an instrument for the screening of attachment difficulties in families with a child between 2-5 years old: The Attachment Insecurity Screening Inventory (AISI).  
**Methods:** The study consists of three parts. Study 1: a qualitative study on how the present version of the questionnaire can be improved, by interviewing parents, a focus group with professionals and a meeting with experts. Study 2: a quantitative study with 100 parents responding to the new questionnaire. Study 3: a combined quantitative and qualitative study with 200 clinical and 200 non-clinical parents filling in the questionnaire, and 40 clinical and 40 non-clinical parents being observed in their attachment behavior.  
**Results:** Each study provides information on the instrument: strong and weak items. After each study good items are kept, weak items are removed or changed, and new items are added. After the third study, definitive conclusions on the final version of the questionnaire are presented.  
**Conclusions:** There is a need for an instrument to screen for early attachment difficulties. With this instrument it should be possible to have a first impression of problems in the attachment relationship between the child and the caregiver.

### sym102-3.2 The feasibility and validity of a new checklist for attachment problems

Anouk Spruit, Marc Noom, Cristina Colonnese, Inge Wissink, Nelleke Polderman, Lucia Willems, Geert Jan Stams  
University of Amsterdam, Netherlands

**AIM:** The current study aims at evaluating the feasibility and validity of a short Attachment Checklist for practitioners in child health care or welfare services. An estimated 15% of all children have a disturbed attachment relationship and may encounter developmental problems such as a compromised cognitive, social-

emotional development and psychopathology (Bateman & Fonagy, 2012). However, a validated instrument to identify children with insecure or problematic attachment relationships is lacking.

**METHODS:** In the Dutch practice guideline on attachment, a Dutch translation of the instrument 'Behavioural Signs of Disturbed Attachment in Young Children' (Boris & Zeanah, 2005) is recommended for practitioners.

Boris and Zeanah's observational checklist contains eight descriptions of behavioural signs that indicate a disturbed attachment relationship. The practitioner asks the parent whether the child shows normal or disturbed behaviours and to what extent. A total of 160 children (age 1-6 years) with their parents will be recruited by six Dutch Health Care and Child Welfare services. After informed consent, the Attachment Checklist will be assessed together with the parents. The Strengths and Difficulties Questionnaire (SDQ) will also be completed by the parents for psychosocial problems in the child. Finally, all families will be visited at home to assess the Attachment Q-sort as golden standard for attachment.

**RESULTS:** The validity of the attachment checklist will be assessed using the SDQ completed by the parents (discriminant validity) and the Attachment Q-sort (convergent validity). ROC analyses will be used to define the sensitivity and specificity of the attachment checklist. The feasibility of the Attachment Checklist will be evaluated during focus group interviews with practitioners.

**CONCLUSIONS:** This study provides a fact sheet for practitioners about assessing attachment problems in different settings: psychometric properties are presented as well as practical tools that support the implementation of the Attachment Checklist into practice.

### **sym102-3.3 Disturbances of Attachment Interview: screening instrument in diagnostic assessment of disordered attachment**

Hans Gilthaij, Paula Sterkenburg  
*Bartimeus, Netherlands*

**Aim:** The Disturbances of Attachment Interview (DAI) is a 12-item semi-structured interview with a primary caregiver, designed to assess signs of clinically disturbed or disordered attachment in children. The operationalized behaviours of the child corresponds with criteria of DSM-5 classifications Reactive Attachment Disorder (RAD) and Disinhibited Social Engagement Disorder (DSED). The instrument has shown acceptable internal consistency and good convergent and discriminant validity (Gleason et al., 2011). Research questions are: a) Does the DAI correspond to results from the Clinical Observation of Attachment (COA), and signs of pathogenic care for children age 5-12 (convergent validity)? b) Does the DAI distinguish RAD and DSED from other disorders for children age 5-12 (discriminant validity)?

**Methods:** The participants are parents and their children (IQ 50-85, age 5-12 years, N = 55) who were referred to a psychiatrist for psychiatric consultation or treatment. The instruments are: DAI, AUTI-R, COA, and the examination of the developmental history of the child for signs of pathogenic care.

**Results:** a) Children scoring positive on the DAI as RAD and/or DSED show significant more disturbed attachment behaviour in a Clinical Observation Procedure. Significant convergence was found between the DAI outcomes and the signs of extreme insufficient care in the developmental history of the child. The full clinical assessment resulted in 18% of the children in the clinical DSM-5 classification RAD and/or DSED. b) The DAI distinguishes disordered attachment behaviour from behaviour classified as Autism Spectrum Disorder (ASD) and ADHD.

**Conclusion:** The DAI is a useful screening instrument in the assessment procedure of disordered attachment for children age 5-12, when practiced by a well-trained assessor, but cannot replace full clinical assessment for diagnosing RAD and/or DSED.

### **sym102-3.4 Relationship-specific attachment behaviour in intellectually impaired adolescents: validity of a screening instrument**

Clasien de Schipper  
*VU University, Netherlands*

**Aim:** Young persons with intellectual disabilities (ID) have less flexibility in dealing with stressful situations, which suggests that relying on support staff as a secure base might help them cope. Attachment is a relationship-specific construct that is usually assessed through observation of secure base and safe haven

behaviour. However, little is known about the relationship-specificity and the validity of reports on attachment behaviour using screening instruments. In group care for young persons with moderate to severe ID, multilevel analyses identified a caregiver effect of support staff's report on attachment behaviour, suggesting relationship-specificity (de Schipper & Schuengel, 2008). In this study, we report on concurrent and predictive validity of relationship-specific attachment behaviour in young persons with ID.

Methods: Sixteen young persons with ID (developmental age 1-9) were observed in two dyads by two support staff and by two research assistants (32 dyads). Support staff reported on dyadic attachment behaviour using the Secure Base Safe Haven Observationlist (De Schipper & Schuengel, 2010) and filled out the Developmental Behavior Checklist for behavior problems. A 3-hour video-observation of a specific dyad in group care was used to sort the Attachment Q-sort (AQS, Waters, 1995).

Results: Concurrent validity was supported by moderate strong associations ( $r_s = .52 - .59$ ) between AQS and SBSHO. A high negative correlation ( $-.80$ ) was found between independent reports of attachment behavior and behavioral signs of disturbed attachment (AACAP, 2005). Withdrawal as well as problems in social relatedness showed moderately high associations with observed attachment behavior across (dependent and independent) informants.

Discussion: These results support the validity of support staff's observations of attachment behaviour in a group care setting for young persons with ID. When providing care for this vulnerable group, addressing the needs for a secure base and safe haven might help support staff to better understand challenging behaviour.

## sym102-4 The positive and negative faces of peer relationships

Simona C. S. Caravita, Discussant  
*Università Cattolica del Sacro Cuore, Italy*

We present four papers from three European countries (UK, Spain and Lithuania) which highlight the importance of peer relations at two key points of development; the early years at school (papers 1 and 2) and adolescence (papers 3 and 4). These papers report on peer-related factors which are related to peer-victimisation (papers 1 and 2), factors which mediate the relationship between peer-victimisation and psychosocial outcomes which may prove beneficial for intervention work (paper 3) and the effectiveness of intervention programmes with young people (paper 4).

Paper 1 (Roberts et al.), examines resource control among young children in the UK. They suggest that children who use both prosocial and aggressive strategies to gain resources demonstrate relatively good social understanding, are socially dominant and well-liked by some peers. Paper 2 (Monks & Huitsing) used social network analysis to examine victim-aggressor and victim-defender relationships during early childhood. They also indicate that peer relations may be important in supporting continued aggression, with children who are aggressive towards the same targets defending each other. Paper 3 (Romera, Gómez-Ortiz & Ortega-Ruiz), examines the relationship between peer-victimisation and psychosocial adjustment among adolescents in Spain. They report that psychological factors such as poorer self-esteem, higher social anxiety and lower self-efficacy partially mediate the relationship between the experience of victimisation and adjustment. Thus, suggesting that support for victimised adolescents may do well to focus on enhancing self-esteem and self-efficacy and combatting social anxiety. Leading on from this is Paper 4 (Truskauskaitė-Kunevičienė & Žukauskienė) which examines the positive benefits of the Positive Youth Development (PYD) Intervention with adolescents in Lithuania. They found that the programme had positive effects on enhancing positive outcomes such as resilience and decreasing negative outcomes such as aggression. This suggests that schools-based interventions of this nature can have beneficial effects on young people's development.

### sym102-4.1 Examination of Victimization and Defending in Early Childhood using Multivariate Social-Network Analysis

Claire Monks, Gij Huitsing  
*University of Greenwich, United Kingdom*

Peer victimization has been reported as occurring during early childhood and may place individuals at increased risk for later involvement in aggression and bullying. Thus, it is important that research examines the nature and risk factors for involvement in aggression during the early years at school in order to assist the development of early intervention work.

Social network analysis (SNA) has been useful in understanding peer-victimisation during middle childhood and adolescence (Huitsing & Veenstra, 2012). The current study was the first to employ SNA to aggressor-victim and victim-defender relationships among young children (age 5-7 years). The aim was to examine the relationship between the two networks, examining tie formation in relation to network structural characteristics as well as individual characteristics such as gender of child, dominance and insecurity. Children aged 5-7 years (N=177, 55.5% girls; mean age 75.6 months, SD=10.39) from seven classes were interviewed individually using cartoon prompts (based on Monks et al., 2003) and provided peer nominations for who was aggressive to whom and who defended whom. Teachers reported children's dominance and insecurity (adapted from Dodge & Coie, 1987).

Cross-sectional Exponential Random Graphs Models (ERGMs, Robins et al., 2009) indicated that aggressive children who shared victims defended each other. Boys were more aggressive than girls and directed aggression to both sexes. Defending tended to be between same-sex peers. Dominance predicted involvement in aggression and victimization. High levels of teacher rated insecurity predicted less aggression. Undefended victims were more insecure than defended victims.

The results suggest that some children behave aggressively to others at this age and may be forming alliances with other aggressive individuals. This is discussed in relation to implications for intervention/prevention work with young children.

#### **sym102-4.2 Resource control in young children: cognitive and affective factors in strategy selection**

Alan P. Roberts, Claire P. Monks, Stella Tsermentseli,  
*University of Greenwich, United Kingdom*

**Aim:** This study investigated the cognitive, affective and social factors associated with the 'resource control strategies' (prosocial and coercive) utilised by young children. Previous suggests that bistrategic strategy use will be positively related to cognitive and empathetic abilities, good social adjustment and being liked by peers.

**Method:** Children from 4 classes (N=92, Mean age = 4 years 8 months, SD = 4 months) in their first year of school in the UK participated in the study. A composite teacher report utilising several existing questionnaires established ratings of prosocial, coercive and resource control behaviour/strategy selection as well as social dominance for the children (Crick, Casas, & Mosher, 1997; Dodge & Coie, 1987; Hawley, 2003; Hawley & Geldhof, 2012). Based on the report data, the children were categorised as bistrategic controllers, prosocial controllers, coercive controllers, typicals or non-controllers. The children were asked questions regarding the peer behaviour using an adaptation of the teacher report and assessed individually using Theory of Mind, empathy/emotion comprehension assessments, as well as adapted measures assessing moral disengagement and resource holding potential comprehension (Archer & Benson, 2008; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Pons, Harris, & de Rosnay, 2004; Pozzoli, Gini, & Vieno, 2012; Sullivan, Winner, & Hopfield, 1995; Sullivan, Zaitchik, & Tager-Flusberg, 1994).

**Results:** Preliminary results suggest positive associations between bistrategic strategy use and more developed Theory of Mind and higher levels of social dominance compared to other resource control strategies.

Furthermore, bistrategic control was related to controversial sociometric status among peers.

**Discussion:** Preliminary findings suggest emerging patterns of relatively advanced cognitive and social development in bistrategic children, who utilise these advantages over peers to gain resource access, often through coercive behaviour, without the social repercussions associated with aggressive behaviour.

#### **sym102-4.3 Peer Victimization and Psychosocial Adjustment in Adolescence**

Eva M. Romera, Olga Gómez-Ortiz, Rosario Ortega-Ruiz  
*University of Cordoba, Spain*

There is extensive scientific evidence of the serious psychological and social effects that peer victimization may have on students, among them internalizing problems such as anxiety or negative self-esteem, difficulties related to low self-efficacy and lower levels of social adjustment. Although a direct relationship has been observed between victimization and these effects, it has not yet been analyzed whether there is a relationship of interdependence between all these measures of psychosocial adjustment. The aim of this study was to examine the relationship between victimization and difficulties related to social adjustment among high school students. To do so, various explanatory models were tested to determine whether psychological adjustment (negative self-esteem, social anxiety and social self-efficacy) could play a mediating role in this relationship, as suggested by other studies on academic adjustment. The sample comprised 2060 Spanish high school students (47.9% girls; mean age D 14.34). The instruments used were the scale of victimization from European Bullying Intervention Project Questionnaire, the negative scale from Rosenberg Self-Esteem Scale, Social Anxiety Scale for Adolescents and a general item about social self-efficacy, all of them self-reports. Structural equation modeling was used to analyze the data. The results confirmed the partial mediating role of negative self-esteem, social anxiety and social self-efficacy between peer victimization and social adjustment and highlight the importance of empowering victimized students to improve their self-esteem and self-efficacy and prevent social anxiety. Such problems lead to the avoidance of social interactions and social reinforcement, thus making it difficult for these students to achieve adequate social adjustment.

#### **sym102-4.4 Multiple Benefits of Fostering Socio-Emotional Competence: Evidence from Positive Youth Development Intervention**

Inga Truskauskaitė-Kunevičienė, Rita Žukauskienė  
*Mykolas Romeris University, Lithuania*

According to developmental system theory (Lerner, 2004), the interventions created in the perspective of positive youth development (PYD) (Roth and Brooks-Gunn, 2003) can positively influence the development of youth. However, the evidence from PYD intervention studies, that use inter-group comparison and assess long-term effects is highly limited (Roth and Brooks-Gunn, 2015). Thus, the aim of the current study was to assess the effects of the positive youth development intervention program on social-emotional competencies and to evaluate long-term after-effects on positive and problem outcomes.

The quasi-experimental study design with four measurement points (pre-test, post-test, follow-up at 4 months and follow-up at 16 months) was chosen for the evaluation of the school-based intervention program. The participants were from two schools: the intervention school (N=336; 13-16 years (M=15.27, SD=.69); 44.2 % girls) and the control school (N=269; 14-16 years (M=15.25, SD=.65); 40.8 % girls in group at pre-test). The Multiple Group Latent Growth Modeling approach was used to evaluate direct effects and the Parallel Process Analysis was used to reveal mediated program effects.

The results indicated, that PYD intervention program has a direct effect on socio-emotional competence and indirect effects on positive outcomes (such as contribution to community, intentional self-regulation, resilience and identity) as well as negative outcomes (such as anxiety-depressiveness, aggression, and rule-breaking). Thus, we can conclude, that fostering positive youth development through a short-term school-based intervention program has multiple long-term benefits on the development of adolescents.

## sym102-5 Biological underpinnings of internalizing symptoms in childhood and adolescence

Stefanie A. Nelemans, Chair  
*Utrecht University, Netherlands*

This symposium brings together five speakers from two European countries to present their research on biological processes associated with internalizing symptoms from childhood to adolescence. The first two speakers examine the role of physiological processes in child and adolescent social anxiety. The first longitudinal study examines whether early physiological hyperarousal during a stranger-approach-task may be a marker of later childhood social anxiety in 117 Dutch children. Results support that early physiological hyperarousal in a social situation is a risk factor for later child social anxiety symptoms. The second study examines associations between social anxiety and heart rate reactivity during a public-speaking-task in 327 youth aged 8-17 years. Consistent with the first study, results suggest that performance anxiety is associated with physiological hyperarousal, particularly just before and in the beginning of the speech. The other three speakers examine the role of genetic factors, in concert with social factors, in adolescent (social) anxiety and depressive symptoms. The third study examines interactions between polygenic oxytocin scores (created using a novel approach) and parenting in predicting social anxiety symptoms in 978 Flemish young adolescents. Results suggest that genetic variability in the oxytocin system interacts with both psychologically controlling and autonomy supporting parenting to predict adolescent social anxiety symptoms. The fourth longitudinal study examines interactions between the mineralocorticoid receptor (MR) and perceived parental psychological control in predicting anxiety and depressive symptoms in 343 Dutch adolescents from 13 to 20 years. Results suggest a protective effect of MR for girls, not boys, for both anxiety and depressive symptoms across adolescence. Finally, the fifth study examines gene-by-environment interactions using a novel gene-based interaction method in predicting depressive symptoms in 1,031 Flemish young adolescents. Consistent with the third study, results suggest significant interactions between certain genes and both psychologically controlling and supportive parenting to predict adolescent depressive symptoms.

### sym102-5.1 Physiological hyperarousal as an early risk factor for Social Anxiety

Milica Nikolić, Evin Aktar, Susan Bögels, Cristina Colonesi, Wieke de Vente  
*University of Amsterdam, Netherlands*

**Objective:** Physiological hyperarousal in social situations is a characteristic of individuals with social anxiety disorder (SAD), but so far rarely studied as a biological risk for SAD. Here, we investigate whether children at high risk for SAD (because of their parents' SAD) display physiological hyperarousal while interacting with a stranger in toddlerhood and early childhood. Also, we examined if early physiological hyperarousal is a marker of later child social anxiety.

**Method:** One-hundred-seventeen children took part in the stranger-approach task when they were 2.5 and 4.5 years old. Heart rate (HR), heart rate variability (HRV), and electrodermal activity (EDA) were measured before, during, and after the conversation with a stranger. Both parents' lifetime SAD status and SAD severity were assessed before the birth of the child and both parents and the child reported about children's social anxiety symptoms when children were 7.5.

**Results:** Children of parents with the lifetime SAD diagnosis did not differ in their physiological activity from children of parents without lifetime SAD. However, children of parents with more severe SAD displayed heightened EDA throughout the task procedure. Increased HR and reduced HRV during the stranger-approach and elevated EDA throughout the task procedure were linked to later child social anxiety.

**Conclusions:** The present study is the first to offer the evidence that early physiological hyperarousal in social situations is a risk factor for later child social anxiety. We conclude that physiological hyperarousal may play an etiological role in the development of social anxiety, and eventually SAD.

## sym102-5.2 Social Anxiety and performance anxiety in youth: Different relations with heart rate

Esther van den Bos, Anke W. Blöte, Michiel Westenberg  
Leiden University, Netherlands

**Aim:** Performance anxiety (e.g. public speaking anxiety) is recognized as a specific form of social anxiety in DSM-5 (APA, 2013). However, the relevance of this distinction in youth is under debate (e.g. Bögels et al., 2010; Kerns et al., 2013). The present study aims to clarify the relation between social anxiety and performance anxiety in youth by investigating their relation with heart rate (HR) during a public speaking task. Adults with performance anxiety showed higher HR during public speaking than adults with (general) social anxiety (Hofmann et al., 1995; Levin et al., 1993). We expected similar results in this first youth study.

**Method:** A community sample of 327 children and adolescents, aged 8-17 years, gave a 5-minute speech in front of a prerecorded audience (Leiden Public Speaking Task; Westenberg et al., 2009). Heart rate was measured continuously. In addition to a pre-task baseline phase, we analyzed 12 epochs of 30 seconds: the end of the preparation phase, the entrance of the audience on screen and ten segments during the speech. Social anxiety and public speaking anxiety were measured by self-report questionnaires. Data were analyzed with regression analysis with clustered bootstrap. HR was the dependent variable; the predictors were gender, age, BMI, baseline HR, epoch, social anxiety, public speaking anxiety and their interactions with epoch.

**Results:** HR was higher during the speech than before. After peaking in minute 1, it stabilized at a lower level in minutes 2 to 4 and decreased further in minute 5. Public speaking anxiety was associated with higher HR in the minute before the speech and a smaller decrease in minute 2 (see Figure 1). Social anxiety was unrelated to HR.  
**Conclusion:** Differential associations with HR in a public speaking task support the distinction between social anxiety and performance anxiety in youth.

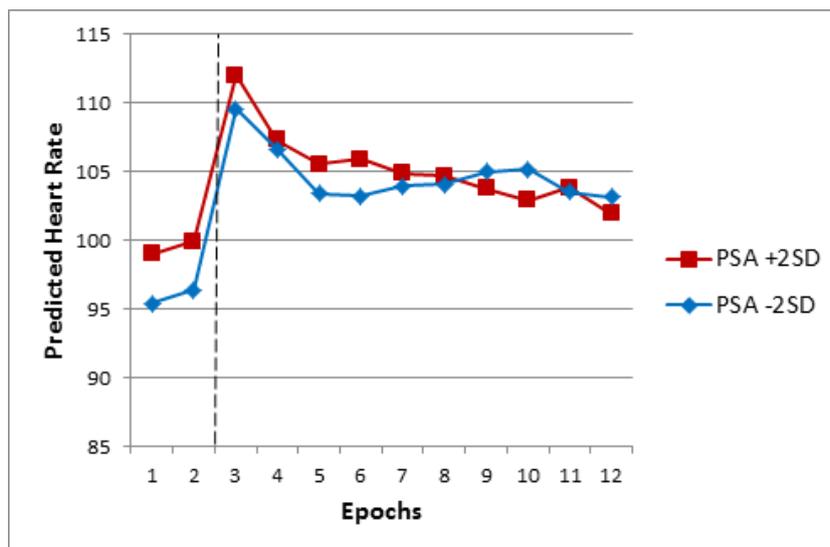


Figure 1: Predicted mean heart rate (beats per minute) in each epoch of 30 seconds for youth with different levels of public speaking anxiety: 2 standard deviations above the mean and 2 standard deviations below the mean. The dashed line indicates the start of the speech.

## sym102-5.3 Parenting interacts with polygenic oxytocin scores to predict adolescent Social Anxiety symptoms

Stefanie A. Nelemans, Evelien van Assche, Patricia Bijttebier, Hilde Colpin, Karla van Leeuwen, Karine Verschueren, Stephan Claes, Wim van den Noortgate, Luc Goossens  
KU Leuven—University of Leuven, Belgium

**Aim:** Social anxiety in adolescence has attracted considerable attention in research in the domain of developmental psychopathology and is thought to emerge, in part, through gene-by-environment interactions (G×E) and through the interplay between genetic risk and parenting factors in particular. Recently, the field has moved from investigating simple, single genetic markers (i.e., candidate genes) to more complex genetic

indices that are based on multiple genes (i.e., polygenic scores). The present study is the first to apply Principal Covariates Regression, which incorporates elements from factor analysis and regression analysis, to create polygenic scores. Specifically, we examined the interaction between polygenic oxytocin scores and both constraining and facilitative aspects of parenting in association with adolescent social anxiety symptoms. Methods: Participants were 978 adolescents (49.4% girls; Mage = 13.8 years). Questionnaires were used to assess adolescent social anxiety symptoms and multi-informant reports of parental psychological control and autonomy support. All adolescents were genotyped for 223 oxytocin single nucleotide polymorphisms (SNPs) in 14 genes. Results: Using Principal Covariates Regression, one polygenic component that consisted of small contributions of many SNPs across multiple genes was found that was strongly positively associated with adolescent social anxiety symptoms,  $\beta = .49$ , 95% CI [.44, .54],  $p < .001$ , pointing to an index of genetic risk. Significant interactions were found with this polygenic component in line with theoretical expectations (Figure 2). Specifically, adolescents who scored high on this polygenic component and experienced more constraining parenting (i.e., higher psychological control or lower autonomy support) showed the highest levels of social anxiety. Conclusions: Findings support the usefulness of Principal Covariates Regression in G×E studies and suggest that genetic variability in the oxytocin system interacts with both psychologically controlling and autonomy supporting parenting to predict adolescent social anxiety symptoms. Implications of these findings are discussed within the framework of developmental psychopathology.

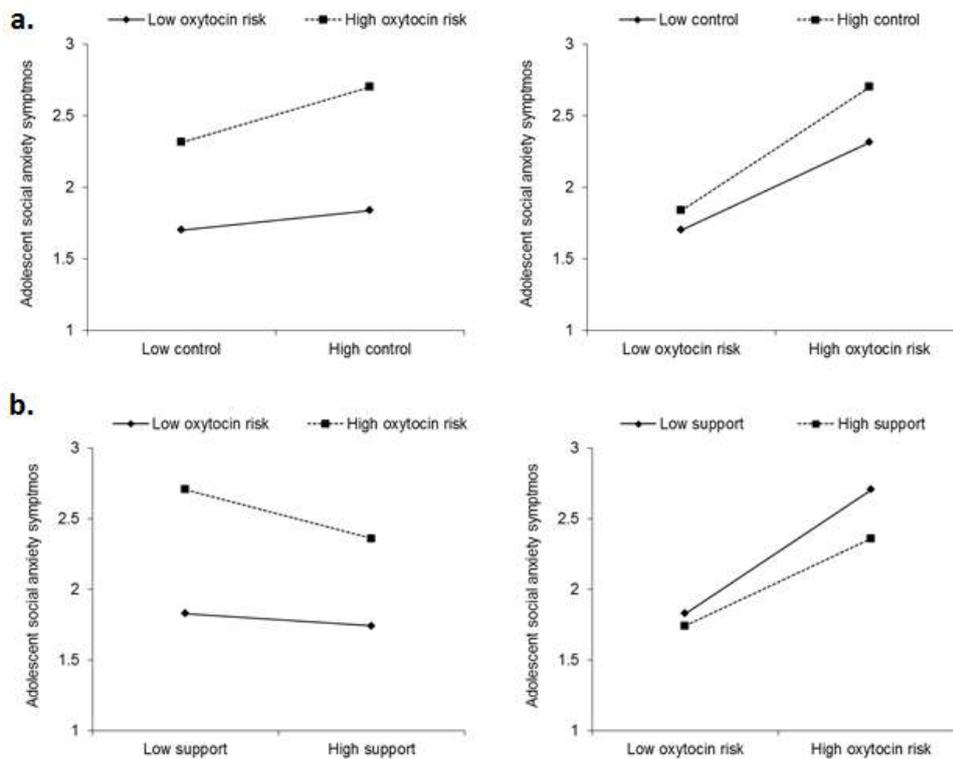


Figure 2: Graphic representation of the significant G×E interactions involving polygenic risk in the oxytocin system and a latent index of parental psychological control (a) and involving polygenic risk in the oxytocin system and a latent index of parenta

#### sym102-5.4 Gene-environment interaction in the development of internalizing behavior problems during adolescence

Hinke Endedijk, Stefanie A. Nelemans, Angela Sarabdjitsingh, Christiaan Vinkers, R Emmelt Schür, Marco Boks, Wim Meeus, Pol van Lier, Susan Branje  
 Utrecht University, Netherlands

Stress triggers release of cortisol via recruitment of the mineralcorticoid receptor (MR). High levels of stress have negative programming effects on the HPA-axis causing abnormal stress responses. This can result in

behavior problems and an increased chance for disorders like depression and anxiety. An example of stress in adolescents is their perceived psychological control (PC) by parents. MR enhances stress resilience. Several studies show that in clinical samples with early life stress, mainly women with high functioning MR seem protected against the development of depression. Until date, it is unclear whether the same processes account for a normal sample of adolescents, and whether it extends to other behaviors like anxiety.

We followed a group of 343 adolescents between the age of 13 and 20 years. Adolescents completed questionnaires at 7 waves, and genetic data was collected.

Results show a protective effect of MR for girls, but not for boys. Female adolescents with high functioning MR showed lower levels of depression (

### **sym102-5.5 Genetic susceptibility for adolescent depression: Parenting dimensions pick favourites**

Evelien van Assche, Tim Moons, Wolfgang Viechtbauer, Karla van Leeuwen, Karine Verschueren, Hilde Colpin, Wim van den Noortgate, Luc Goossens, Stephan Claes, Ruud van Winkel  
*KU Leuven—University of Leuven, Belgium*

Genetic susceptibility for environmental factors leading to depressive symptoms in adolescence, is supposed to be reflected in gene-environment interactions (GxE). However, polygenic approaches for GxE that allow identifying selections of genes increasing susceptibility for one particular environmental aspect, are scarce. We present results that show that different genes interact differently with specific dimensions of perceived parenting (perceived parental support, perceived psychological control and perceived harsh punishment) in explaining depressive symptoms in adolescents.

We used an extensive hypothesis-based SNP dataset with 263 genes represented by 4948 SNPs. Analyses were conducted on a sample of 1,031 Belgian adolescents (13.79±0.94 years; boys: n=528, girls: n=503). The Leuven Adolescent Perceived Parenting Scale (LAPPS) and the Parental Behavior Scale (PBS) assessed perceived parental psychological control, perceived harsh punishment and perceived support. The score on the Center for Epidemiologic Studies Depression Scale (CES-D Scale) was the outcome measure.

Using a gene-based interaction technique with correction for linkage disequilibrium, we identified genes displaying an excess of significant SNPs in interaction with the environment variable, yielding an enrichment p-value for every single gene. We corrected for the number of genes tested using Bonferroni (n=263;  $p < 2.16 \times 10^{-4}$ ). Three genes showed a significant interaction with perceived support: SLC6A11 ( $p = 7.50 \times 10^{-6}$ ), GABRR1 ( $p = 2.04 \times 10^{-5}$ ) and GABRR2 ( $p = 2.06 \times 10^{-5}$ ). Two genes showed a significant interaction with psychological control: SLC6A11 ( $p = 9.69 \times 10^{-5}$ ) and DDC ( $p = 4.75 \times 10^{-5}$ ). No genes were significant in interaction with harsh punishment.

In assessing genetic susceptibility, opportunities and methods to identify specific sets of genes which interact with a particular environmental aspect are limited. We show that it is important to take this into account and present a gene-based interaction method that can help pursue these goals, as we see indeed different interaction profiles per parenting dimension.

## sym102-6 Acculturation and Integration of Children from Culturally Diverse Backgrounds (1) Focus: Promoting school belonging and successful learning

Zuhal Ülger, Chair

*Ludwigsburg University of Education, Germany*

Barbara Reichle, Chair

*Ludwigsburg University of Education, Germany*

The successful integration of immigrant students is measured through their academic achievement and sense of belonging. How school systems respond to immigrants has an enormous impact on minority students' integration and identity formation. This symposium highlights research promoting successful learning and school belonging. (1) Mohini Lokhande and Tim Müller researched value affirmation and its effects on secondary school students' academic performance in Germany. Their research revealed that value affirmation is an effective way to alleviate stress and the threat of negative stereotyping in ethnic minority students. (2) Jochem Thijs explored two aspects of school belonging: the student-teacher relationship and multicultural education. He identified contexts of more or less school belonging in 9 to 13-year-old children in the Netherlands. (3) Imane Oulali and her colleagues examined religious minority children's school well-being in the Netherlands. Their research revealed characteristics of school contexts that promote school well-being in religious minority children. (4) Julian Busch and his colleagues researched early childhood educational programs that address young immigrant children. (5) As it is critical to understand the socio-emotional development of minority children, Dagmar Strohmeier and her colleagues compared the strength and risk profiles of nonimmigrant and first- and second-generation immigrant youth in Austria and Germany. They found that second-generation immigrant youth in Germany, but not in Austria, bear a risk for negative socio-emotional development.

### **sym102-6.1 Counteracting stereotype threat: Increasing students' academic achievement through a value affirmation intervention**

Mohini Lokhande, Tim Müller

*Expert Council of German Foundations on Integration and Migration, Humboldt University Berlin, Germany*

As previous research shows, minority students are particularly vulnerable to stereotype threat, negatively affecting their academic achievements (Appel, Weber, & Kronberger, 2015). Despite recent efforts, stereotype threat effects remain an under-researched topic in Europe. Empirical evidence from the US suggests that value-affirmation interventions have the potential to effectively counteract the impact of stereotype threat (e.g. Cohen, Garcia, Apfel, & Master, 2006; Cohen, Garcia, Purdie-Vaughns, Apfel, & Brzustoski, 2009; Borman, Grigg, & Hanselman, 2016). This study aims to find out whether value-affirmation works in a sample of secondary school students in Germany and which mechanisms are crucial in this process. The effect of self-affirmation on minority students' achievement was tested in a pre-post experimental study in schools in fall 2016. 837 seventh graders from 11 secondary schools in Berlin participated. Students were randomly distributed to an intervention and a control group. Students performed a standardized mathematics test after the intervention, which is a brief in-class writing assignment about their personal values. Students in the control group were given a neutral intervention instead. A second achievement test took place 8 weeks later. We analyzed the interaction effect of treatment x ethnic background on mathematical achievement using HLM, controlling for gender, age, previous math grade, cognitive competence and SES. Preliminary results confirm the assumptions of self-affirmation theory. Students with Turkish immigrant background in the intervention group performed significantly better in the math test than their peers in the control group. Standardized effect sizes of the intervention are  $d = 0.20$ . Moreover, we found an interaction effect of gender and ethnic background: Girls with Turkish or Arabic background particularly benefited from the intervention. Results are discussed in the light of the double disadvantage that these girls are facing.

## **sym102-6.2 Classroom identification in minority students: Effects of student-teacher relationships and multicultural education**

Jochem Thijs

*Utrecht University, Netherlands*

A sense of classroom identification is an important aspect of children's school belonging, and school belonging has important implications for motivation and school adjustment (Osterman, 2000). Like classroom identification, the student-teacher relationship can be seen as a central aspect of school belonging. Yet it is unclear how both aspects are related, and whether the experience of the student-teacher relationship is equally important for the classroom identification of ethnic minority immigrant versus native majority children. According to the academic risk perspective (Hamre & Pianta, 2001), student-teacher relationships should be especially relevant for children who are at risk for academic difficulties, and this group often includes ethnic minority students. In addition to this, it is not clear whether multicultural education has any impact on children's sense of classroom identification. However, one of its aims is to support the identity of ethnic minority students (Verkuyten & Thijs, 2013) and thus it can be expected to increase the classroom belonging of those students in particular. To address these questions, data were analyzed from a short-term longitudinal questionnaire study (two waves, 4.5 months apart) among 529 preadolescent students (ages 9 to 13 years) from 39 primary school classes (grades 4 to 6) in different parts of the Netherlands. I focused on Turkish-Dutch and Moroccan-Dutch students (second-generation immigrant minority;  $n = 144$ ) and used ethnic-Dutch students (native majority;  $n = 381$ ) as a comparison group. Multilevel analyses controlling for classroom identification at Wave 1 showed that minority children who perceived more conflict at Wave 1 reported less classroom identification at Wave 2. This effect was not significant for their majority peers, and there were no effects of perceived multicultural education.

## **sym102-6.3 Children's adaptation in religious and public schools: Mediating role of religious self-esteem**

Imane Oulali, Alithe van den Akker, Henny Bos, Geertjan Overbeek

*University of Amsterdam, Netherlands*

**Objectives.** Religious minority students who have high levels of school well-being and good friendships have shown to adapt equally or better at school than other students. However, the role of religious self-esteem is largely unknown. This study aimed to a) investigate whether religious minority children attending religious schools have a higher sense of school well-being, peer affiliation and individual self-esteem than religious minority children attending public schools, and b) whether this effect is mediated by religious collective self-esteem. **Methods.** Data were gathered from students in 37 primary schools (9 Reformed Protestant, 9 Islamic, 3 Hindu, and 16 public schools) across five regions in the Netherlands. Students were asked to complete an anonymous paper and pencil questionnaire containing measures of religious self-esteem, individual self-esteem, school well-being and peer affiliation. Participants were 1,378 6th-graders ( $M_{age} = 11.73$ ,  $SD = 0.61$ ; 52% girls). Students were asked to define their own religion: 673 Students identified themselves as Muslim (48.8%), 427 (31.0%) as Reformed Christian, and 278 (20.2%) as Hindu. **Results.** Analyses provided no support for the hypothesis that religious minority children attending religious schools have significant higher levels of school well-being, peer affiliation and individual self-esteem than religious minority children attending public schools. A test of moderated mediation indicate that partial support was found for the hypothesis that religious collective self-esteem mediated the relation between school type and school well-being, peer affiliation and individual self-esteem moderated by religious group. **Conclusions.** The present study demonstrate that some religious minority students attending religious schools can adapt better at religious schools than other religious minority children when having higher levels of religious self-esteem. The authors consider the implications of their findings for theory and future research examining the importance of religious minority student's religious self-esteem in relation with school well-being, peer affiliation and individual self-esteem.

#### **sym102-6.4 Educational inclusion of refugee children: The practical challenges perceived by teachers**

Julian Busch, Thimo Buchmüller, Birgit Leyendecker  
*Ruhr University Bochum, Germany*

According to the German Federal Statistical Office, 13% of all recently arrived asylum seekers are under 6 years of age. UN reports on former crises provide evidence that the vast majority of refugees stay in host countries for several years. Preschool aged refugees are therefore likely to spend a considerable time of their childhood in the host countries. We assume that the early educational inclusion of refugee children facilitates their societal integration and their later access to the German school system. Since 2015, federal states in Germany have established temporary early childhood education programs for refugee children to facilitate their inclusion into regular daycare centers and preschools. These programs target either just children or children and their parents and offer early childhood education once or twice a week, occasionally on a daily basis. Teachers who administer these special programs receive valuable experiences and first-hand information about the educational needs of preschool refugee children and their families. In our study, we visited 40 of these programs, observed the children, rated the quality of the educational process, interviewed teachers and parents and assessed children's behavior. Preliminary results revealed that previous experiences of early childhood education teachers with immigrant children vary greatly. While immigrants are concentrated in urban areas, refugees are distributed across both urban and rural areas. Regardless of previous experiences, teachers perceived teaching refugee children as somewhat more challenging compared to age-matched counter parts. Assessment of children's behaviour revealed that they were more likely to show problem behaviors, particularly more aggressive behaviors. However, teachers also perceived and valued prosocial behavior of these children. Our results will provide practical implications for educational programs that address young refugee children.

#### **sym102-6.5 Positive development of immigrant youth: Validation of the Holistic Student Assessment**

Dagmar Strohmeier, Petra Gradinger, Angela Ittel, Tina Malti  
*University of Applied Sciences Upper Austria, Austria*

Although there is a call to adopt a strength-based conception when studying immigrant youth, there is a lack of developmental theory as well as sound assessments capturing both strengths and risks. The main goal of the present study is to introduce the Holistic Student Assessment and to compare strength and risk profiles between non-immigrant, first and second immigrant boys and girls aged 13 to 14 years in two national contexts: Austria and Germany. Based on the Clover Leaf Model (Noam & Malti, 2008), the Holistic Student Assessment captures four key developmental areas of socio-emotional development: Active engagement, assertiveness, belonging, and reflection (Noam, Malti, & Guhn, 2012). Data was collected in two national contexts, Austria (n = 666) and Germany (n = 565). In sum, 1221 youth (53% girls) aged 12 to 16 (M = 13.96, SD = 0.90) participated, 168 youth were first generation immigrants, 396 youth were second generation immigrants and 657 youth were non-immigrants. To validate the theoretical structure of the HSA a series of CFA's and SEM models have been conducted. Firstly, each scale has been tested for several levels of invariance between non-immigrant and immigrant youth. Secondly, four SEM models have been conducted to empirically validate the theoretical structure of the HSA. To compare the strength and risk profiles between non-immigrant, first and second generation immigrant youth, four MANOVAs with country, gender and immigrant status as independent variables and the individual scales of the four key developmental areas as dependent variables have been conducted. After controlling for perceived discrimination experiences, second generation immigrants in Germany (but not in Austria) emerged as a risk group for negative socio-emotional development. The results highlight the importance of conducting cross-national studies to better understand underlying mechanisms hampering the socio-emotional development of some groups of immigrant youth in particular national contexts.

Marieke Deutz, Chair  
*Utrecht University, Netherlands*

Personality disorders are common, persistent in nature and associated with severe functional impairment. A common perception is that personality disorders cannot be diagnosed before the age of 18. However, symptoms of personality disorders often exist prior to adulthood. Adolescence is a key developmental stage in which youth face many developmental tasks such as starting romantic relationships and preparing for a job or career. Personality pathology in adolescence carries a considerable burden of disease, reflected in high societal costs and lower quality of life. Thus, although personality pathology in this transitional phase especially places individuals at risk, relatively little research in this area has been conducted. Furthermore, a dimensional approach in which symptoms of personality dysfunction can vary along a gradient of severity has gained more interest, especially since the inclusion of a dimensional trait model of personality pathology in the DSM-5. This symposium brings together researchers studying personality pathology from a dimensional perspective and aims to contribute to a developmental theory of personality pathology. The first paper examined the Personality Inventory for DSM-5 (PID-5) in a clinical sample of adolescents, extending its applicability in this age group. The second paper aimed to examine whether personality pathology is a risk factor for development of depressive symptoms during adolescence using data-pooling of six datasets from Europe and the USA. The third paper is an analysis of how maladaptive dispositions, problematic adaptations and difficulty in constructing a narrative identity result in development of personality pathology in clinically-referred adolescents. The fourth paper is a 16-year longitudinal study examining whether childhood dysregulation is a developmental precursor of personality pathology, and whether environmental contexts (parents/peers) might amplify the relationship between dysregulation and personality pathology. Finally, the fifth paper examined relations between schizotypal traits, aggression and substance use in a vulnerable group of detained adolescents.

**sym102-7.1 Assessing personality pathology along the DSM-5 traits in psychiatric late adolescents**

Elien De Caluwé, Lize Verbeke, Marcel Van Aken, Paul Van Der Heijden, Barbara De Clercq  
*Ghent University, Belgium*

The inclusion of a dimensional trait model of personality pathology in DSM-5 introduces a new angle on research on developmental antecedents of personality pathology. The traits of this model can be measured with the Personality Inventory for DSM-5 (PID-5; Krueger, Derringer, Markon, Watson, & Skodol, 2012), initially developed for adults, but also demonstrating acceptable psychometrics in adolescents (De Clercq et al., 2014). It remains unclear, however, how the PID-5 behaves in the age-group of “late adolescents and emerging adults”, which represents an important developmental transition phase. Aim: The present study examines the PID-5’s structure, reliability, and validity in such a specific group.

Methods: 187 psychiatric-referred late adolescents and emerging adults (69% females; aged 17-23 years old,  $M = 20.06$ ,  $SD = 1.94$ ), completed the PID-5, Big Five Inventory and Kidscreen quality of life measure. Also 88 control participants (71.6% females; aged 17-20 years old,  $M = 17.92$ ,  $SD = 0.62$ ) completed the PID-5.

Results: The results indicate adequate psychometric properties of the PID-5 in the current sample, confirming a five-factor structure of personality pathology (for factor loadings, see Table 1) as well as a conjoint five-factor structure with the Big Five Inventory. Further, the results underscore the reliability (for Alpha coefficients, see Table 1) as well as construct and criterion validity.

Conclusions: The current study extends the applicability of the PID-5 towards psychiatric samples in their late adolescence and emerging adulthood, which can be considered as an important developmental transition phase.

PID-5 Facets	$\alpha$	F1	F2	F3	F4	F5
Emotional lability	.88	<b>.68</b>	-.06	.07	.00	.30
Anxiousness	.88	<b>.67</b>	.25	.02	-.10	.18
Separation insecurity	.76	<b>.59</b>	-.14	.15	.04	-.08
Perseveration	.78	.27	.12	.17	-.01	<b>.40</b>
Restricted affectivity	.80	-.41	<b>.67</b>	.11	.23	-.01
Submissiveness	.77	.21	<b>.32</b>	-.21	.09	-.04
Withdrawal	.91	.04	<b>.74</b>	.20	-.26	.22
Anhedonia	.91	.35	<b>.73</b>	.05	.07	-.11
Depressivity	.94	.45	<b>.61</b>	-.14	.28	.06
Intimacy avoidance	.86	-.12	<b>.51</b>	-.11	.00	.29
Suspiciousness	.77	.24	<b>.38</b>	.31	-.07	.21
Manipulativeness	.86	.03	-.14	<b>.76</b>	.13	.01
Deceitfulness	.87	-.04	.06	<b>.62</b>	.37	-.06
Callousness	.91	-.28	.24	<b>.52</b>	.24	.18
Hostility	.88	.18	.17	<b>.68</b>	.06	.02
Grandiosity	.76	-.27	-.08	.40	-.17	<b>.44</b>
Attention seeking	.85	.17	-.28	<b>.32</b>	<b>.32</b>	.10
Irresponsibility	.75	.13	.18	.28	<b>.61</b>	.01
Impulsivity	.82	.07	-.21	.25	<b>.54</b>	.13
Distractibility	.90	.21	.20	.08	<b>.26</b>	.07
Risk taking	.89	-.26	-.09	.07	<b>.69</b>	.13
Rigid perfectionism	.88	.23	.08	.18	-.29	<b>.39</b>
Unusual beliefs	.84	-.08	-.06	.04	-.04	<b>.85</b>
Eccentricity	.93	.13	.10	.06	.34	<b>.53</b>
Perceptual dysregulation	.86	.25	.03	-.06	.28	<b>.75</b>

*Note.* PID-5 facets are ordered according to the original PID-5 structure. F1 = Negative affectivity; F2 = Detachment; F3 = Antagonism; F4 = Disinhibition; F5 = Psychoticism. Highest factor loading of each PID-5 trait is marked in bold.

Table 1: Reliabilities and CF-Equamax Rotated Loadings of the Final PID-5 Five-Factor Solution

## sym102-7.2 Personality pathology and depression in adolescence: datapooling of longitudinal datasets

Odilia Laceulle, Lianne De Moor, Marcel Van Aken, Deborah Capaldi, Joanne Chung, Barbara De Clercq, David Kerr, Peter Prinzie, Jennifer Tackett, Noor Tromp, Sander Thomaes  
Tilburg University, Netherlands

**Aims:** Adolescence is a critical time for the development of depression, particularly in girls. Although the etiological aspects of depressive symptoms are now well studied, an area of interest that remains understudied relates to the impact of youth personality pathology. Given its potentially persistent nature, personality pathology may influence the maintenance of depression, and hampers timely recovery. This study aims to identify whether 1) key dimensions of personality pathology (e.g., emotional dysregulation; dissocial behavior; disinhibition; compulsivity) are prospectively related to depressive symptoms in adolescence, 2) explore sex and age differences in these associations.

**Methods:** Data are used from six longitudinal datasets from the Netherlands, Belgium and the USA ( $\geq 2$  waves; age 10-20, aggregated  $N \approx 2000$ ). Data are “pooled” by means of integrative data analysis techniques. Pooling of data is still ongoing.

**Results:** The integrated data offers sufficient statistical power to analyze concurrent and prospective links between personality pathology and depressive symptoms, as well as differential effects with regard to sex and age of the adolescents.

**Conclusion:** Using advanced data-pooling techniques on six datasets from Europe and the USA will provide unique knowledge on an important topic, which is largely understudied due to its theoretical novelty and the

relatively small datasets available: personality pathology as a risk factor for the development of depression during adolescence.

### **sym102-7.3 Pavement on the Pathway towards Personality Pathology**

Nagila Koster, Odilia Laceulle, Paul van der Heijden, Ivan Komproe, Marcel van Aken  
*Utrecht University, Netherlands*

**Aim:** In this research-project we seek to identify precursors of personality pathology in children and adolescents. To this end we approach personality development from the integrative framework that is proposed by Dan McAdams (2013). This framework describes personality development as a continuous interplay between three levels of the self: dispositional traits, characteristic adaptations and one's narrative identity. Considering this framework from a clinical perspective it might be that maladaptive levels of certain traits, problematic adaptations and difficulties in constructing an integrative story of the self, result in developing personality pathology over time.

**Method:** We will collect data from a clinical sample of 250 children and adolescents, aged 12-25, that are referred to specialist mental health care in the Netherlands. Patients will be asked to participate in this project before their first intake and they will be contacted every six months for a period of three years to collect data on dispositions (personality traits (BFI-SV)), adaptations (attachment (RQ), trauma (Life Events), family functioning (NRI-BSV) and mentalisation (RFQ-Y)), narrative identity (qualitative account of a turning point event) and personality functioning ((LPFS-BF), identity (SCIQ-SV), interpersonal functioning (IIP-C), and emotion regulation (experience sampling method)).

**Results:** The interplay between dispositions, adaptations and narrative identity will be investigated with various statistical techniques, among which a cross-lagged DAE-model (Dispositions-Adaptations-Environment) (Asendorpf & Motti-Stefanidi, 2016). Furthermore it will be examined how these levels of the self are associated with (pathological) personality functioning.

**Conclusion:** This framework has often been used to describe 'normal' personality development but rarely to consider pathological personality development, especially in children and adolescents. This project aims to gain a better understanding of underlying mechanisms of personality development to be able to contribute to early-detection and early-intervention of personality pathology.

### **sym102-7.4 Childhood Dysregulation and Personality Pathology in Late Adolescence: Role of Environment**

Marika Deutz, Helen Vossen, Maja Deković, Anneloes van Baar, Willemijn van Eldik, Peter Prinzie  
*Utrecht University, Netherlands*

**Aim:** The Dysregulation Profile (DP) is a broad measure of dysregulation in childhood. The DP measures a relatively stable pattern of difficulties in regulating affect, behavior, and cognition, and is known to predict personality pathology. However, not every dysregulated child will continue to develop enduring and long-lasting personality pathology. Children's family and peer environments are contexts in which children develop their self-regulatory skills. These contextual factors might therefore amplify the relation between the DP and personality pathology. We examined whether maternal overreactive discipline and laxness and problematic peer relations act as moderators in the relationship between dysregulation and personality pathology.

**Method:** Data from the 16-year longitudinal Flemish Study on Parenting, Personality and Development (FSPPD) was used (N = 692). At T1 (4-7 years), the Child Behavior Checklist – Dysregulation Profile was assessed using maternal reports. At T2 (9-12 years), maternal self-report using the Parenting Scale was used to measure overreactive discipline (harsh and punitive parenting) and laxness (inconsistent and permissive parenting). Three items from the Teacher Report Form (e.g. 'Gets teased a lot') were used to form a Peer Problems composite score. At T3 (20-23 years), personality pathology was assessed using self-reports on the Personality Inventory for DSM-5 (PID-5). Structural Equation Modeling was conducted in Mplus 7.4. Data was missing at random and therefore imputed.

**Results:** Early childhood dysregulation predicted higher levels of PID-5 Negative Affect, Detachment, Disinhibition and Psychoticism in emerging adulthood. Laxness predicted Detachment, Disinhibition and Psychoticism. Overreactivity did not predict personality pathology. Peer Problems predicted Antagonism and Disinhibition. No evidence for moderation by overreactive parenting, laxness, or peer problems was found.

Discussion: The findings suggest that early childhood dysregulation is a developmental precursor of personality pathology in emerging adulthood. Maternal overreactive discipline, maternal laxness and peer problems, did not amplify associations between dysregulation and personality pathology.

### **sym102-7.5 Oddity traits and aggressive behavior in detained adolescents**

Lize Verbeke, Elien de Caluwé, Lore van Damme, Wouter Vanderplasschen, Barbara de Clercq  
*Ghent University, Belgium*

**Aims:** A wide range of studies has already asserted that individuals with schizophrenia spectrum symptoms are more likely to engage in aggressive behavior (Large & Nielsens, 2011). Most studies, however, took place in adult groups and were adopted from a categorical perspective that did not take into account the heterogeneity of these constructs (Bo et al., 2011). Therefore, the current study addresses the association between schizotypal personality traits and aggressive behavior in a sample of detained adolescents from an age-specific and dimensional perspective. Moreover, specific attention is paid to two additional risk factors for aggression (i.e., psychopathic traits and substance use) that are of potential influence in this schizophrenia spectrum-aggression relationship.

**Methods:** Participants (N=237, 51.5% boys, mean age = 15.8) were recruited from two juvenile justice institutions in Flanders. Adolescents were placed in the detention center for various reasons, including offences against property (23.2%), violence/aggression offences (33.3%), drug-related offences (35.4%), and sexual crimes and prostitution (9.7%). After providing written informed consent, participants filled out questionnaires on schizotypal traits (DIPS), aggressive behavior (RPQ), psychopathic traits (APSD) and substance use (MAYSI-2).

**Results:** Adolescents' schizotypal traits are related to reactive aggressive behavior, whereas the association with proactive aggression is much weaker. Moreover, hierarchical regression results demonstrated that these schizotypal traits have a main effect on reactive aggressive behavior, next to psychopathic traits and substance use. Beyond these main effects, also a negative interaction effect of substance use and schizotypal traits could be observed in the prediction of aggression.

**Conclusion:** The current study demonstrates that the schizophrenia-aggression association extends to a less clinical level, but is limited to reactive aggressive behavior. This association is robust, and cannot be fully attributed to the presence of comorbid psychopathic traits and substance use. Substance use, however, does influence the association between schizotypal traits and aggression.

## sym102-8 Youth's Social Media Use: Opportunities, Risks and the role of Parents

Sonia Livingstone, Discussant

*London Institute for economics and political science, United Kingdom*

Online behavior has become one of the most important leisure time activities among youth. Social media offer young people many opportunities, such as practicing their self-presentation skills. Yet, there are also risks associated with online activities, such as a decrease in life satisfaction. Moreover, strong involvement in online activities may also increase the risk of compulsive social media use. Parents play an important role in adolescents' online behaviors. In this symposium, research findings will be presented and take different perspectives on the use of social media among youth; opportunities, risks and the role of parents. Prof.dr. Sonia Livingstone, an expert in the field of online behaviors, will be the discussant.

The first study investigates the development of social media use between ages 8 and 12 and the opportunities for pre-teens to use social media for practicing self-presentation. The findings showed that pre-teens increasingly use social media with age and make use of social media's opportunities for self-presentation.

The second study examines the effects of compulsive social media use on life satisfaction, social competence, and school performance. The results demonstrated that adolescents who show more symptoms of compulsive social media use experience more negative outcomes.

The third study looked at the perceptions parents have about being able to influence their children's Internet behaviors and its' importance for parenting practices. The results demonstrated that parents who believe in their abilities to influence children's online activities and who adapt a child-focused view of parenting use more effective mediation strategies.

The fourth study examines the role of internet-specific parenting in adolescents' problematic social media use and whether this relationship is dependent on the internet-specific quality of communication. The findings suggest that current parenting variables contribute little to our understanding of problematic social media use among boys and girls.

### sym102-8.1 Pre-Teens' Social Media Use: Development And Opportunities For Self-Presentation

Dian De Vries, Sindy Sumter, Esther Rozendaal, Natascha Notten, Ina Koning

*Utrecht University, Netherlands, Co-Author*

**Aim.** Most research on social media has focused on adolescents and young adults. However, we know little about how pre-teens use social media and how this develops between ages eight and twelve. Developmentally, we can expect that pre-teens use social media for online self-presentation. Pre-teens are in the midst of developing self-presentation skills, as gaining social acceptance is a key developmental goal in this period. Social media offer opportunities for self-presentation, namely: receiving feedback on self-presentations, having time to think carefully about self-presentations (asynchronicity), and editing self-presentations. The current study examines how social media use develops during the pre-teenage years, namely between ages 8 and 12, and investigates the degree to which pre-teens make use of social media's opportunities for self-presentation. **Methods.** A survey was conducted among 600 Dutch pre-teens, age 8-12. Participants self-reported on their social media activities in an online questionnaire.

**Results.** Results show that the use of social media rapidly develops between ages eight and twelve. At age eight, one in five participants owned a social media profile, whereas nine out of ten of the twelve-year-olds had a social media profile. Pre-teens who had social media profiles made use of the opportunities that social media offer for self-presentation, in particular receiving (positive) feedback and thinking carefully about what (not) to post. Some opportunities for self-presentation, such as thinking carefully about what (not) to post, were used increasingly with age. Other opportunities, such as receiving positive feedback on online self-presentations, were used more frequently among pre-teens who used social media more frequently.

**Conclusion.** Pre-teens use social media increasingly with age and make use of social media's opportunities for self-presentation. Parents and other educators should therefore support pre-teen's social media literacy and not wait until adolescence

## **sym102-8.2 Impact of Compulsive Social Media Use on School-Grades, Life-Satisfaction and Social Competence**

Regina Van den Eijnden, Tom Ter Bogt  
*Utrecht University, Netherlands*

**Aim.** Use of online social media play an important role in adolescents' lives. Though involvement in these behaviors may have many benefits such as growth in creativity and individual identity, compulsive use of these online applications may also be inclined with negative consequences. The Digital Youth Project of the University of Utrecht investigated the consequences of compulsive social media use on four outcomes; objective school grades, life-satisfaction, self-esteem and social competence.

**Methods.** A longitudinal sample (2 waves) of 12-15 year old adolescents (N = 350) was used. Self-reported data on demographic factors (gender, age and level of education), the social media disorder scale (SMD), life-satisfaction, self-esteem and social competence were used. An objective measure of school grades was included, i.e. the average school grade of the key courses obtained by the school staff.

**Results.** Regression analyses revealed that a higher score on the SMD scale significantly predicted lower school grades and lower life-satisfaction one year later.

**Conclusions.** This study demonstrated that adolescents who report symptoms of compulsive social media use experience negative outcomes a year later, displayed by lower school grades and life-satisfaction. More longitudinal research is needed into the prevalence and negative outcomes of compulsive social media use.

## **sym102-8.3 Parents' Role In Children's Internet Use**

Terese Glatz, Elizabeth Crowe, Christy Buchanan  
*Orebro University, Sweden*

The aim of this study was to investigate the role of parents' perceptions about being able to influence children's online activities (i.e., internet-specific parental self-efficacy PSE). In this study, we examined the construct of Internet-specific PSE, and its importance for parenting practices.

**Methods.** Data were derived from a project including a nationwide sample of parents (N = 968; 486 mothers) responding to questions through a secure Internet-based platform about their ability to influence their children's Internet activities (Internet-specific PSE), as well as several strategies to deal with these activities (Internet-specific mediation).

**Results.** Exploratory and confirmatory factor analyses supported one factor of Internet-specific PSE and four factors of Internet-specific mediation. Further, a Structural Equation Model showed that higher levels of Internet-specific PSE were linked to more mediation strategies in general. Further, using Latent Profile Analyses, three separate groups were identified. The characteristics of the parents in Group 1 supported the results above: High levels of Internet-specific PSE and most mediation strategies (n=327). Parents in Group 2 and Group 3 had similar levels of PSE, although lower than parents in Group 1, but these two groups differed from each other in Internet-specific mediation. Parents in Group 2 (n=465) used most mediation strategies, but parents in Group 3 (n=176) used active mediation to a higher extent than the other mediation strategies. One explanation for differences in mediation usage were parents' levels on additional variables concerning parents' views of authority over children's Internet use: Parents in Group 3 were more likely to use child-focused parenting practices, such as making decisions together with the child about online activities.

**Conclusions.** Parents who believe in their abilities to influence children's online activities and who adapt a child-focused view of parenting might use more effective mediation strategies (e.g., active mediation), which can reduce children's problematic online behaviors.

## **sym102-8.4 Compulsive Social Media Use; the Role of Internet-Specific Parenting**

Ina Koning, Margot Peeters, Catrin Finkenauer, Regina Van den Eijnden  
*Utrecht University, Netherlands*

The aim of the present study was to investigate the role of internet-specific parenting (reactive mediation, internet-specific rules and frequency of communication about internet use) in adolescents' symptoms of

compulsive social media use. In addition, we investigated whether this relationship was dependent on the quality of parenting-child communication about Internet use.

Methods. A longitudinal sample of 352 adolescents (48.9% boys, M age = 13.9, SD=.74, range 11-15) from the Digital Youth Project of the University of Utrecht completed an online questionnaire on two waves annually.

Linear regression analyses in Mplus were performed to predict the level of compulsive social media use for boys and girls separately, while controlling for age, level of education and compulsive social media use at T1.

Results. A higher frequency of communication and more restrictive rules marginally predicted fewer symptoms of compulsive social media use ( $\beta = -0.15, p=.07$ ) among girls. No other significant direct effects of parenting behavior on SMD symptoms were found. For boys, a lower quality of parent-child communication enlarges the negative effect of stricter internet-specific parenting and more frequent communication. Among girls, higher quality of communication about Internet seems to protect adolescent girls from the lack of strict parenting on SMD.

Conclusions. This is one of the first longitudinal studies addressing the role of internet-specific parenting in preventing compulsive social media use, suggesting that current parenting variables contribute little to our understanding of compulsive social media use among boys and girls. Moreover, the role of quality of communication in the effect of internet-specific parenting is fairly different for boys and girls. Therefore, more investigation into the role of internet-specific parenting is needed with a closer look at gender effects

## sym102-9 Scientific reasoning skills of preschoolers and early school-age children

Marijn van Dijk, Chair

*University of Groningen, Netherlands*

Steffie van der Steen, Discussant

*University of Groningen, Netherlands*

Young children are naturally curious about the world around them, which can be regarded as a spontaneous interest in scientific phenomena. Many studies have shown that preschool children are capable of using scientific reasoning skills in problem solving situations. Hands-on science activities –e.g. tasks with water, air or ramps -- trigger all kinds of behaviors in children, such as exploring, asking questions, and communicating predictions, which constitute scientific reasoning. Reasoning can be regarded as a multi-faceted phenomenon which is embodied and embedded in a specific (social) context. It entails verbal reasoning --with its specific linguistic features--, actions and gestures.

This symposium brings together empirical research that focuses on the reasoning skills of young children (between the ages of 4 and 7 years old) working on tasks that involve the understanding of physical principles (such as air pressure, inclined plane, balance). The first two studies investigate the relation between verbal and non-verbal reasoning in tasks that are led by an experimenter. In contrast, the second two studies look at reasoning skills (inquiry, verbal reasoning and the use of academic language) in a more naturalistic context that also involves teacher-child or peer interaction. All studies have either analyzed the moment-to-moment behaviors of the children or have used repeated measurements to capture changes over time. Combined, the results that are presented describe both the capacities and the limitations of the reasoning skills of young children. In addition, they reveal interesting asymmetries between verbal and nonverbal reasoning and illustrate the relation between verbal reasoning and its linguistic features.

### sym102-9.1 Preschool children's reasoning about physics: verbalizations and actions

Marlenny Guevara

*Instituto de Psicología, Universidad del Valle, Colombia*

From early development onwards, children are characterized by their striking curiosity and their skills to understand the physical world (Carey, 2000, Kuhn, 2007). Through spontaneous experimentations, pre-school children are able to build intuitive knowledge of physical notions before being exposed to a formal instruction. The aim of this study was to examine the complexity of children's reasoning in terms of implicit (actions to solve the task) and explicit knowledge (verbalizations to explain the outcomes), during hands-on tasks about either air pressure (AP) or inclined planes (IP). In order to quantify the complexity of the children's understanding, we used Fischer's Skill Theory (Fischer & Bidell, 2006) for verbal explanations (VE) and action events (AE).

The actions and verbalizations of fourteen preschoolers (Mage= 5.1 years) were examined using a longitudinal design of six sessions (20-25 minutes each), which were administered every two months. The children worked in dyads and were asked to build the task (mechanisms of AP or IP) as they thought would be the best way to reach the goal. After this, they were asked to explain the observed outcomes.

Our results revealed that though there were also some differences between tasks, the complexity of children's reasoning was higher in actions (AE) than for verbalizations (VE) in both task conditions. The children's AE showed a partial or complete understanding of the physics mechanism, whereas their VE were mostly focused on attributes (e.g. "Because it is big") or in partial causal relations of the mechanism (e.g. "Because the air... goes like this, and there was so much air"). Our findings support the notion that implicit knowledge precedes explicit knowledge (see Reber, 1993; Siegler & Stern, 1998), and that preschool children have an understanding about physics notions and mechanisms such as air pressure and inclined planes.

## **sym102-9.2 Asymmetric coupling between gestures and speech during reasoning**

Lisette Hoekstra

*University of Groningen, Netherlands*

When children learn, insights displayed in gestures typically precede insights displayed in speech. In this study, we investigated how this leading role of gestures in cognitive development is evident in (and emerges from) the dynamic coupling between gestures and speech during one task. We investigated 12 children (Mage = 5.4 years) from Kindergarten and first grade who performed an air pressure task. Children's gestures and speech were coded from video recordings, and levels of reasoning, based on Skill Theory, were assigned. To analyze the dynamic coupling between gestures and speech, Cross Recurrence Quantification Analysis was performed on the two coupled time series.

We found gestures to be ahead of speech for children in Kindergarten, but speech and gestures were more temporally aligned for first graders. Furthermore, we found speech to affect gestures more than vice versa for all children, but the degree of this asymmetry of bidirectional regulation differed. In Kindergarten, a higher score on language tests was related to more asymmetry between gestures and speech, while for first graders this relation was present for higher, within-task, levels of understanding. A more balanced, i.e. less asymmetric, coupling between gestures and speech was found to be related to a higher score on math and past tasks, though. Our findings suggest that the relation between gestures, speech and cognitive development is more subtle than previously thought. Specifically, the nature of the coupling between gestures and speech not only expresses but might also predict learning differences between children, both within and across learning domains. We hope our study will foster future research on learning as a dynamic, embodied and embedded process.

## **sym102-9.3 Trajectories of scientific reasoning and peer collaboration**

Jairo Montes, Ralf Cox

*Pontificia Universidad Javeriana Cali, Colombia*

This study was set up to provide a description of scientific reasoning and peer collaboration in a group of first graders; specifically, when solving moving object tasks that required the understanding of relations between multiple variables. Children worked in dyads while solving the tasks. This situation can be described as a complex dynamic system, with variables such as problem understanding, exploration, collaboration, and task characteristics influencing each other from moment to moment. We tried to capture this system's properties by describing trajectories of inquiry skills and the types of collaboration that occur.

The sample consisted of twelve children of 6 to 7 years old working in dyads. Three computer-based tasks were constructed as multivariable problem-solving situations. A microgenetic design was used to allow the detailed description of changes that occur over time. Each task consisted of several trials to reach different targets, over 9 sessions, which were administered every week during two months. For each target, we established inquiry skills that were used and the way the children interacted with each other.

The results show that different patterns of variability could be described in the overall inquiry level and the type of interaction used by the dyads. Regarding inquiry level, a trend towards higher performance was observed. Nevertheless, they showed three types of trajectories (1) a stepwise increase (2) a slow increase and (3) an oscillating trajectory characterized by setbacks. In contrast, different types of interaction predominate among the dyads, and cooperative work only emerged in a few occasions alternating with other types such as no work, passive work, and imitative work. Actually, in some of the sessions, as performance improved, collaborative work tends to decrease. This implies that for this age group collaborative work does not guarantee optimal performance, and that its absence does not imply a low-level functioning.

#### **sym102-9.4 Academic language and reasoning during a preschool science intervention**

Marijn van Dijk, Astrid Menninga  
*University of Groningen, Netherlands*

Participation in science lessons both demands and supports sophisticated science discourse, which entails domain-specific vocabulary, dense presentation of information, and complex sentence structures (e.g. Snow, 2014). However, for most early elementary school children language skills are still limited. A focus on language learning during early elementary science education is therefore of great importance.

This study was part of a large Dutch program called 'Curious Minds'. The aim of this specific study was to evaluate an intervention focusing on the integration of science and language learning in early elementary school. We developed a video feedback coaching intervention for teachers (N = 25) called 'Language as a Tool for teaching science' (LaT). The aims were to provide teachers with strategies for stimulating and scaffolding students' reasoning and language use, by employing individual feedback coaching to improve the teacher-student interaction. The intervention's unique feature is that it was carried out in a natural classroom setting and based on video observations of the lessons. Of these lessons, all verbal interactions were transcribed and coded on utterance level.

The results show that in the course of the intervention, the children started to express more utterances related to reasoning, and that their language use increased in syntactic complexity and –to a lesser extent– lexical sophistication. In addition, the children's reasoning skills improved after the intervention, in the sense that they used more complex sentences to express predictions and explanations. The increase in students' reasoning might be linked to the change in teachers' questioning strategies, since open-ended questions tailored to the abilities of students tend to elicit more reasoning.

## Paper sessions 102, Wednesday August 30, 13:45 – 15:15 hrs.

### pap102-10 Prosocial Behavior in Childhood and Adolescence

#### **pap102-10.1 Happy little benefactor: Prosocial behaviors promotes happiness in toddlers**

Yue Song, Martine Broekhuizen, Judith Semon Dubas  
*Developmental Psychology, Utrecht University, Netherlands*

The origin of prosocial behavior has long been debated. Over the past decade, evidence that toddlers display more happiness when sharing rather than receiving treats has been used to support the argument that humans, by nature, are prosocial. However, sharing is rare and inconsistent at this age, implying that the emotional rewards of sharing might have their origins or be affected by social factors, such as praise. In addition, whether this “warm glow” is specific for sharing behavior, or also the case for other prosocial behaviors (e.g., helping and comforting) is unclear. By replicating (using the same task) and extending previous studies (varying the number of resources and examining praise), 113 Dutch toddlers (M = 21.64 months, SD = 3.33 months, 59 boys) participated in a sharing task in which they received 8, 4 or 2 treats, followed by instrumental helping and comforting tasks (for the latter two tasks the toddlers were praised if they helped or comforted). Toddlers were videotaped during the experiment and happiness later coded. In total, 79 toddlers at least shared, helped or comforted once in the experiment. For these children, results showed that: (1) for sharing, consistent with previous findings, toddlers display more happiness when giving than receiving treats, although the number of resources did not affect toddlers’ happiness. (2) for instrumental helping, toddlers displayed more happiness after helping, and their happiness did not increase after been rewarded (praised). (3) for comforting, toddlers displayed less happiness after witnessing experimenter’s emotional distress (feeling cold), but not more happiness after helping or being praised. Taken together, these results indicate that both sharing and instrumental helping are emotionally rewarding independent of praise, supporting a biological origin of these behaviors.

#### **pap102-10.2 Longitudinal relations between adolescents' prosocial behavior and self-efficacy in self-regulated learning**

Maria Gerbino, Ainzara Favini, Antonio Zuffianò, B. Paula Lunego Kanacri, Gian Vittorio Caprara  
*Sapienza University of Rome, Italy*

A small number of studies has found that prosocial behavior (i.e. voluntary actions aimed to benefit others, like helping, consoling, donating; Eisenberg, et al., 2006; PB) was associated with academic achievement across adolescence (Chen, et al., 2000; Wentzel, 1993; Wentzel & Caldwell, 1997). It was hypothesized that prosocial adolescents may be more motivated and engaged with school, because they experience a supportive social and learning environment in which they feel accepted and helped (e.g., Jennings & Greenberg 2009; Wentzel 1993). However, study addressing the relations between adolescents’ PB and students’ motivation are limited. Our study was aimed to analyze reciprocal relations between peer-reported PB and Self-Efficacy in Self-Regulated Learning (SESRL) across middle school years. SESRL has been considered one of the most important factor sustaining students’ motivation and persistence (Pajares, 2008).

Participants were 580 adolescents (48.5% boys) attending at T1 6th grade of junior high school. Participants were drawn from the Genzano Longitudinal Study. Students were evaluated each year from 6th to 8th grade. We tested a cross lagged model through path analysis in which peer-reported PB at 6th grade and 7th grade predicted SESRL one year later (7th and 8th grade), and SESRL at 6th and 7th grades predicted PB one year later, controlling for the longitudinal stability of the two constructs.

Findings showed that PB at 6th grade and at 7th grade predicted higher level of students’ SESRL one year later (respectively,  $\beta = .13$  and  $\beta = .12$ ), beyond the high stability of SESRL ( $\beta = .60$ ), and the effect of sociodemographic characteristics. Differently, SESRL did not predict later PB. Our study corroborates the view of PB as a strength and a resource for adolescents' school adjustment. Being prosocial in adolescence appeared to give students a greater chance to be more motivated and to experience successful school experience

### **pap102-10.3 Helping behaviors in early childhood: The role of social cognition and language**

Elisabetta Conte, Ilaria Grazzani  
*University of Milano-Bicocca, Italy*

Children spontaneously help others since the first years of life. Helping behaviors define actions intended to assist someone in goal-directed efforts, for instance instrumental helping and informing. Some abilities, such as social cognition (e.g. affective and cognitive perspective taking) and language skills, are thought to influence the occurrence of helping behaviors. However, research that examines these relations in early childhood is lacking. Hence, the purpose of this work was to shed light on the roles of social cognition and receptive language on the frequency of helping behaviors.

Children were 149 Italian 2- and 3-year-olds recruited by childcare centers and kindergartens in Northern Italy. They were administered the Affect Knowledge Test (AKT) for emotion knowledge, a battery of two theory-of-mind tasks (Diverse-desire task and True Belief task), and the Peabody Picture Vocabulary Test (PPVT) for receptive language. Further, they were observed for spontaneous helping behaviors acted towards peers in the school context, using an observation grid specifically developed to detect prosocial behaviors (i.e. helping, sharing, and comforting behaviors).

Results showed that children's abilities of affective and cognitive perspective taking, together with the receptive vocabulary, were significant determinants of the frequency of helping behaviors. An exploratory mediation analysis revealed that children's receptive language played an important role in explaining this type of prosocial action.

Because of the influence of social cognition and language skills on the occurrence of prosocial helping behaviors, efforts in educational and school contexts should be addressed to the promotion of these competences since toddlerhood.

### **pap102-10.4 A new instrument to assess helping, sharing and comforting in early childhood**

Marta Giner Torr ns, Joscha K rtner  
*University of M nster, Germany*

In the last decades, the emergence and development of prosocial behavior has become a topic of great interest in the field of developmental psychology. While earlier approaches looked at the development of prosocial behavior in rather general terms, the field has moved towards differentiating different domains of prosocial behavior, namely helping, sharing and comforting (Dunfield, 2014). However, questionnaires that assess early prosocial behavior lag behind this conceptual development in the field. In this study, we introduce a parent report questionnaire that assesses three different domains of early prosocial behavior. A total of 202 German mothers completed the questionnaire at the children's age of 18 months and 30 months. A longitudinal confirmatory factor analysis revealed configural and metric invariance of a three-factor structure over both measurement occasions. Furthermore, analysis of the factor variances and covariances yielded equivalent structural relations between factors across age. Overall, results indicated that the hypothesized three-factor structure was a reasonable empirical map of the latent constructs, across measurement occasions. Interestingly, there were only small to medium correlations between the three domains of prosocial behavior at both measurement occasions. Thus, these findings corroborate the differentiation of helping, sharing and comforting as different domains of early prosocial behavior, and legitimize the use of the questionnaire for mean comparison analysis and longitudinal change assessments in future research studies.

### **pap102-10.5 The Influence of Adult and Peer Models on Children's and Adolescents' Sharing**

Monika Keller, Azzurra Ruggeri, Shenghua Luan, Michaela Gummerum  
*Max Planck Institute of Human Development, Germany*

Imitation has been shown to be a powerful mechanism of socialization across development. In particular in the domain of prosocial sharing behavior models have been shown to be very influential in shaping behavior. We hypothesized that for children parents are highly influential models while for adolescents peers become more important than parents. We expected this to be the case also in different societies. We also wanted to see

whether participants' actual sharing behavior would be more influenced by a model than their moral judgment of what would be fair sharing.

We tested these hypotheses in two studies conducted in Italy and Singapore in the context of economic sharing. We investigated how the age of the participant (child or adolescent), the suggestion of role models (peer vs. adult) of an offer (fair vs. unfair) affect the sharing decisions of 9- and 12-year-olds (N = 365). We used the well known "dictator game" in which sharing is fully voluntarily and presented comic figures as models. Participants were asked to make an offer, judge whether the offer is fair and for the feelings related to the offer.

Our results support the hypothesis of a developmental shift in the influence of role models on children's and adolescents' sharing decisions in both societies: As predicted, children's offers were more affected by the suggestion of an adult model than by that of a peer model, whereas the opposite was true for early adolescents. However, regardless of the models' influence on their sharing decisions, all participants considered equal sharing to be the fair choice and reported being happier when their sharing decisions were generous. Our results highlight the crucial importance of social factors for the development and promotion of fairness in sharing and allow speculations about somewhat different factors influencing behavior and moral judgment.

### **pap102-10.6 Do preschoolers say "yes" to unfair sharing?**

Mako Okanda

*Otemon Gakuin University, Japan*

Previous studies found that 2- or 3-year-olds exhibit a yes bias regardless of interviewer status, situations, and issues of questions (e.g., Fritsley & Lee, 2003, Okanda & Itakura, 2007, 2008, 2010, Okanda, Somogyi, & Itakura, 2012). These questions were not related to children's benefit, so it is possible that young children's motivation toward to answer these appropriately might be low. In the present study, we investigated whether preschoolers exhibit a yes bias to yes-no questions that related to their benefit.

Participants were 97 two- to six-year-old Japanese children. The stimulus were four wooden toys and two dishes. A female experimenter explained children that one dish was for children and the other was for her. Then, the experimenter shared four objects equally (2 vs. 2) or unequally (1 vs. 3 or 3 vs. 1) between her and a child and asked them "Is this okay?" and "Is this unfair?" We also asked children yes-no questions pertaining to object knowledge (e.g., "Is this red" for a red apple). The children's response were recorded and children's response bias scores were obtained for four conditions (equal, unequal 1, unequal 2, and object) based on proportion of "yes" and "no" responses.

Two- and 3-year-olds's response bias scores were significantly higher than that of 4-, 5-, and 6-year-olds, and they exhibited a strong and consistent yes bias for all four conditions. As some previous studies reported that Japanese older preschoolers exhibit a weak yes bias to questions pertaining to objects due to social pressures (e.g., Okanda & Itakura 2010), 5- and 6-year-olds in this study showed a yes bias only in object condition. The results indicated that young preschoolers, not older ones, are likely to say "yes" regardless of questioning issues, and benefit was unrelated to their response tendencies.

**pap102-11.1 Mixed methods systematic review of the Incredible Years Teacher Classroom Management programme**

Elizabeth Nye, G. J. Melendez-Torres, Frances Gardner  
 University of Oxford, United Kingdom

**Aim:** Children’s early problematic behaviours are associated with stressed teacher-child relationships and later deviant behaviours. The Incredible Years Teacher Classroom Management (IY TCM) programme trains teachers to use positive and proactive strategies to break patterns of problematic behaviours. This mixed methods systematic review answers: What is known about the effectiveness of IY TCM, and how do people experience the programme and its effects?

**Methods:** RCTs comparing IY TCM against treatment-as-usual or waitlist controls were included in the effectiveness strand. Qualitative interviews and focus groups with key stakeholders were included in the experiential strand. Primary outcomes were teacher management strategies and child conduct problems. Secondary outcomes included teacher-parent collaboration, child prosocial behaviours and academic readiness. Electronic databases and relevant websites were systematically searched. Multilevel meta-analysis was applied to effect sizes from RCTs. Grounded theory analysis was applied to qualitative data. Cross-synthesis used framework analysis and integrative grids.

**Results:** Nine studies from England, Ireland, Jamaica, the USA, and Wales were included. IY TCM had small effects on reducing negative management strategies and child conduct problems, and moderate effects on increasing positive management strategies (Table 1). Effects were not statistically significant for increasing child prosocial behaviours. A cyclical process of training and observing effective outcomes emerged in the qualitative strand. Teachers described benefits relating to increased knowledge, locus-of-control, emotional wellbeing, and practice. RCT and experiential findings were generally harmonious, although qualitative findings suggested a broader conceptualisation of benefits than were quantitatively measured.

**Conclusions:** IY TCM is effective for reducing problematic behaviours in schools. Teachers like IY TCM and benefit from it. Decision-makers balance information on effectiveness, acceptability, and contextual appropriateness when selecting programmes for children’s mental and behavioural health. Systematically reviewing RCT and qualitative evidence on IY TCM provides comprehensive evidence across all three areas and offers a model for future research.

Outcome	N(k)	$\beta_{00}$	SE	95% CI	I <sup>2</sup>	Tau <sup>2</sup>	Chi <sup>2</sup> (p-value)
<b>Primary</b>							
Teacher negative strategies	7(3)	-0.32*	0.15	(-0.62, -0.01)	L1: 0.00 L2: 0.00	L1: 0.00 L2: 0.00	4.09 (0.66)
Teacher positive strategies	7(3)	0.44**	0.16	(0.13, 0.74)	L1: 0.00 L2: 0.00	L1: 0.00 L2: 0.00	5.16 (0.52)
Child conduct problems	11(3)	-0.20*	0.09	(-0.38, -0.01)	L1: 0.00 L2: 0.00	L1: 0.00 L2: 0.02	10.62 (0.39)
Sensitivity	8(2)	-0.11	0.10	(-0.32, 0.09)	L1: 0.00 L2: 0.00	L1: 0.00 L2: 0.01	5.95 (0.55)
High risk subgroup	8(3)	-0.33***	0.07	(-0.47, -0.18)	L1: 0.00 L2: 0.00	L1: 0.00 L2: 0.00	4.55 (0.71)
<b>Secondary</b>							
Child prosocial skills	6(4)	0.18	0.11	(-0.04, 0.40)	L1: 0.00 L2: 0.00	L1: 0.05 L2: 0.00	13.77 (0.02)
Sensitivity	4(3)	0.13*	0.06	(0.02, 0.24)	L1: 0.00 L2: 0.00	L1: 0.00 L2: 0.00	3.43 (0.33)
High risk subgroup	4(3)	0.31	0.17	(-0.03, 0.65)	L1: 0.00 L2: 0.00	L1: 0.06 L2: 0.00	8.23 (0.04)

N=number of effect sizes (Level 1); k=number of studies (Level 2);  $\beta_{00}$ =Hedges’ g (‘Grand Mean’);  
 \*p<0.05, \*\*p<0.01, \*\*\*p<0.001

Table 1. Multilevel meta-analysis results for primary and secondary outcomes

**pap102-11.2 Career Adaptability and Perceived Employability in Emerging Adults Undergoing Training or Education**

Michelle Hood, Peter Creed, Guido Makransky, Jakob Wandall  
Griffith University and Menzies Health Institute Queensland, Australia

**Aim:** To test a model of the antecedents of perceived employability in emerging adults undertaking education based on Vanhercke et al.'s (2013) proposal that there are both competency-based and dispositional antecedents to perceived employability. In addition, we examined whether career adaptability (Savickas & Porfeli, 2012) explained (mediated) these relationships. Career adaptability is the psychosocial resources (concern, control, curiosity, and confidence) that individuals use to manage occupational transitions, developmental tasks, and work traumas (Savickas & Porfeli, 2012). The developmental period of emerging adulthood is an important transition period in career development during which engaging in training or education prepares the young person for future work life. Thus, it seems likely that this might be an important underlying mechanism through which these competency and dispositional variables are related to perceived employability.

**Method:** We surveyed 332 Danish emerging adults who were undertaking training or tertiary education (69% women; Mage = 20.4 years) on perceived employability (Rothwell et al., 2009), career adaptability (Maggiore et al., 2015), co-operation skills (competency; Orchard et al., 2012), self-esteem (personal resource; Rosenberg, 1965), and proactivity (disposition; Porath & Bateman, 2006).

**Results:** We used structural equation modelling (AMOS 22) to test the model. There were significant direct paths from all antecedents to perceived employability. Career adaptability fully mediated the path from proactivity, but only partially mediated the paths from the other two antecedents. See Figure 1.

**Conclusion:** Consistent with Vanhercke et al.'s (2013) proposal, personal resources and interpersonal competencies were related to perceived employability both directly and indirectly via career adaptability. However, the direct relationship between proactive disposition and employability was completely explained by career adaptability. This study is the first to show the role that career adaptability plays in the way that young adults who are still in education perceive their future employability.

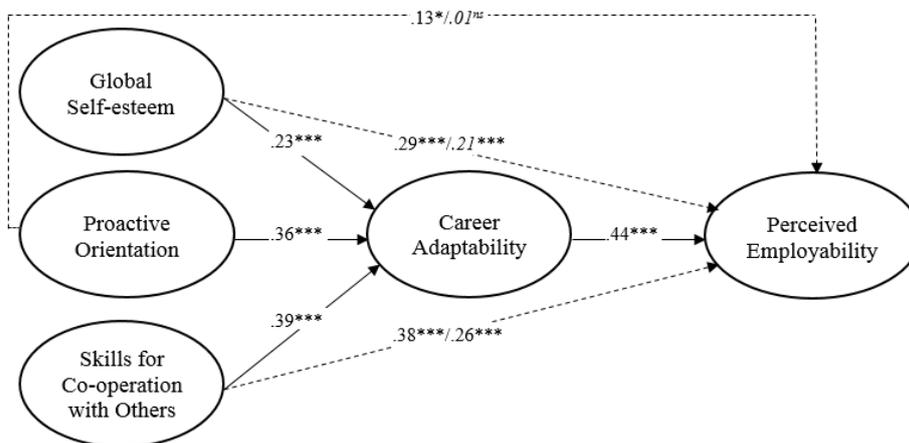


Figure 1. Final structural model with standardized  $\beta$  coefficients included (dashed lines are direct paths, with coefficients in italics direct effects in the presence of the mediator). \*  $p < .05$ ; \*\*\*  $p < .001$

### pap102-11.3 Do school characteristics moderate parental influence on Swedish adolescents' attitudes towards immigrants?

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Örebro University, Sweden

**Aim:** Global migration has increased approximately 60% since 1990, equaling over 224 million individuals. Yet, immigrant receiving societies are not becoming more welcoming than they were in the past. In Sweden xenophobia and negative attitudes towards immigrants are increasing. Youths are important agents in societal changes, and therefore it is crucial to understand how adolescents' attitudes towards immigrants develop. This study examines if parental influence on the development of negative attitudes towards immigrants is moderated by the characteristics of the school context regarding peers, class climate and teachers.

**Method:** The current study analyzed data from the Political Socialization Study (PSP), a longitudinal study on how young people develop their ideas about social and political issues. The present analyses included data from both adolescents and their parents (N = 890).

**Results:** We examined whether school ethnic composition moderates the association between parents' negative attitudes towards immigrants and youth's own negative attitudes. The preliminary findings showed that there is a strong link between adolescents' and parents' negative attitudes towards immigrants,  $B = .25$ ,  $p < .001$ . However, this association was only statistically significant in schools with few immigrant students,  $B = .30$ ,  $p < .001$ , but not in ethnically mixed schools.

**Conclusion:** Ethnic composition of schools moderated the parental influence on adolescents' negative attitudes towards immigrants. The results indicate that school characteristics indeed do have an impact on youths' prejudices. Especially the youth in immigrant-sparse schools are at risk for being negatively influenced by their parents' prejudiced attitudes towards immigrants. This finding suggests that there might be greater need to attend to ethnically-sparse schools to fight against societal polarization and exclusion of immigrants.

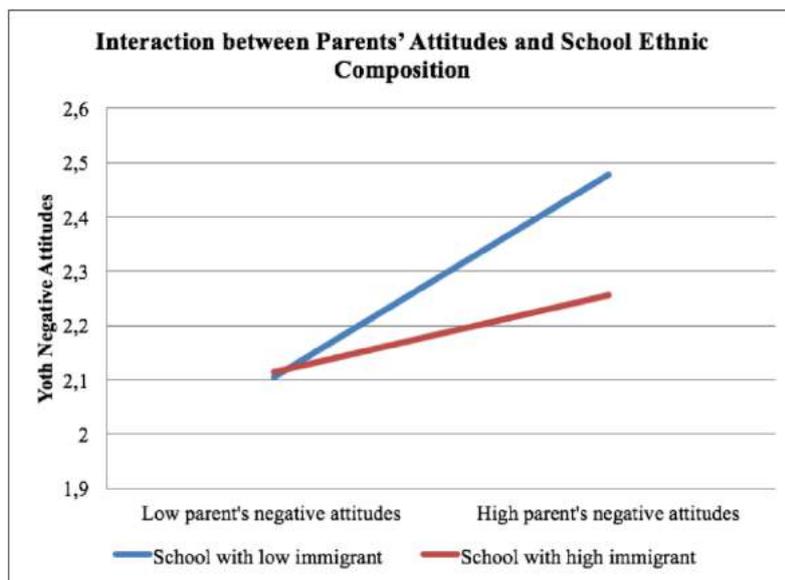


Figure 2: Interaction between parents' negative attitudes towards immigrants and school ethnic composition in predicting adolescents' own negative attitudes.

### pap102-11.4 Inner Termination in pupils

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The concept of Inner Termination ("IT") designates a work-related attitude characterized by passive behaviour, low commitment and lack of personal initiative for work (Höhn, 1983, Raidt, 1988). Transferred to pupils IT can refer to school as a whole, individual teachers or certain school subjects (Schmitz & Voreck, 2011). The aim of

the present study is an exploration of IT's causes, symptoms, and consequences as well as a typology of various kinds of IT.

For this purpose, we developed a qualitative guided interview which was used to question 16 pupils. The interviews were recorded and transcribed. Due to a content analysis of the replies, the process of IT was modeled for each pupil. To determine a possible typology, the individual models are compared successively. The results indicate that IT is caused by multiple factors, whereby teachers and their classes (e.g. inequitable grading; monotone lessons) are most important. In most cases, the development of IT is aggravated by a combination of increasing knowledge gaps, declining participation and deterioration of grades. According to this, making use of private tutoring is a suitable way to delay - but not to avoid - the appearance of symptoms, e.g. aversion, boredom, fear of failure and sitting out. Social and school-related consequences (e.g. offers of support) appear as ineffective reactions to IT. Due to the relation of performance development and IT, a preliminary typology can be created: Type A is characterized by performance deterioration in the run up to IT, whereas in type B degradation is the IT's consequence. Essential feature of Type C is the consistency of (high) performance regardless of IT.

Subsequently, the study's limitations (sampling size, selectivity, validity of retrospective self-evaluation reports) are analyzed. Strengths and weaknesses of alternative survey methods are discussed as well as possibilities of prevention and intervention on IT.

#### **pap102-11.5 Improving children's academic and cognitive skills: evaluation of a school-based training**

Sanchez Perez, Alejandro Castillo, Guillermo Campoy, Jorge L. Puga, Carmen Gonzalez-Salinas, Luis J. Fuentes  
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Students' academic achievement has been positively related to further development outcomes, such as higher attainment and educational aspirations, employment aspirations, and socioeconomic position. Among all the academic competences, mathematics has been pointed as essential skills to the workforce in science, technology, and engineering disciplines and to international leadership. Given its positive consequences, researches have designed trainings to enhance children's mathematical skills. Additionally, the ability to regulate and control actions and cognitions (Executive Functions, EF) has been associated with school success, what has resulted in a strong effort to develop EF training programs in order to improve students' EF and academic achievement. However, those interventions have usually required trained professionals, changes in the scholar curriculum, or were not adapted to fit the specific level of each student. These disadvantages decrease the possibilities of embedding the training tasks as a part of students' effective academic routine. This study examined the efficacy of a school computer-based training composed of two components: Working Memory and mathematics tasks. To test the effects, children's cognitive skills (EF, numerical processing, IQ) and school achievement (math and language grades and abilities) were taken into account. A total of 104 children, aged from 7 to 12 years old, were involved in this study. There were 2 training sessions per week of 30 minutes each, during 13 weeks. Results showed a significant improvement on cognitive skills, such as non-verbal IQ and inhibition, and better school performance on math and reading in children who attended the training in comparison with those children that did not. Most of the improvements were related to training on WM tasks. These findings confirmed the efficacy of a school-based training that combined WM and mathematics activities as a part of school routines on children's academic competences and cognitive skills.

#### **pap102-11.6 Predicting academic achievement from EF and SES: Differences by gender and culture.**

Antonia Zachariou, Michelle Ellefson, Florrie Fei-Yin NG, Qian Wang, Claire Hughes  
*University of Roehampton, United Kingdom*

**Aim:** There is growing evidence for a robust relation between executive functions (EF) and academic performance and indications that this relationship is not independent of influences such as socioeconomic status (SES), culture and gender. However, most of this research is focused on young children and researchers have yet to establish whether the relations between EF, SES, culture, gender and academic achievement follow similar patterns for adolescents. The aim of this paper was to examine whether EF, alongside SES predict academic achievement in adolescents and to elucidate whether the interplay between these differs by gender and culture.

**Methods:** A sample of 9- to 13-year-old children from the United Kingdom (N= 230) and Hong Kong (N= 252) completed tasks measuring four EF skills: inhibition, working memory, cognitive flexibility, and planning. We also conducted assessments of academic achievement including numeracy (WRAT test). General cognitive ability (Ravens) was evaluated for comparative purposes. The children's SES status was calculated based on the Yale Four Factor Index of Social status (including education, occupation, sex and marital status). Hierarchical regression analyses were run separately for each cohort (UK and Hong Kong) with academic achievement (and general cognitive ability) as the outcome variable, and gender, SES and EF as predictors (controlling for age).

**Findings:** The results reveal important discrepancies between the two contexts. Regarding numeracy, in the Hong Kong sample, SES and EF were the only significant predictors, whereas in the UK sample, gender was also a predictor. The comparison with the result regarding general cognitive ability is informative; in the Hong Kong sample, EF and gender (but not SES) were significant predictors, whereas in the UK sample, EF and SES (but not gender) were significant predictors.

**Conclusions:** The findings help inform the debate about the relevant factors in adolescents' academic achievement across cultures and gender.

**pap102-12.1 Interparental conflict, parenting and child adjustment in divorced families: A meta-analysis**

Rianne van Dijk, Inge van der Valk, Maja Dekovic, Susan Branje  
*Utrecht University, Netherlands*

**Aim:** Numerous children in Western societies experience parental divorce. Compared to those from intact families, these children are prone to developing adjustment problems within several domains of well-being. Researchers argue that divorce itself does not necessarily put children at risk, but stressful circumstances associated with divorce is key in understanding children's development. Accordingly, previous studies demonstrate that interparental conflict before, during and after divorce is associated with children's adjustment problems. Yet, considerably less is known on how these concepts are related. In family systems theory families are regarded as hierarchically organized systems, in which the different subsystems continuously influence one another. Consistent with this view, the spillover hypothesis proposes that conflicts within the parental system affect children's adjustment via the parent-child system. Although previous meta-analyses provide support for spillover processes in intact families, they lack in testing indirect effects and research on divorced families specifically is needed. Therefore, we aim to examine whether parenting after divorce could explain the link between interparental conflict and children's well-being. **Method:** Our database search resulted in 2,339 unique hits of which we are currently scanning titles and abstracts. Approximately 600 full-texts will be checked for reported effectsizes of the associations of interest (i.e., interparental conflict and parenting, path A; parenting and child adjustment, path B; interparental conflict and child adjustment, path C). First, multilevel meta-analyses will be performed for each of the mediation paths separately regarding five domains of child adjustment (i.e., internalizing, externalizing, social functioning, academic achievement, and self-esteem). Second, we will test a mediation model by using meta-analytical structural equation modeling (MASEM), a new approach that allows fitting structural equation models on correlation matrices. **Results & Conclusions:** Information from this study could provide important directions for developing and improving interventions aimed at preventing or reducing children's adjustment problems following divorce.

**pap102-12.2 Divorce and Family Structure in Norway– Associations to Adolescent Mental Health**

Sondre Aasen Nilsen, Kyrre Breivik, Bente Wold, Tormod Bøe  
*Uni Research Health, Norway*

**Divorce and Family Structure in Norway– Associations to Adolescent Mental Health**

**Aim:** It has been a considerable increase in parents choosing joint physical custody (JPC) following divorce in Norway in the last decade. The aim of this study was to investigate the association between family structure and mental health among Norwegian adolescents, contributing to the limited knowledge about adjustment in current post-divorce families in Norway.

**Methods:** Data stem from the youth@hordaland study, a population based survey conducted in Norway in 2012. A total of 7707 adolescents (47% male) aged 16-19 were included in the present study. Based on self-reported information about parental divorce and family structure they were classified into six family structures. Mental health was measured using the Strengths and Difficulties Questionnaire (SDQ).

**Results:** No significant differences between non-divorced families (reference) and JPC, adjusting for gender and SES (SDQ-total scale:  $B = -.29$ ,  $p = .264$ , SDQ-internalizing scale:  $B = -.14$ ,  $p = .380$ , SDQ-externalizing scale:  $B = -.15$ ,  $p = .343$ ) were observed. Adolescents from single parent and stepfather families scored significantly higher on all three SDQ-scales, while adolescents from stepmother families scored significantly higher on the SDQ-total and SDQ-externalizing scales.

**Conclusions:** Divorce is still associated with mental health problems among adolescents, but the magnitude differs in relation to post-divorce family structures. The results indicate that adolescents living in JPC do not display higher levels of adjustment problems compared to their peers living in non-divorced families.

### **pap102-12.3 A Parenting Plan for Divorced Parents: Help or Hinder?**

Inge Van der Valk, Rianne Van Dijk, Susan Branje  
*Utrecht University, Netherlands*

Each year, around 70.000 children in the Netherlands face a parental divorce or separation. Research consistently shows that these children are at risk of various problems. These are not so much caused by the parental separation in itself, but more by the parental conflicts, decreased quality of parenting, and diminished parent-child contact that often accompany it. With a view to reduce these problems, Dutch government in 2009 imposed a mandatory parenting plan when parents file for a divorce. Herein, parents should arrange the division of care and parenting, information exchange, and child support. This may stimulate parents to contemplate the consequences for their children, with the ultimate aim of limiting parental conflicts and – indirectly – preventing child-related divorce problems. The aim of the present study was to investigate whether this objective seems to be achieved: if parental conflicts and youth problems in families that divorced after 2009 are significantly lower compared to families that divorced before that time. Data were used from a cross-sequential survey: “Students and Families”, in which data are collected since 2006 at schools biennially. Two groups were compared on measures of parental conflicts, parent-child contact, parent-child relations, and child internalizing and externalizing problems. In the first group (n = 169) the parental divorce took place before realization of the mandatory parenting plan, and the second (n = 113) after it. Results of multivariate analyses of (co)variance revealed that the parenting, as yet, fails to reach its goals: both parental conflicts and youth depression are in fact higher now, whereas father-child relationship quality youth well-being are lower. Meanwhile, another survey round has taken place and with these new data, we will examine whether we can replicate the above findings. Further, possible explanations will be tested. These findings will be presented, and their implications will be discussed.

### **pap102-12.4 Preventive intervention supporting families after divorce: groups and e-health for Dutch parents**

Mariska Klein Velderman, Karlijn Pieterse, Fieke Pannebakker  
*TNO Child Health, Netherlands*

Parental divorce or separation is one of the most impactful life events to all involved. Following breakup adults experience more stress and depressive feelings and function less optimally as a parent than adults in stable relationships (e.g., Van der Valk et al., 2004). In addition, research consistently shows that children with divorced parents score significantly lower on measures of wellbeing, conduct, psychological adjustment, self-concept, and social relations (Amato & James, 2010).

In the Netherlands, evidence-based preventive interventions are available to support children of divorce. For parents, such evidence-based solutions were lacking (e.g., Cloostermans et al., 2013). In particular, preventive support programs to inform separated parents and empower them as a parent were needed. This paper provides information about two initiatives providing such interventions.

1) ‘Divorce ATLAS’ aims at informing and empowering parents after break-up and teaching effective coping and communication skills. The intervention offers preventive support in two varieties: (a) a 2-sessions group program derived from the US ACT for the Children intervention (Pedro-Carroll et al.); and (b) an e-health version inspired by the US Children in Between program (Gordon et al.). Both versions include the same content. ATLAS is subject to a quasi-experimental (group version) and RCT (e-health version) study into the process and impact of the intervention (results expected 2019).

2) The Dutch adaptation of the US-based New Beginnings Program (NBP; Wolchik et al.) aims at strengthening children’s well-being following divorce by increasing parental competence. The program consists of 10 group sessions, for fathers and mothers separately. In US studies, NBP has been proven to be promising for improving parenting practices, family cohesion and general child functioning and well-being, and reduce children’s internalizing and externalizing problems (SAMHSA’s NREPP, 2017).

At ECDP2017 sample elements of intervention content will be shown, and evaluative remarks of intervention participants will be presented.

## **pap102-12.5 Indirect Effects of Interparental Conflicts on Turkish Offspring's Couple Satisfaction**

Ali Serdar Sağkal, Yalçın Özdemir  
*Adnan Menderes University, Turkey*

Interparental conflict is one of the most crucial developmental precursor to offspring's romantic relationship quality in emerging adulthood. However, the focus on the association found between interparental conflict and offspring couple satisfaction begs the question of why this association exists. Theory proposes that by observing interparental conflicts children shape both their own conflict behaviors in romantic relationships and develop attitudes toward marriage. In line with theoretical predictions, the present study addresses this issue by examining conflict in offspring romantic relationship and general attitudes toward marriage as possible mechanisms that might account for offspring's premarital couple satisfaction within the Turkish culture context. A total of 301 participants were recruited from a state university located in a western city of Turkey. Participants' ages ranged from 18 to 25 years ( $M = 20.24$ ,  $SD = 1.55$ ) and the sample was dominantly female (76.1% female;  $n = 229$ ). All the participants were single, coming from intact families and currently being in a heterosexual romantic relationship. Participants filled in questionnaires on their perceptions of early interparental conflict, conflict in romantic relationship, attitudes toward marriage, and couple satisfaction. The results indicated that the total indirect effect of interparental conflict on offspring's couple satisfaction through conflict in romantic relationship and general attitudes toward marriage was significant ( $B = -.070$ , 95% CI  $[-.112, -.033]$ ,  $p < .001$ ). Using AMOS user-defined estimand, specific indirect effects through conflict in romantic relationship ( $B = -.036$ , 95% CI  $[-.066, -.010]$ ,  $p < .01$ ) and general attitudes toward marriage ( $B = -.034$ , 95% CI  $[-.064, -.014]$ ,  $p < .01$ ) were significant. Pairwise contrast of two specific indirect effects did not differ significantly ( $B = -.002$ , 95% CI  $[-.036, .032]$ ,  $p = .915$ ). Implications of all these findings for intervention and prevention efforts will be discussed and future research directions will be outlined.

## **pap102-12.6 Resolving intercultural parent-child conflict: the role of bicultural competence and identification**

Alison E. F. Benbow, Daniel Frings  
*FernUniversität in Hagen, Germany*

**Aims:** To consider the impact of bicultural competence and bicultural identification on attitudes towards parental responses to conflict arising from differences in cultural norms between parents and their adolescent children.

**Methods:** 104 bicultural African immigrants to the UK (61 males,  $M_{age} = 41.32$ ,  $SD = 11.68$ ,  $M_{years\ of\ residence} = 15.19$ ,  $SD = 9.53$ ) in London took part in a cross-sectional scenario study in which they answered questions about acculturation attitudes, bicultural competence (LaFromboise et al., 1993), and bicultural identity integration (Benet-Martinez & Haritatos, 2005) before considering a potentially conflict-laden scenario (a 17 year-old girl buying revealing clothes that she is planning to wear on a night out). Participants were then asked to assess the level of cultural offense caused by the behaviour and to rate how justified possible parental responses to this scenario (e.g. "Sit down and talk to her about the issue", "Beating her if she insists on wearing the clothes") would be.

**Results:** The scenario was deemed to be significantly more offensive for Ghanaians and challenging Ghanaian values than for British people and values. Participants also thought sitting and talking about the issue with the girl was significantly more justified than beating her. Nonetheless, bicultural competence increased support for the non-violent strategy and decreased support for the violent response. In both cases this effect was mediated by the level of bicultural identity conflict participants reported.

**Conclusions:** The study provides first insights into factors that may help to support appropriate parental responses to conflicts that arise from adolescents adhering to behaviours that are culturally appropriate to the environment they are living in, but not to the culture their parents stem from. A better understanding of these factors may be useful in providing support to acculturating families.

**pap102-13.1 Interpretation and validity of parental reports on their child's early temperament**

Jan-David Freund,

*Otto-Friedrich-Universität Bamberg, Germany*

Early temperament is an important predictor of various aspects of child development (Karrass&Braungart-Rieker.2004). Therefore (large scale panel) studies often include the assessment of temperament and rely on easy administrable parental reports of child temperament. However, critics doubt the validity of these reports since the correlation with laboratory based observational temperament assessment is often low (Kagan&Fox.2006). This critique seems at least partly unjustified as 1) the laboratory observations themselves are no flawless indicator of child temperament as they lack external validity compared to naturalistic observations (Parade&Leerkes.2008); 2) parental questionnaires were substantially improved over the last decades (Rothbart.2006); 3) much higher correlations were reported in studies that take moderator variables into account (Gartstein&Marmion.2008). Studies that consider these shortcomings are sparse and often draw on small and unrepresentative samples.

Therefore, we investigated the concordance of video codings of child temperament from a (1) naturalistic 5 minute toy-play situation with (2) items from the up to date but well-established revised version of the Infant Behavior Questionnaire (IBQ-R – Gartstein&Rothbart.2003) under (3) consideration of relevant moderator variables. We used data from the representatively drawn sample (N=2190) of the early childhood cohort of the German National Educational Panel Study (NEPS). Both measures showed only very low correlations even under control of the psychological well-being of the reporting parent and the gender of the child.

Our result support diverging conclusions: Parental reports might indeed be an unreliable source of information on child temperament at least with the used instrument. The naturalistic observation could have been too short or the chosen setup unsuitable. In a follow-up study on a local sample additional data was gathered to narrow down interpretations. First results strengthen the value of parental reports. The talk covers the original study and latest results from the follow-up.

**pap102-13.2 Assessing Self-Control in Youth with the ASEBA Self-Control Scale**

Yayouk Willems, Conor Dolan, Catharina van Beijsterveldt, Eveline de Zeeuw, Dorret Boomsma, Meike Bartels, Catrin Finkenauer

*Vrije Universiteit, Netherlands*

Converging evidence shows that self-control is important for the well-being of youth. Because children develop over time and in different contexts, it is important to have an instrument that reliably assesses self-control across different ages and informants. This study used a theoretically-derived set of items of the Achenbach System of Empirically Based Assessment (ASEBA) to develop a self-control scale (ASCS). Using a large dataset of over 20,000 children who take part in longitudinal studies of the Netherlands Twin Register, we demonstrated the psychometric performance of parent-, self- and teacher-report by examining internal, construct and criterion validity, and inter-rater and test-retest reliability. We found psychometric unidimensionality of the ASCS, stability of ASCS over time and agreement between parent-, teacher- and self-report. Also, we found associations between the ASCS and measures of well-being, educational achievement and substance use cross-sectionally as well as longitudinally. Together these results show that the ASCS is psychometrically sound to assess self-control during childhood and adolescence, providing a wide array of new opportunities for empirical research on self-control.

**pap102-13.3 Cross-Informant Assessment of Children's Sympathy: Disentangling Trait from State Agreement**

Antonio Zuffiano, Tyler Colasante, Marlis Buchmann, Tina Malti  
 Liverpool Hope University, United Kingdom

**AIM:** Understanding children's social-emotional development is at the core of developmental and clinical psychologists' research agenda. Methodologically, using data from several informants is important to obtain a comprehensive profile of children's social-emotional outcomes. However, the relative (dis)agreement of these sources remains unclear. We therefore investigated the extent to which caregivers and teachers converged in their evaluation of children's sympathy, an essential dimension of children's social-emotional development (Malti & Noam, 2016). Importantly, we aimed to distinguish between raters' convergence at the (a) trait-level, reflecting children's sympathetic tendencies versus the (b) state-level, reflecting the fluctuating nature of their sympathetic responses. We expected a higher degree of cross-informant convergence in children's stable, trait-levels of sympathy compared to their state-level fluctuations in sympathy at each time point.

**METHODS:** Caregivers' and teachers' evaluations of sympathy were collected for a representative sample of 1,273 Swiss children when they were 6 (T1), 9 (T2), and 12 years old (T3). From T1–T3, caregivers and teachers reported three informant- and time-invariant items from a well-validated sympathy scale (Zhou et al., 2003).

**RESULTS:** Using a single-trait multi-state model (Figure 1), we found that (a) caregivers rated their children as more sympathetic than teachers did at the latent trait-level ( $d = .58$ ) and (b) caregivers and teachers converged more in their evaluation of children's sympathy at the trait-level ( $r = .52, p < .001$ ) versus state-level ( $r_s = .12-.17, p_s = .001$ ). Further analyses indicated that boys received more discrepant evaluations of latent trait-level sympathy than girls (i.e., lower teacher than caregiver ratings;  $\beta = -.50, p < .001$ ).

**DISCUSSION:** These findings highlight the importance of considering the convergence of adults' ratings of children's social-emotional development at the dispositional, trait-level and situational, state-level. We elaborate on the practical implications of these findings for designing social-emotional screening tools across different informants and contexts (e.g., home versus school).

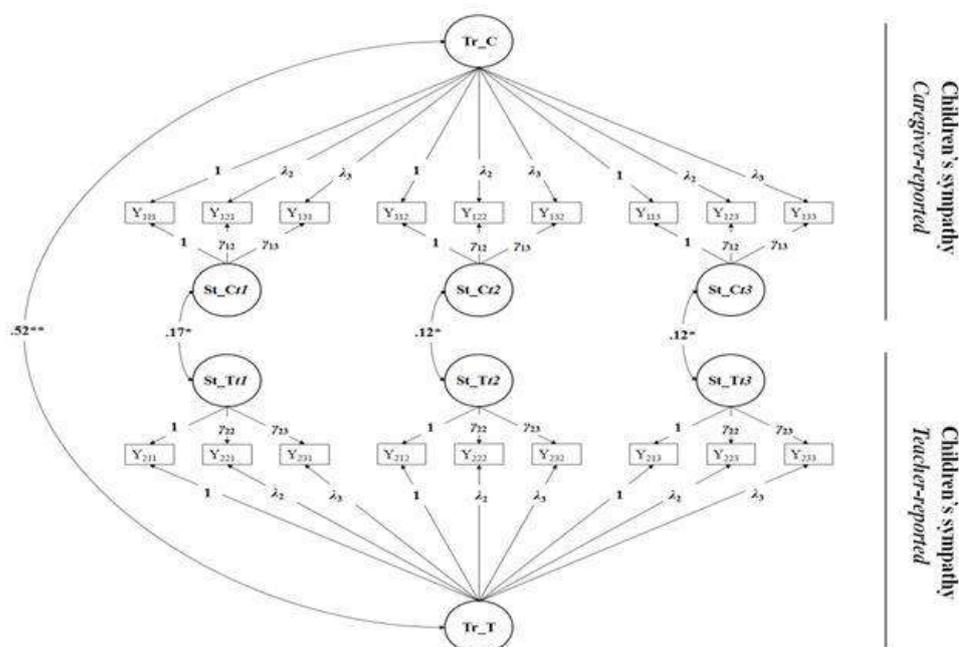


Figure 1. Single-trait multi-state model. Note. Tr = Trait sympathy; St = State sympathy; C = Caregiver-reported sympathy; T = Teacher-reported sympathy; Time 1 = t1; Time 2 = t2; Time 3 = t3. Factor loadings with the same label were constrained to equal

#### **pap102-13.4 Measuring clinical symptoms of callous-unemotional traits in the “troubled families” UK scheme**

Luna Centifanti

*University of Liverpool, United Kingdom*

The ‘Troubled Families Scheme’ is a UK government initiative aims to break a long-standing vicious cycle of disadvantage that sees one generation following the other getting entangled in criminal activities.

**Aim:** The present study evaluated the programme including a new measure of callous-unemotional traits (limited prosocial emotions).

**Method:** The 33 target children ranged in age from 5 to 18 years, with 13 being most represented; 71% were male. Clinical assessment of the target child was collected from both parent and child. The subscales of the clinical assessment include lack of remorse or guilt, callous-lack of empathy, unconcerned about performance, and shallow and deficient emotions. Each subscale contributed to a “diagnosis” of limited prosocial emotions as defined in the Diagnostic and Statistical Manual of Clinical Disorders (APA, 2013).

**Results:** Of the 33 target children, seven children (22%) met diagnostic criteria for limited prosocial emotions. We examined whether having a diagnosis of limited prosocial emotions would be associated with greater symptom severity or greater difficulties for parents to manage. Children with the diagnosis were more likely to have a risk assessment for violence, as coded in their chart records by the case workers. Parents also reported children with a diagnosis as being more difficult (on the Parenting Stress Inventory). Also, the diagnostic measure showed associations with psychopathy and callous-unemotional trait questionnaires.

**Conclusions:** These children with limited prosocial emotions may be violent and their violence may be enacted in pursuit of goal-attainment. They may need to be shown other ways to achieve their goals – other than by using violence or aggression. Also, parents recognize that these problems cause distress in their interaction with their child, and may need support to deal with the lack of guilt their children show when they are violent and callous and unemotional.

#### **pap102-13.5 Development as Process or as Reconstruction?**

Jan Boom

*Universiteit Utrecht/owp, Netherlands*

It will be shown, with a model that distinguishes between pattern and process, that many old theoretical and empirical problems in studying development can be solved.

Assume the inclination to use a certain way of responding rises with progression along the developmental scale, reaches its maximum, and then decreases. Focusing on strategy-use and group comparisons makes it possible to compare the multitude of stages along one and the same dimension. To model development properly we need both a time and a complexity level dimension in the model, without conflating them. The novel way to do this is to create a model with two separate dimensions underlying developmental change and one outcome dimension that represents the likelihood of responding.

Time refers to a process which implies changes for an entity. This is the chronological temporal dimension of development.

Complexity level refers to logical hierarchical dimension and requires a measurement scale and is related to learning in a more abstract sense. It concerns change that leads to more encompassing structures which incorporate the lower structure as (modified) substructure in a new higher structure. Learning in the sense that leads to generalizations. Development is a latent construct. This means we cannot see it directly, it is more than just change, it is more than just the concrete, it concerns more than just an individual, and it is more than just something determined by age. We can only define this dimension of increasing complexity by its markers. But we can still presume an underlying continuous dimension.

Use refers to the likelihood of responding in accordance with one of the complexity levels. This can be illustrated with the Overlapping Waves model introduced by Siegler (1996) as a metaphor to illustrate the typical pattern of a sequence of increasing and decreasing use of strategies during development.

**pap102-13.6 Technology contributing to child studies: Toddlers' manual dexterity using an electronic pegboard**

Kevin Van der Meulen, Cristina Del Barrio, Diego Rivera, José E. Ortega, Antonio García, Juan R. Velasco  
*Facultad de Psicología, Universidad Autónoma de Madrid, Spain*

Motor development has been extensively studied in infancy with a predominant focus on gross movement leading to locomotor autonomy around 11-14 months. However, other important motor improvements including fine-motor skills that involve object handling continue to occur during the early years of childhood. The basis for informing progress is usually motor scales. Nevertheless, scales very often only give “yes or no ability” results and do not go into the nature of the motor processes that are related to the observed performance. When taking into account process account, manual dexterity and hand preference can be identified more precisely, which is the aim of the present study. Correlations between hand dexterity at 5 years of age and writing skills at 6 have been found (Ortega et al., 2015) confirming previous data of a poorer fine-motor ability in dysgraphic children (Hamstra-Bletz & Blöte, 1993). A mayor focus on the process could help to identify a child's motor difficulties, especially with the help of new technologies that allow analysing several elements of the movement. A total of 30 toddlers (24 to 40 months old, gender-balanced) participated by playing with a pegboard-toy with incorporated sensors. This electronic pegboard enables measurement of individual placement times of 10 pegs, instead of one total movement time, which makes it possible to study intra-individual variability and behavioral stability. Although the obtained data are currently under analysis, preliminary results point to the hypothesized intra-individual variability when performance with the right and left hand is compared, indicating early hand preference. Moreover, various inter-individual differences in the quality of performance are apparent, including some linked to age. Implications for families' and educators' involvement in activities to prevent further and more severe difficulties are outlined.

## Symposium sessions 103, Wednesday August 30, 16:15 – 17:45 hrs.

isym103-1 An in memoriam symposium for Professor Çiğdem Kağıtçıbaşı

Ype H. Poortinga, Chair  
*Tilburg University, Netherlands*

On March 2nd of this year we got the sad message that Professor Çiğdem Kağıtçıbaşı passed away. She was a honorary member of our Society and winner of the Preyer award in 2007. Professor Kağıtçıbaşı prepared an invited symposium (click here for the abstract). The scientific committee of the 18th European Conference on Developmental Psychology decided to have this symposium presented in memory of Professor Kağıtçıbaşı. Her own introduction and presentation will be replaced by a brief memorial address by professor Ype Poortinga on professor Kağıtçıbaşı's scientific work and life. He will also act as the discussant at the end of the symposium.

Ype H. Poortinga is emeritus professor at Tilburg University in the Netherlands, and at the University of Leuven in Belgium. His most consistent interest has been in the conditions under which data obtained in different cultural populations can be meaningfully compared. He has also written on theoretical issues in cross-cultural psychology.

### isym103-1.1 Openness to diversity and well-being in Turkish urban adolescents: Moderating role of autonomous-relatedness

Derya Güngör  
*Yaşar University, Turkey*

Societies are more culturally diverse and cultural transmission is no longer homogenous today, especially in the urban areas of the Majority World. How do adolescents attain well-being as they are exposed to diverse values from their family, school, friends and media? Research on (emerging) adults who must deal with intercultural contact suggest that an attitude of openness to diversity (openness to meet with cultures and ideas other than one's own) is an asset in managing cultural differences. We examine whether openness to diversity benefits personal and relational well-being of urban adolescents whose cultural background values ingroup relatedness and conformity. We also test whether an autonomous-related self-construal enhances this benefit because it implies being able to make and act upon decisions beyond those exposed by one's ingroup while maintaining relatedness. We conducted a questionnaire study on high school adolescents (N = 790) in İzmir, a port city with the third largest population in Turkey. K-means cluster analysis revealed three distinct self-construal types based on autonomy and relatedness dimensions which largely tapped those suggested by Kağıtçıbaşı (2005): a predominantly related self (36%), a predominantly autonomous self (16%), and an autonomous-related self (48%). Relative to others, the latter category contained both a more balanced (means around mid-point of the scales) and a more mutually supportive (positively intercorrelated) combination of autonomy and relatedness. Regression analyses confirmed that openness to diversity increased both relational and personal well-being. Furthermore, openness to diversity was a stronger predictor of relational well-being of adolescents with an autonomous-related self, especially as compared with those with predominantly related self. Thus, how adolescents incorporate autonomy into their relational self is of relevance to how much benefit they obtain from a positive attitude towards differences, especially in making meaningful and satisfactory relationships in their rapidly changing social-cultural world.



*Professor Çiğdem Kağıtçıbaşı*





To find common ground between extreme versions of either relativistic or universalistic thinking about parenting, I forward a conceptual model detailing how culture can affect dynamics of autonomy-supportive parenting. In this model it is assumed that culture affects (a) the way how parental practices are appraised and (b) how adolescents respond to appraisals of parenting. One and the same parental practice (e.g. providing choice) can be perceived as more or less autonomy-supportive depending on adolescents' cultural background. Also, culture can have an effect on the way adolescents respond to perceived frustration of the need for autonomy (e.g., in terms of negotiation, submissive compliance, or reactance). Still, it is assumed that perceived satisfaction of the need for autonomy is beneficial to adolescents' well-being across cultures. To illustrate this conceptual model, data will be presented from two cross-cultural studies (one involving Belgian and Chinese adolescents, N = 657 and one involving South-Korean adolescents, N = 138). In both studies, participants were presented with vignettes of potentially autonomy-supportive parental practices and were asked to rate their perceptions and responses to these vignettes. Findings reveal both cross-cultural differences and similarities in adolescents' appraisals of potentially autonomy-supportive practices

## sym103-2 Intelligence is more than a single IQ-score: Science meets practice

Intelligence tests are widely used in education and psychological assessment. Based on the single IQ-scores resulting from these intelligence tests, important decisions are made. An IQ-score largely determines, for instance, whether or not an examinee is admissible to special education or mental health care and whether or not this examinee receives support from his or her insurance company. Because of their role in these and other decisions, IQ-scores can have a major impact on the academic and personal life of a child.

Despite their popularity, intelligence tests have been a source of controversy for decades. One reason for this controversy is that it's unclear whether intelligence tests measure what they claim to measure. Children with comparable intelligence can end up with different IQ-scores because of – for instance - a different ethnic-cultural background or (un)familiarity with standardized tests. Additionally, intelligence tests have been criticized to be of limited value for educational instruction. Furthermore, IQ-scores are often used in a too strict way; ignoring the uncertainty surrounding this measurement.

In this symposium, intelligence testing is discussed from the perspective of a psychometrician (presentation 1), a developmental psychologist and board member of the NIP and the European Federation of Psychologists' Associations (presentation 2) and researchers working in the field of intelligence (presentation 3 and 4). Specifically, the first presentation zooms in on confidence intervals as a possible solution for overconfidence in IQ-scores. The second presentation discusses dilemmas psychologists face when using (or considering) intelligence tests in practice. The last two presentations discuss the potential of dynamic testing as an alternative to the conventional static intelligence tests. The results of these dynamic tests can more readily be translated into educational instruction and have been shown to be especially suited for children who may potentially be subject to bias when undertaking conventional intelligence tests.

### sym103-2.1 Confidence intervals in intelligence tests: do's and don'ts

Kimberley Lek

*Utrecht University, Netherlands*

The IQ-score a child obtains at a certain moment in time depends on many factors, examples being the examinee's attention and motivation, influences of the test leader, mistakes in the calculation of the IQ-score, fatigue, et cetera. That is why this IQ-score should not be interpreted in a too strict way. One way to prevent an overly strict interpretation of IQ-scores is to take into account the confidence interval accompanying the IQ-score. But despite being a popular suggestion, there are few sources that clearly explain the interpretation of these confidence intervals, their merits and their limitations. Especially problematic is the fact that the manuals of the intelligence tests often provide very limited information about the construction and meaning of their confidence intervals. This might explain why none of the psychologists in our survey (End 2014) could interpret the confidence interval of the WISC-IIIINL – a popular Dutch intelligence test – in a correct way.

In this presentation, we explain that there are generally two types of confidence intervals reported by intelligence tests, which differ in their width and midpoint. We examine how each of these types can be interpreted and show how a psychologist can determine which of these types are being reported in the test manual. Merits and limitations of each of the types are discussed. We show that the two types of confidence intervals can only be used for individual examinees when two assumptions are met. Finally, we discuss some alternatives to the current types of confidence intervals when these strict assumptions are violated, including an alternative we have recently been working on.

### sym103-2.2 Intelligent testing of intelligence in practice

Helen Bakker

*Utrecht University, Netherlands*

Intelligence tests have traditionally been included in many, if not most assessment processes in children. Intelligent testing of intelligence requires thorough knowledge of the theoretical framework of the particular test, the psychometric qualities as well as insight in the various constructs included in the measurement. This should match the goal and context of the evaluation: what questions do we need to answer? What problem do

we need to solve? In practice, many of these aspects are ignored. Subtest scores are used where the aim of a test is measuring a general intelligence factor, measured IQ scores are interpreted as if they are precise and exact, etc. And maybe we should ask ourselves more often if an intelligence test is the best answer to the question at hand.

Also, sometimes external parties (schools for special education, insurance companies) set strict cut off scores for e.g. admission to special education or mental health care providers, or for the right to coverage of support by insurance. That often creates a dilemma: what if the measured IQ score falls just outside of the set standard, but part of the confidence interval is within the range of the required standard? Do you report the measured IQ? What do you do if the deciding committee asks to 'just highlight the measured IQ' in your report? And is it ethical to begin with to limit yourself to an intelligence test for questions regarding educational or mental health support needs? In this presentation, these and other dilemmas psychologists face when using (or considering) intelligence tests in practice are being discussed.

### **sym103-2.3 Dynamic testing in children with different ethnic-cultural backgrounds**

Wilma Resing

*Leiden University, Netherlands*

Dynamic testing originates from dissatisfaction with the use of conventional, static tests as measures of cognitive functioning and their limited value for educational instruction. Recently, dynamic testing procedures have been developed from the perspective that educational testing should be focused on learning at the moment it occurs. In dynamic testing, children are given feedback, enabling them to show individual differences in progress when solving tasks. In this study, utilising graduated prompts training designs was assumed to offer opportunities to get insight in how learning processes occur and vary within and between individuals, and groups of children with different ethnic-cultural backgrounds. Interfaces using concrete materials, combined new technology and based on cognitive task analyses, were assumed to have much potential in the setting of dynamic testing.

Key objective was to examine progression in outcome variables and strategy use within and between individuals, and groups of children with different ethnic-cultural backgrounds. We examined how a form of process-oriented dynamic testing, incorporating a series of graduated prompts and scaffolds, could provide insights into children's potential for learning. Second grade children (N=72) were given series completion tasks. The study employed a pretest-post-test control group design with two training sessions between pre- and post-test. Comparisons were made between findings from dynamic and static testing in the various cultural groups of children. In more detail, changes in individual solving- and learning strategies were analysed. Study outcomes showed that, as a consequence of training, children, independent from their cultural background, significantly outperformed controls on the series completion tasks. Significant individual differences were noted in terms of the children's response to assistance. While a significant proportion of the children after training employed strategies that had earlier been defined as optimal, a sizeable minority demonstrated more idiosyncratic approaches.

### **sym103-2.4 Dynamic testing and test anxiety amongst gifted and average-ability children**

Bart Vogelaar

*Leiden University, Netherlands*

Dynamic testing has been proposed as a testing approach that is less disadvantageous for children who may potentially be subject to bias when undertaking conventional assessments, such as intelligence tests. For example, children who encounter high levels of test anxiety, or who are unfamiliar with standardised test procedures may fail to demonstrate their cognitive potential or capabilities. While dynamic testing has proven particularly useful for special groups of children, it has rarely been used with gifted children.

In this study, it was investigated whether it would be useful to conduct a dynamic test to measure the cognitive abilities of intellectually gifted children. It was also investigated whether test anxiety scores would be related to progression in the children's test scores after dynamic training.

Participants were 113 children aged between 7 and 8 years from several

schools in the western part of the Netherlands. The children were categorised as either gifted or average-ability, and split into an unguided practice or a dynamic testing condition. The study employed a pre-test-training-post-test design. The dynamic test utilised in the present study consisted of geometric analogy items. Linear mixed modelling analysis with a multilevel approach was used to inspect the growth trajectories of children in the various conditions, and examine the impact of ability and test anxiety on progression and training benefits.

Dynamic testing proved to be successful in improving the scores of the children, although no differences in training benefits were found between gifted and average-ability children. Test anxiety was shown to influence the children's rate of change across all test sessions and their improvement in performance accuracy after dynamic training.

## sym103-3 The role of coparenting representations and practices in family relationships and child development

Hervé Tissot, Chair

*Faculty of Psychology and Educational Sciences, University of Geneva, Switzerland*

Coparenting can be defined as a set of practices through which two parents or two adults work as a team and support each other to raise and educate a child, as well as the representations guiding these practices. The quality of the coparenting relationship was shown to be a powerful predictor of different mental health outcomes in the child, as well as a potential risk or protective factor for the child and the family against internal or external stressors. The aim of this international symposium is to explore the role of the coparenting practices and representations in the construction of family relationships, as well as its influence on child development.

Five teams from will present the results of their most recent studies on this topic:

Tissot et al. will present longitudinal data showing that coparenting mediates the link between parental depressive symptoms measured at 3 months postpartum and child internalizing and externalizing symptoms assessed at 18 months.

The study by Repond et al. investigates how, in a sample of step families, different types of coparenting—cooperative, conflictual, or imbalanced—relate to parent-reported assessment of coparenting and child outcomes.

Galdiolo et al. will present data showing how coparental representations, assessed during coparental conversations, relates to coparental practices, observed during mother–father–child triadic interactions.

Grimas et al. will present the results of a longitudinal study showing how an adverse family context—difficult child temperament and maternal depression—at the beginning of the postpartum may trigger a higher coparental cooperation over time.

Finally, Frascarolo et al. will explore the longitudinal and reciprocal influence between the marital and the coparental relationships, assessed during moments of family play at 3, 9 and 18 months postpartum.

### sym103-3.1 Coparenting as a mediator between postpartum depression and infant symptomatology

Hervé Tissot, France Frascarolo, Nicolas Favez, Jean-Nicolas Despland

*Faculty of Psychology and Educational Sciences, University of Geneva, Switzerland*

**Aim.** Many studies have documented that maternal and paternal postpartum depressive symptoms have a negative impact on the family and the child. They specifically showed that parental depression is associated with more negative family relationships, which in turn might lead to various negative developmental outcomes in the child, including internalizing or externalizing symptoms. Although coparenting difficulties, such as low support or high conflict between the parents, have previously been linked with both child symptomatology and parental depression, their role as transmission mechanisms between parental depression and child symptoms have yet never been considered. In the present study, we propose to test the adjustment of a comprehensive mediation model linking parental depression, coparenting, and child symptoms.

**Methods.** At 3 months postpartum, a convenience sample of 69 parental couples completed the Edinburgh Postnatal Depression Scale. In addition, we assessed levels of coparenting support and conflict during a mother–father–infant play situation, the Lausanne Triogue Play. At 18 months postpartum, both parents assessed child symptoms with the Symptom Checklist Questionnaire.

**Results.** The results showed that coparenting support mediated the links between parental depressive symptoms and child symptoms, but only for mothers: Maternal depressive symptoms were linked with lower coparenting support, which in turn predicted increased psychofunctional symptoms and behavior problems assessed by mothers. Although coparenting conflict behaviors were not predicted by parents' depressive symptoms, higher conflict was unexpectedly linked with fewer behavior problems assessed by both parents.

**Conclusions.** The present study allowed us to unveil complex pathways between parental mood disturbances, family-level relationships, and child development in the first months of the child's life.

### **sym103-3.2 Observing coparenting in stepfamilies: a cluster analysis**

Gloria Repond, Joëlle Darwiche

*Institute of Psychology, Faculty of social and political sciences, University of Lausanne, Switzerland*

**Aim.** The number of stepfamilies has increased these last decades. Data show that stepfamilies function differently than traditional families regarding marital satisfaction or the frequency of child difficulties (Bray, 2005). However, there is an important lack of studies about coparenting in these stepfamilies. The aim of this study is to investigate how coparenting takes shape in stepfamilies based on observational data and its links with child's difficulties.

**Methods.** An observational task was conducted. Forty couples were asked to discuss during ten minutes about their coparental relationship: the first five minutes concerned a topic of agreement while the five last minutes were dedicated to a topic of disagreement. They also filled individual questionnaires on coparenting behaviors and child difficulties (SDQ). Based on the observational discussion, cluster analysis were completed. Additionally, for each cluster, we explored the association with the results from questionnaires about coparenting and child difficulties.

**Results.** Clusters' analyses led to the identification of three coparenting types: 1) conflictual 2) cooperative, and 3) imbalanced.

The first two coparenting types (conflictual and cooperative) are frequently observed in first marriage families. Conversely, the third type of coparenting (imbalanced) seems to be a specificity of stepfamilies. Interestingly, child difficulties were only associated with conflictual coparenting, while it was not the case for the cooperative and imbalanced types. Moreover, results from coparenting questionnaires were congruent with the coparenting observed in the discussion task.

**Conclusions.** This analysis provides a first typology of stepfamily coparenting and highlights multiple possibilities for creating "togetherness" and a sense of the family unit. It also underlines the fact that a cooperative coparenting is not the only way to insure a good child development.

### **sym103-3.3 Associations between coparental pronoun usage and the quality of early family interactions**

Sarah Galdiolo, Isabelle Roskam, Lesley Liliane Verhofstadt, Jan De Mol, Laura Dewinne, Sylvain Vandaudenard  
*Psychological Sciences Research Institute, Catholic University of Leuven, Belgium*

**Aim:** Our study examined the relationships of relational pronouns used in coparental conversation to the quality of early family interactions, as indexed by Family Alliance (FA). We hypothesized that more positive family interactions were associated with the use of more we-pronouns (e.g., we, us, our; we-ness) and fewer I- and you-pronouns (e.g., I, me, you, your; separateness) by both mothers and fathers.

**Methods:** Our statistical model using a multilevel modeling framework and two levels of analysis (i.e., a couple level and an individual level) was tested on 47 non-referred families (n = 31 primiparous families; child's age, M = 15.75 months, SD = 2.73) with we-ness and separateness as outcomes and FA functions as between-dyads variables.

**Results:** Analyses revealed that we-ness within the parental couple was only positively associated with family affect sharing while separateness was negatively associated with different FA functions (e.g., communication mistakes).

**Conclusion:** Our main finding suggested that the kinds of coparental personal pronouns when discussing children's education would be associated to the emotional quality of the family interactions.

### **sym103-3.4 Development of the coparenting relationship: Relative contributions of child and parental psychopathology**

Ellen Grimas, Marina Fàbrega, Christine O'Farrelly, Alan Stein, Lynne Murray, Judi Mesman, Sheila van Berkel, Paul Ramchandani

*Centre for Psychiatry, Imperial College London, United Kingdom*

**Aim.** The relationship between parents with regard to raising their child (coparenting) is a risk factor for later psychopathology in children and poor outcomes in parents. Research has suggested this relationship is multi-

directional, yet less is known about the relative contributions of parental and child psychopathology to the development of the coparenting relationship. The aim of the study was to examine the relative contributions of child temperament and parental depression to the quality of the coparenting relationship during the first two years of life.

**Methods.** 192 families were assessed when their child was 3 and 24 months old. Child temperament and parental mental health were assessed at 3 months by self-report. The coparenting relationship was assessed at 24 months using an observational measure of coparenting behaviour.

**Results.** Complete data were available for 117 families. Hierarchical logistic regression analyses showed that higher maternal depressive symptoms at three months was associated with higher maternal cooperation at two years ( $\beta = .194, p = .032$ ). More difficult infant temperament at three months was associated with increased paternal cooperation at two years ( $\beta = .191, p = .050$ ).

**Conclusions.** These findings offer an interesting insight into the development of the coparenting relationship over time. Contrary to our hypotheses, these findings suggest that parents who face early difficulties when their child is very young, may adapt their coparenting over time to compensate for this. This could lead to increased cooperation when they interact with their child at a family level. That effects differ between parents emphasises both the importance of involving both mothers and fathers in parenting research, as well as the unique role each parent plays within the family system.

### **sym103-3.5 Coparenting and marital relationships in the first two years**

France Francarolo, Noémie Lapalus, Nicolas Favez

*Center for family Study, University Institute of Psychotherapy, Lausanne University Hospital; University of Lausanne, Switzerland*

**Aim.** The aim of this research is to study the articulation between coparenting and marital relationships, in particular the link between these two variables at 3, 9 and 18 months to assess the predictability of one variable by the other.

**Methods.** Sixty-seven volunteer families with at least one child have been seen longitudinally when the target child was 3, 9 and 18 month old. Coparental and marital interactions were observed and assessed in the PicNic Game situation (PNG) which is a pretend play of having a picnic including all family members. We assessed the reciprocal links between the variables by testing a saturated model including covariances between the two variables at each age and regression weights modelling the longitudinal influences between the variables.

**Results.** Results indicate strong links between coparenting and marital relationships at each age. Results also show that coparenting at 18month is predicted by coparenting at 3 and 9 month, which is not the case for marital relationships.

**Conclusions.** Our results will be discussed in developmental and clinical perspectives, in terms of articulation between these two dimensions of the couple inside the family.

Sander Thomaes, Discussant  
*Utrecht University, Netherlands*

Many studies have found associations between self-esteem and psychopathology (see for example Zeigler-Hill, 2011). Low self-esteem is often interpreted as a risk factor of developing psychopathology (i.e., vulnerability model), but low self-esteem may also be a consequence of psychopathology (i.e., scar model). More recently, attention has been drawn towards the distinction between secure and fragile forms of self-views. Fragility markers can - for example - be self-esteem contingency, self-esteem instability, and/or narcissism. In the current symposium, several questions with regard to the association between self-views and problem behaviors (i.e., aggression, bullying, victimization, depression, and anxiety) will be addressed in children and adolescents. In the first presentation, longitudinal associations between self-esteem, narcissism, and aggressive behavior will be discussed in which both vulnerability and scar associations will be examined (Verhulp et al., 2017). In the second presentation, findings will be presented on the association between self-esteem and bullying/victimization, in which these problem behaviors seem to result in “scars” in children’s self-esteem (Camodeca & Coppola, 2017). In the third and fourth presentation, results will be presented on fragile forms of self-views. In the third presentation, associations between self-esteem contingency, narcissism, and depression/anxiety will be reported (Wouters et al., 2017). In the fourth presentation, self-esteem instability and narcissism will be discussed in association with aggressive behavior (Hiemstra et al., 2017). Finally, the results of the four studies will be discussed with regard to their contribution to the literature and/or clinical practice.

#### **sym103-4.1 Longitudinal associations between self-esteem, narcissism and aggressive behavior in a clinical sample**

Esmée Verhulp, Wieteke Hiemstra, Sander Thomaes, Bram Orobio de Castro  
*Utrecht University, Netherlands*

**Aim:** In the past years considerable debate has emerged on the associations between self-esteem, narcissism and aggressive behavior. Low self-esteem has long been thought to be related to aggressive behavior, but more recently narcissism also has been identified as an important risk factor for aggressive behavior. In the current study, we aimed to examine the longitudinal associations of self-esteem and narcissism with aggressive behavior in a clinical sample. Also, mean levels of self-esteem and narcissism were compared between children in a clinical sample and children in a normal sample.

**Methods:** Samples of two clinical studies were used to compare means of self-esteem and narcissism to means of children in a normal sample (Brummelman et al., 2015). Children in both clinical samples were recruited in special education, where children were referred to due to their behavioral problems and/or psychiatric disorders. In Study 1, the sample consisted of 74 children (mean age= 11.59, SD= 1.15) and the sample of Study 2 consisted of 96 children at the first wave (mean age= 10.63, SD= 0.83). The sample of Study 2 was also used to examine the longitudinal associations between self-esteem, narcissism and aggressive behavior.

**Results:** Children in the clinical samples were found to score significantly higher with regard to narcissism (mean difference<sub>study1</sub> = 0.33,  $p < .001$ ; mean difference<sub>study2</sub> = 0.34,  $p < .001$ ), but did not differ with regard to the level of self-esteem compared to children in a normal sample (mean difference<sub>study1</sub> = 0.04,  $p = .587$ ; mean difference<sub>study2</sub> = 0.02,  $p = .743$ ). Furthermore results will be presented on the longitudinal associations between self-esteem, narcissism and aggressive behavior in a clinical sample of children.

**Conclusions:** Consistent with theories suggesting that narcissism is associated with aggressive behavior, children in special education scored significantly higher on narcissism than children in a normal sample. No differences were found with regard to self-esteem.

#### **sym103-4.2 Bullying roles and somatic complaints: the role of alexithymia and self-esteem**

Marina Camodeca, Gabrielle Coppola  
*University of Milano Bicocca, Italy*

**Aim:** The aim of the present work was to study the relationship between bullying roles, alexithymia, self-esteem, and somatic complaints. In particular, we were interested in the associations between different bullying roles and alexithymia, which have scarcely been investigated. Besides, although literature showed that somatic complaints are predicted by impaired emotional functioning, low self-esteem, and negative social relationships, the intertwinement between these factors has not been evaluated so far in preadolescence.

**Methods:** Participants were 178 preadolescents (88 boys and 90 girls; mean age = 12.39, range: 11-14). Somatic complaints, bullying roles, alexithymia, and physical self-esteem were assessed through self-report questionnaires.

**Results:** Results showed that bullying and victimization were correlated with alexithymia ( $r = .24$  and  $r = .23$ ,  $p$ 's  $< .01$ ) and with low self-esteem ( $r = -.22$ ,  $p < .01$  and  $r = -.34$ ,  $p < .001$ ). Also outsider and defending behaviours were associated with self-esteem ( $r = -.30$ ,  $p < .001$  and  $r = .21$ ,  $p < .01$ ). Victimization (Beta = .13;  $p < .05$ ), alexithymia (Beta = .34;  $p < .001$ ), and low self-esteem (Beta = -.35;  $p < .001$ ), were directly associated with somatic complaints. Furthermore, bullying and victimization were also indirectly linked to somatic complaints through alexithymia and self-esteem, whereas self-esteem mediated the link between outsider behaviour and somatic complaints.

**Conclusions:** We conclude that problematic social relationships, such as those deriving from bullying and victimization, affect personal well-being, contribute to damage one's own self-image, and weaken the capacity to manage emotions. In turn, difficulties in recognizing and evaluating emotions and low self-esteem account for internalizing problems, such as somatization. Results are discussed on the basis of their relevance for theoretical and applied implications.

#### **sym103-4.3 The Role of Narcissism in the Relation between Self-esteem and Psychopathology**

Sofie Wouters, Hilde Colpin, Koen Luyckx, Karine Verschueren  
*KU Leuven, Belgium*

**Aim:** Low self-esteem (SE) level has been established as a risk factor for adolescent psychopathology in general and for depression and anxiety in particular (e.g., Orth, Robins, Trzesniewski, Maes, & Schmitt, 2009). Recently, researchers have argued that other aspects besides level of SE may also increase risk for psychopathology. One of these aspects is SE contingency which refers to the degree to which one's SE depends on meeting particular standards and has been clearly distinguished from SE level (e.g., Meier, Orth, Denissen, & Kühnel, 2011). Previous research has shown that SE contingency is also positively related to psychopathology, but little is known about whether and under which conditions this effect is unique, above and beyond SE level (e.g., Burwell & Shirk, 2006; Wouters et al., 2013). In the present study, we therefore aim to extend previous research by examining the unique longitudinal relations of these two SE dimensions with depressive and anxiety symptoms. Furthermore, we investigate how narcissism and both SE dimensions predict internalizing symptoms, both uniquely and combined. Narcissistic individuals feel superior and tend to use several intra- or interpersonal strategies to maintain their inflated self-esteem (Klimstra, Sijtsema, Henrichs, & Cima, 2014).

**Methods:** Hypotheses will be tested in a large sample of Flemish adolescents using two-wave longitudinal data with an interval of approximately one year. Adolescents reported on depressive and anxiety symptoms, global SE level and contingency, and narcissism.

**Results:** Results from cross-lagged path models will be presented during the symposium. Preliminary regression analyses using Wave 1 data (N=1,958) did suggest unique positive relations of SE contingency with anxiety, but not depressive symptoms. Significant interaction effects were only found for anxiety.

**Conclusions:** The current study will offer important insights into unique risk factors of adolescent psychopathology.

#### **sym103-4.4 Relations between narcissism, self-esteem and aggression in a clinical sample.**

Wieteke Hiemstra, Esmée Verhulp, Sander Thomaes, Bram Orobio de Castro  
*Utrecht University, Netherlands*

**Aim:** Does an aggressive child act out against others by means of coping with feeling bad about oneself? Or does he behave this way because he feels threatened in own grandiose self-views? Until now, most research into the links between self-views and aggression has focused on normative samples. A lack of knowledge on the self-views of clinically referred children exists, while this is the group that needs intervention most. That is why we systematically researched the link between self-views and aggression in aggressive boys by doing two separate studies.

**Methods:** All boys that participated were referred to special education because of behavioral problems. Most of the boys were already diagnosed with one or more behavioral disorders by professionals (e.g. ODD, ADHD, ASD). In Study 1, 85 boys (Mage = 10 years 8 months) participated. Relations between narcissism, self-esteem and aggression were analyzed. We used self-reports for the self-views and aggression, but also looked at parent reported aggression. In Study 2, 73 boys (Mage = 11 years 7 months) participated. We used the same questionnaires compared to study 1, but we added stability of self-esteem as a variable. Besides that, instead of using parents as informants, we used teacher reports of aggression.

**Results:** Regression analyses were done to look at the predictive value of self-views in aggression, with a possible moderating role for self-esteem level and stability in the relation between narcissism and aggression. As an addition, we also did explorative analyses to see whether there are differences in these links between children with and without ASD. Since we are still finalizing the analyses, the exact results will be presented later.

**Conclusions:** We will discuss the results and will reflect on their use in daily clinical practice.

## sym103-5 Risk factors and consequences of adolescent loneliness

Gerine Lodder, Discussant  
*University of Groningen, Netherlands*

Loneliness is the unpleasant feeling that occurs when people perceive their network of social relationships to be deficient in a quantitative or qualitative way. Previous research showed that loneliness peaks during adolescence (Qualter et al., 2015) and that lonely adolescents experience more psychological problems, including depression and anxiety, and more physical problems, such as poorer general health and sleep quality (Hawkley & Capitanio, 2015; Heinrich & Gullone, 2006). In the present symposium, we aim to shed light on risk factors and consequences of adolescent loneliness by presenting studies that cover early to late adolescence, from several countries, using state-of-the-art methodologies.

An important risk factor for loneliness is having hearing impairments, as this condition seriously impacts one's ability to communicate with others and can disrupt interpersonal relations (Cacioppo et al., 2015). The first contribution examines this hypothesis by focusing on Italian adolescents with cochlear implants and their typically developing peers.

Adolescents who experience loneliness have also been found to experience higher levels of social anxiety and depressive symptoms. However, the developmental order between those internalizing problems is not yet clear. The second contribution uses a state-of-the-art meta-analytic technique to examine the longitudinal associations between adolescent loneliness and social anxiety across studies. The third contribution extends this focus on loneliness and social anxiety by also including adolescents' reports on depressive symptoms. Using cross-lagged panel analysis, the developmental order is examined among these three internalizing problems in a sample of Belgian adolescents.

Lastly, the literature on health outcomes of loneliness is increasing, showing, for example, that lonely adults are at risk of premature mortality. However, research examining these consequences of loneliness in adolescents is rather scarce. The fourth contribution fills this gap by examining prolonged loneliness and health outcomes, including sleep problems and obesity, in Canadian early adolescents.

### sym103-5.1 Loneliness, emotional autonomy, and self-concept in adolescents with cochlear implants

Marinella Majorano, Marika Morelli, Marlies Maes, Letizia Guerzoni, Alessandra Murri, Domenico Cuda  
*University of Verona, Italy*

A significant number of studies demonstrated that children with severe to profound deafness are at risk of producing delays in terms of communication, cognitive and social-emotional adjustment, which can be also associated to psychological suffering and loneliness. The use of a cochlear implant (CI) can be an additional obstacle for personal acceptance, especially during adolescence. Nonetheless contrasting results emerged about the impact of the CI in the adolescent's life quality, especially as regards physical well-being and psychological satisfaction. The aim of the present study is to assess self-esteem, emotional autonomy, and loneliness in adolescents with CIs, focusing on the role of individual (age at CI activation) and contextual variables (quality of hospitalization experience). The participants were 29 adolescents with CIs (CI group) and 29 typically developing peers (TD group) aged between 12 to 20 years individually matched for age, gender and socio-economic status. The Italian versions of the Emotional Autonomy Scale (Steinberg & Silverberg, 1986), the Loneliness and Aloneness Scale for Children and Adolescents (Marcoen, Goossens, & Caes, 1987), and the Multidimensional Self-Esteem Test (Bracken, 2003) were administered to each participant. Data analyses showed that adolescents with CIs displayed significantly higher loneliness and lower aversion to aloneness compared to participants in the TD group. Analyses also displayed that individuals who received the CI during preschool period displayed higher body self-esteem than adolescents who received the CI after six years of age, and parent's support is related to positive emotional experience at the hospital. Results showed that socio-emotional well-being of adolescents with CIs is affected both by individual and contextual variables.

### **sym103-5.2 Adolescent loneliness and social anxiety: A meta-analysis of cross-sectional and longitudinal associations**

Marlies Maes, Sofie Danneel, Janne Vanhalst, Wim Van den Noortgate, Luc Goossens, Stefanie Nelemans  
*KU Leuven, Belgium*

Across adolescence, an increase has been found in the prevalence of loneliness (Qualter et al., 2015) and social anxiety (Nelemans et al., 2014). Both phenomena detrimentally affect youth well-being and are related to one another. A positive cross-sectional association between the two has been found, but estimates vary considerably (ranging from .10 to .72). A meta-analysis can give insight in the (mean) association between these two constructs across studies. In addition, a meta-analysis of longitudinal studies can give information about the direction of effects, revealing a potential developmental order between the two constructs. Moderator analyses can be conducted to examine whether associations vary according to study and sample characteristics.

A systematic literature search resulted in 95 eligible studies published between 1981 and 2016. Because several of these studies reported on multiple effect sizes, we will use multilevel meta-analysis to account for the resulting dependency in the data (Van den Noortgate et al., 2013). Furthermore, to examine longitudinal associations between loneliness and social anxiety, a novel meta-analytic technique is used that is based on a cross-lagged regression approach, which controls for the stability of the variables as well as their concurrent associations (Sowislo & Orth, 2013).

Initial results (based on 116 effect sizes) showed a moderate mean cross-sectional correlation between loneliness and social anxiety of  $r = .45$ . In the longitudinal analyses (based on 6 studies; authors of six additional studies have been contacted for missing information), we found a mean standardized cross-lagged effect of loneliness on social anxiety of  $\beta = .08$  and of social anxiety on loneliness of  $\beta = .11$ . Implications for our understanding of the developmental interplay between loneliness and social anxiety across adolescence are discussed.

### **sym103-5.3 Developmental interplay among loneliness, social anxiety, and depressive symptoms in adolescence**

Sofie Danneel, Stefanie Nelemans, Patricia Bijttebier, Stephan Claes, Hilde Colpin, Wim van den Noortgate, Karla van Leeuwen, Karine Verschueren, Luc Goossens  
*KU Leuven, Belgium*

Loneliness is positively associated with social anxiety (Mahon et al., 2006) and depressive symptoms in adolescence (Nolen-Hoeksema & Ahrens, 2002). Despite the clear distinctiveness of loneliness, social anxiety, and depressive symptoms, high comorbidity rates are found among these internalizing problem behaviors (Zahn-Waxler et al., 2000). In addition, previous research has found that loneliness and depressive mood reciprocally influence each other during adolescence (Vanhalst et al., 2012) and that clinical depression is much more likely to emerge if loneliness develops concurrently with other types of internalizing problems (Heinrich & Gullone, 2006). However, until now, a study that investigates the developmental interplay among loneliness, social anxiety, and depressive symptoms over time in adolescence is non-existent. Therefore, the present study aimed to fill this gap in the literature.

The sample consisted of adolescents who attended Grade 7 in secondary schools in Flanders, the Dutch-speaking part of Belgium, and who took part in a four-wave longitudinal study with annual measurement waves. A total of 399 adolescents (44.1% girls), with a mean age of 12.89 years ( $SD = .49$ ) took part at T1. Adolescents filled out self-report questionnaires during regular school hours. A cross-lagged panel analysis was conducted using Mplus Version 7.31.

Results indicated that the final, fully constrained, model (see Figure 1) showed a good fit to the data ( $CFI = .95$ ;  $RMSEA = .06$ ;  $SRMR = .08$ ) and that earlier social anxiety was a significant positive predictor of future loneliness ( $B = .13$ ,  $p < .001$ ) and depressive symptoms ( $B = .10$ ,  $p < .001$ ), but not vice versa. Loneliness and depressive symptoms did not predict each other over time.

These results suggest that social anxiety is a possible risk factor for loneliness and depressive symptoms and it is therefore recommended to include social anxiety when studying loneliness and depressive symptoms in adolescence.

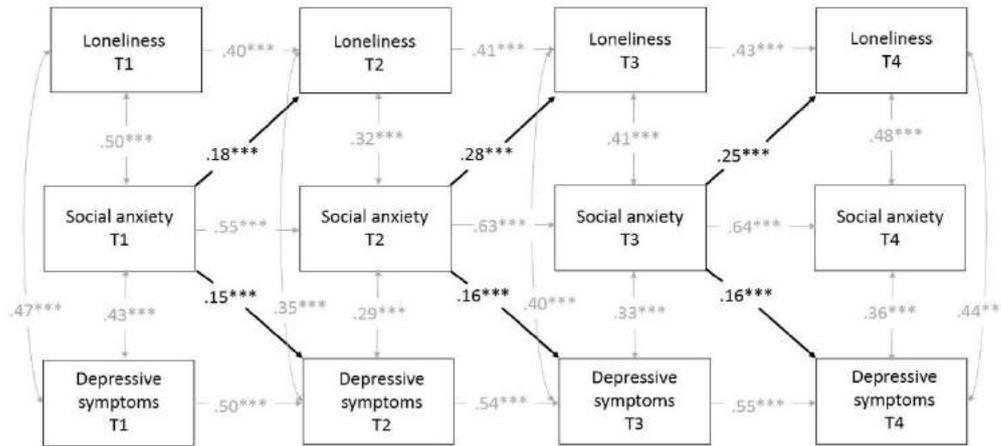


Figure 1.

Final cross-lagged model with standardized path coefficients. Only significant estimates are provided. Cross-lagged paths are depicted in bold. \*\*\*p < .001.

#### sym103-5.4 Prolonged loneliness during early adolescence and health correlates: A longitudinal study

Alice Eccles, Ruth Hurley, Pamela Qualter, Michel Boivin, Richard Tremblay  
University of Central Lancashire, United Kingdom

**Aim:** Adults who feel unhappy about the quality and/or quantity of their social relationships (i.e., who are lonely) are at increased risk of premature mortality (Holt-Lunstad, Smith, Baker, et al., 2015). In addition, the health effects of loneliness have been found to be comparable to well established risk factors, including physical activity and obesity (Holt-Lunstad, Smith, Layton, 2010). Compared with our understanding of loneliness as a risk factor for poor health outcomes in adults, we know little about the implications of loneliness for health problems in childhood and adolescence. In the current study with adolescence we examine the prospective associations between prolonged loneliness and health outcomes, including sleep problems and obesity/underweight.

**Methods:** The current study uses data from the on-going Québec Longitudinal Study of Child Development (QLSCD), and examines loneliness, sleep behaviour, general health, infections, antibiotic use, visits to health professions, and weight related data collected when the children were aged 10, 12 and 13 years.

**Results:** Results showed that children who followed a pattern of high stable loneliness were at increased odds of reporting poor general health, visiting health professions, and using antibiotics more frequently. Analyses of sleep data showed reciprocal relationships between loneliness and indexes of poor sleep over time. The prospective relationships between weight and loneliness were also shown to be reciprocal, but also quadratic; gender was also found to be an important moderator.

**Conclusions:** Findings from the current study support research with adults showing that loneliness is associated with health outcomes. Results support the need for interventions to help adolescents who report prolonged loneliness, with the aim of reducing its negative impact on physical health.

## sym103-6 Early identification of divergences in adaptive processes in preterm born children

Preterm born children (< 37 weeks gestation) are known for an increased risk for developmental problems that underlie difficulties in motor functioning, communication, academic performance and social relationships (De Jong et al., 2012; Aarnoudse-Moens et al., 2009). Early identification of such problems is important in order to design and implement intervention strategies that might reduce further impact and increase adaptive processes. Longitudinal studies and comparisons with outcome of term born children can show which mechanisms in development are involved.

In this symposium several studies are presented that inform on different samples of preterm born children: an Italian sample that observed mother-infant interaction and communication skills at 12 months and examined developmental outcome with the Bayley-III at 24 months in children born < 28 weeks gestation and a term comparison group; a Dutch sample of preterm born children (< 37 weeks gestation) was examined with the A-not-B task at 7, 10, and 14 months in relation to their executive functioning at 3 years of age; a Dutch sample of moderately preterm (32-36 weeks gestation) and term born children examined with the UTATE eye tracking tasks for attention capacities at 18 months and the Bayley-III-NL at 24 months, is now evaluated with the WPPSI-III and tasks of attention capacities at 6 years; a Dutch sample of preterm born children (< 30 weeks gestation) was examined at 5 and 6 years with the WPPSI-III and an assessment of motor capacities in relation to the interventions they received; and lastly in a German and a Dutch sample (born < 32 weeks gestation) quality of life in adulthood was evaluated.

An integrated view will arise from these studies showing how developmental processes in communication, attention capacities, executive functioning, motor development and self-regulation, might explain the emergence of problems in adaptive functioning in preterm born children.

### sym103-6.1 Attention skills of moderately preterm toddlers and cognitive outcome at 6 years

Lilly Bogičević, Anneloes L. van Baar, Anneloes L. van Baar, Marjanneke de Jong, Marjolein Verhoeven  
*CAS Child and Adolescent Studies, Utrecht University, Netherlands*

**Aim:** Of all preterm children, 80% is born moderately preterm (MP; 32-37 weeks gestation). Many MP children have difficulties in attention, which may also affect the development of other skills. Differences in attention skills between moderately preterm and term born children were first evaluated at toddler age and will be evaluated at school age. Attention skills at toddler age might also be predictive of later cognitive problems.  
**Study Design:** Initially 123 MP children and 101 full term (FT) children participated, of which 21 MP and 14 FT children dropped out until now. School age data has now been collected for 90 MP and 53 FT children and data completion is expected by May 2017 for an additional 12 MP and 34 FT children.

The Utrecht Tasks of Attention in Toddlers Using Eye Tracking (UTATE) were done at 18 months and cognitive functioning was measured with the Bayley-III-NL at 24 months of age corrected for prematurity. Cognitive skills are now measured at 6 years as well, with several attention tasks and the WPPSI-III-NL. Regression analyses were performed and MANCOVAs were used to test group differences on attention skills at 18 months.

**Preliminary results:** Orienting attention at 18 months directly predicted cognitive functioning at 24 months ( $p < .05$ ). In addition differences in orienting and alerting attention skills between MP and FT children ( $p < .05$ ) were found.

**Conclusion:** MP children showed less optimal attention skills than FT children at 18 months. Attention skills at 18 months were predictive of cognitive outcome at 24 months. Whether attention skills at toddler age are predictive of attention and cognitive skills at school age, as well as group differences in attention skills at school age between MP and FT children is currently being studied.

## sym103-6.2 Maternal responses and communication development in extremely preterm infants

Alessandra Sansavini, Erika Benassi, Annalisa Guarini, Silvia Savini, Maria Cristina Caselli, Jana Iverson  
*Department of Psychology, University of Bologna, Italy*

**Aim:** Preterm infants are at risk for language impairment, especially those with an extremely low gestational age (ELGA, GA < 28 weeks). Assuming that infant and maternal behaviors are mutually influential, the present study aimed at examining maternal responses to infant's spontaneous communicative behaviors in ELGA infants compared to full-term (FT) infants at 12 months, focusing on maternal contingent relevant responses and their relationships with infant's communication behaviors and skills at 12 and 24 months.

**Method:** A sample of 40 infants (20 ELGA compared to 20 FT infants) was recruited at 12 months (corrected age for ELGA infants). Maternal responses to infant spontaneous communicative behaviors during 30 minutes of play interaction were coded in function of their contingency (contingent vs non-contingent responses), and grade of relevance (non relevant, relevant no label, relevant with label, relevant with repeated label). Infant spontaneous communicative behaviors were coded as gestures (requesting/reaching, showing, pointing, giving, conventional, representational) and vocal productions (vocalization, babbling and words); infant communication skills were evaluated with the Bayley Scales (BSID-III) at 12 and 24 months.

**Results:** Despite ELGA infants showed less advanced gestural abilities with respect to FT infants at 12 months (Table), the mothers of ELGA infants produced high percentages of contingent and relevant responses as the mothers of their FT peers. Maternal relevant responses with repeated label were strictly related to infant gestures (pointing and giving) ( $r = .50, p < .03$ ) and receptive skills ( $r = .60, p < .01$ ) in the ELGA sample at 12 months and showed a predictive value on infant expressive skills at 24 months (Adjusted  $R^2 = 0.12, p < .02$ )

**Conclusions:** Our findings suggest that maternal responses with repeated label following infants' spontaneous communicative behaviors may serve as a mechanism for supporting gestural and language development in ELGA infants.

		ELGA (n = 20)	FT (n = 20)	Mann-Whitney		
		M	M	U	p	R
Gestures	Requesting/Reaching and Showing	7.78	3.88	125	<b>.042</b>	.32
	Pointing and Giving	2.39	4.49	97	<b>.005</b>	.44
	Conventional and Representational	0.80	2.71	135.5	.078	.28
Vocal utterances	Non-word vocal utterances	17.09	21.38	175.5	.507	.10
	Words	.99	1.10	138	.076	.28

*Table1: Infant's spontaneous gestures and vocal utterances (rates per 10 minutes) at 12 months (Mann-Whitney test).*

## sym103-6.3 Individual differences in executive function in preterm children: Infancy to preschool age

Hanna Mulder, Eva van der Weijer-Bergsma, Sanne B. Geeraerts, Sanne H. G. van der Ven, Lex Wijnroks, Marian J. Jongmans  
*Department of Pedagogical and Educational Sciences, Utrecht University, Netherlands*

**Aim:** Executive function (EF), as assessed at preschool age and beyond, is an important predictor of a range of developmental outcomes. These findings have sparked increasing interest in the early precursors to EF development (Hendry et al., 2016). The A-not-B task is one of the few tasks currently available for the assessment of infant EF, but recent studies indicate that individual differences in A-not-B performance do not show significant longitudinal stability during the second year of life (Johansson et al., 2015a; Miller & Marcovitch, 2015; Wiebe et al., 2010). However, this phase is such a strong period of reorganization that it may be challenging to reliably assess and predict individual differences (Johansson et al., 2015b; Wiebe et al., 2010), and it is still unclear whether A-not-B performance at younger ages is predictive of later EF. Similar age-related

discontinuities in the prediction of cognition from infancy to toddler and preschool age have previously been observed (Johansson et al., 2015b; Rose et al., 2009). Therefore, in this longitudinal study, we examine whether repeated assessments of A-not-B performance in preterm infants predict EF at three years.

Methods: N=56 preterm infants (GA <37 weeks, M=30.5w; SD=2.2) were given the A-not-B task at 7, 10, and 14 months, and an EF battery at three years (reverse categorization, visual search, card sorting, delayed alternation, bear/dragon, and snack delay).

Results and Conclusion: Preliminary analyses show that A-not-B performance at 10, but not 7 and 14 months, predicts an EF composite at three years. Further analyses will study infant A-not-B performance in relation to EF as a latent factor to investigate at what age A-not-B performance is (most) predictive of later EF. The clinical and theoretical importance of improving our understanding of the ages at which valid antecedents of EF can be identified in infancy will be discussed.

### **sym103-6.4 Development, interventions, and educational support in very preterm born children at preschool-age**

Sarit van Veen, Cornelië S. H. Aarnoudse-Moens, Jaap Oosterlaan, Loekie van Sonderen, Timo R. de Haan, Anton H. van Kaam, Aleid G. van Wassenae-Leemhuis

*Department of Neonatology & Psychosocial Department, Emma Children's Hospital, Academic Medical Center, Netherlands*

Aim: To chart the motor and cognitive outcomes, and the use of support of health care interventions and educational provisions, in very preterm (VP) children at ages five and six years, and to explore changes in developmental outcomes of VP children who received support, in comparison with VP children who did not receive support.

Methods: Single-center consecutive cohort study. Five-year-old children (GA <30 weeks and/or BW <1000 grams) of a one-year-cohort of our neonatal follow-up program (N=90), were invited to return for similar assessments at age six years. Outcome measures were motor function (Movement Assessment Battery for Children-2 [M-ABC-2]), and IQ (Wechsler Preschool and Primary Scale for Intelligence [WPPSI-III-NL]), and the use of health care interventions and educational provisions. Motor and cognitive disabilities were identified by scores below -1SD below the test mean. Test scores were corrected for prematurity.

Results: Data were complete for 64 VP children. M-ABC-2 scores significantly improved between age 5 and 6 years (mean score 8.7 [SD=3.3] at age 5 years, and 9.7 [SD=3.1] at age 6 years; P <.00). IQ scores remained stable (mean score 95 [SD=13] at both ages). Any disability was found in 58% at age 5 years, and 48% at age 6 years (ns). Within this year, sixty-one percent of the VP children received health care interventions and/or educational provisions (Table). M-ABC-2 scores, with the exception of Balance Skills scores, of VP children with support increased significantly (all P values <.03). IQ scores in children with and without support remained stable.

Conclusions: From age five to six years, motor outcomes improved, while cognitive outcomes remained stable. More than half of the VP children received health care interventions and/or educational provisions. More research on effective interventions and educational provisions to support the VP child in the early school phase is needed.

Educational provisions	
Grade repetition, n (%)	12 (18.8)
Educational support <sup>a</sup> , n (%)	18 (28.1)
Special education, n (%)	6 (9.4)
Total educational provisions, n (%)	24 (37.5)
Health care interventions	
Physical therapy, n (%)	12 (18.8)
Occupational therapy, n (%)	5 (7.8)
Speech therapy, n (%)	13 (20.3)
Behavioral support, n (%)	5 (7.8)
Total health care interventions, n (%)	26 (40.6)
Total health care interventions / educational provisions, n (%)	39 (60.9)

<sup>a</sup>Despite several inquiries, schools did not provide data on educational support for n=13 children

Table 2: Educational provisions and health care interventions between ages 5 and 6 years (N=64)

### sym103-6.5 Health-related quality of life of very preterm/very low birth weight infants

Linda D. Breeman, Sylvia van der Pal, Gijsbert H.W. Verrips, Nicole Baumann, Peter Bartmann, Dieter Wolke  
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**Aim:** Although survival after very preterm birth (VP) / very low birth weight (VLBW) has improved, a significant number of VP/VLBW individuals develop physical and cognitive problems during their life course that may affect their health-related quality of life (HRQoL). The aim of the study was to compare HRQoL in VP/VLBW cohorts from two countries: The Netherlands versus Germany and examined whether different neonatal treatment and rates of disability affect HRQoL in adulthood.

**Methods:** Dutch data encompassed a national cohort of infants born in 1983. 928 VP/VLBW adults were eligible to participate at 28 years and 314 (33.8%) participated (mean gestational age 31.0 weeks). German data came from the Bavarian Longitudinal Study of infants born between 1985-1986. 411 VP/VLBW adults were eligible for inclusion at 26 years and 260 (63%) participated (mean gestational age 30.6 weeks). To analyse whether cohorts differed in adult HRQoL, linear regression analyses were performed for three HRQoL outcomes assessed with the Health Utilities Index 3 (HUI3), The London Handicap Scale (LHS) and the WHO Quality of Life instrument (WHOQOL-BREF). Stepwise hierarchical linear regression was used to test whether neonatal physical health and treatment, social environment, and intelligence (IQ) were related to VP/VLBW adults' HRQoL and cohort differences.

**Results:** Dutch adults reported a significantly higher HRQoL on all three general HRQoL measures than German adults (HUI3: 0.86 vs 0.83,  $p=.036$ ; LHS: 0.93 vs. 0.90,  $p=.018$ ; WHOQOL-BREF: 82.8 vs. 78.3,  $p<.001$ ). Main predictor of cohort differences in all three HRQoL measures was adult IQ ( $p<.001$ ).

**Conclusions:** Lower HRQoL in German versus Dutch adults was related to more cognitive impairment in German adults. Due to different policies, German VP/VLBW infants received more intensive treatment that may have affected their cognitive development. Our findings stress the importance of examining effects of different neonatal treatment policies for VP/VLBW adults' life.

	Adulthood sample					Eligible sample (missings imputed)						
	Dutch		German		<i>p</i> - value	ES	Dutch		German		<i>p</i> - value	ES
	<i>N</i>	<i>M</i>	<i>N</i>	<i>M</i>			<i>N</i>	<i>M</i>	<i>N</i>	<i>M</i>		
HUI3	314	0.89	232	0.85	<b>.012</b>	-	928	0.86	411	0.83	<b>.037</b>	-
LHS	314	0.94	214	0.90	<b>.001</b>	-	928	0.93	411	0.90	<b>.018</b>	-
WHOQOL- BREF	314	85.7	236	77.4	<b>&lt;.001</b>	-	928	82.8	411	78.3	<b>&lt;.001</b>	-
						0.48	928	82.8				0.33

Table 3: Test of differences in HRQoL scores across Dutch and German VP/VLBW adults

Katariina Salmela-Aro, Chair  
*University of Helsinki and Jyväskylä, Finland*

The aim of this symposium is to build bridges between the two societies. This second joint symposium by the International Society for Behavioral Development (ISSBD) and European Association for Developmental Psychology (EADP) focuses on life-span development and policy implications. The symposium is organized by the President of the EADP and past Secretary General ISSBD Katariina Salmela-Aro, from Universities of Helsinki and Jyväskylä, Finland. Professor Willem Koops from the University of Utrecht will first present the joint common history of the two societies, ISSBD and EADP. In his presentation he will present how the idea of a separate international learned society for life span developmental psychology originated. Next we take the life-span approach and each presentation focuses on one key developmental period during the life-span, related key developmental task/s, longitudinal data set and its key policy implications. Past-President of the EADP, Professor Frosso Motti-Stefanidi from National and Kapodistrian University of Athens, Greece focuses on the Athena Studies of Resilient Adaptation (AStRA) longitudinal project using the resilience conceptual framework during adolescence. Second, Past-President of the ISSBD Professor Emerita Lea Pulkkinen, University of Jyväskylä, Finland presents antecedents of middle-age generativity in the context of her Jyväskylä Longitudinal Study of Personality and Social Development. Finally, President-Elect of the ISSBD Professor Toni C. Antonucci from University of Michigan presents the role of social relations and successful adulthood. Incorporating the convoy model of social relations as the grounding theoretical perspective, she capitalizes on a longitudinal study of over twenty years which focused on social relations in a regionally representative sample from a large metropolitan area in the United States. Finally, we discuss the key policy implications by these longitudinal studies.

#### **sym103-7.1 The common history of EADP and ISSBD**

Willem Koops  
*University of Utrecht, Netherlands*

The idea of a separate international learned society for life span developmental psychology originates from developmentalists (like Hans Thomae, Jan de Wit and Bill Hartup) who attended the XV<sup>th</sup> international Congress of Psychology in Brussels, 1957. The main reason for this initiative was that the general international congress did not do sufficient right to the emergence of psychological subdisciplines like developmental psychology. ISSBD (established in 1969) was, more than is realized today, dominated by European scholars, who had the ambition to create a real international organization. The first two Presidents were Hans Thomae from Germany and Jan de Wit from the Netherlands. From the 12 Presidents 7 were out of Europe, from the 21 Biennial meetings 11 were held in Europe.

The ambitious European scholars organized, in the off years of ISSBD, European conferences, under the auspices of ISSBD. The idea was to focus on European topics and European collaboration. After some years there were hot discussion about what some saw as American dominance of ISSBD. Their initiative to establish an autonomous European Association was countered by others, who wanted to stress the international character of (European) developmental psychology. Finally, in 1997 the European association for Developmental Psychology was established.

Until today there are close collegiate relationships between ISSBD and EADP. This relationship could be generable to other “regional” partners (like the Japan Association of Developmental Psychology; the developmental branch of the Chinese Psychological Society, division 7 of the APA, etc.) to realize the internationalizing role of ISSBD.

### **sym103-7.2 Longitudinal Interplay Between Immigrant Youth's Acculturation and Peer Acceptance/Rejection**

Frosso Motti-Stefanidi, Stefanos Mastrotheodoros, Jens Asendorpf  
*National and Kapodistrian University of Athens, Greece*

The purpose of this study is to examine whether and how immigrant students' acculturation orientations (towards the ethnic and national cultures) influence over time their acceptance/rejection by classmates, and vice versa. This study is part of the Athena Studies of Resilient Adaptation (AStRA) project, which focuses on group and individual differences in immigrant youth adaptation. 1057 immigrant adolescents and their Greek classmates (mean age 12 years), nested in 49 classrooms, were assessed, with repeated measures and multiple informants, three times, once each year of middle school. Peer acceptance and rejection were assessed with Coie, Dodge, & Coppotelli's (1982) sociometric procedure. Like most and like least nominations by all classmates, by Greeks and by other immigrants were computed separately. Acculturation (involvement with Greek and ethnic cultures) was assessed with Nguyen & von Eye's (2002) questionnaire.

Two key findings from the cross-lagged analyses were a) that immigrant youth's higher orientation towards the Greek culture promoted acceptance by their Greek peers, and, b) that their higher orientation towards their ethnic culture led to higher rejection by their Greek peers. In contrast, acceptance or rejection of immigrant students by their Greek classmates did not predict change in their acculturation orientation. Immigrant students high on orientation towards the Greek culture have probably learned the norms and standards of the Greek peer group. They know how to behave conforming to the group's norms and to "fit in". As a result they are more accepted by Greek peers. These findings will be examined and discussed in light of other findings from the Athena AStRA project which show that the classroom context and opportunities for intergroup contact are more important predictors of peer acceptance and rejection than being an immigrant. The significance of these results for educational policy will be discussed.

### **sym103-7.3 Antecedents of middle-age generativity and stagnation can be found in middle childhood**

Lea Pulkkinen, Tuuli Pitkänen, Päivi Fadjukoff, Katja Kokko  
*University of Jyväskylä, Finland*

The aim of this paper is to analyze the developmental roots of middle age people's generativity, conceptualized by Erikson in the 1960s, within the theoretical framework of self-regulation introduced by Pulkkinen (2017). Generativity reflects capacity for directing the course of action in one's own life, management of career, and care about the future generation, which Havighurst called developmental tasks typical of middle adulthood. Data is based on the Jyväskylä Longitudinal Study of Personality and Social Development in which the same individuals have been followed through several waves from age 8 to age 50 (369 children; 54% boys; 82% studied in middle age). Socioemotional behavior was studied in childhood with peer nominations and teacher ratings. Personal interviews, several inventories, and medical examinations were employed in adulthood. The results showed (Figure 1) that constructive behavior in childhood predicted resilient behavior in adulthood which was associated with positive psychological and social functioning, seen in well-being, identity development, and the fulfilment of developmental tasks for generativity in middle age. On the contrary, anxious behavior in childhood predicted brittle behavior which was associated with problems in social functioning, substance use, and ill-health typical of stagnation. These developmental lines differed in self-regulation, particularly, emotion regulation.

A new and important aspect of this longitudinal study is to identify individual paths from childhood to adulthood. The results which show that roots of middle age generativity and stagnation are bound to self-regulation and socioemotional behavior from childhood on, highlights the importance of the quality of childhood for people's future. The results suggest a need for providing support to young people by parents and other stakeholders who, with their decisions and activities, affect their lives.

Pulkkinen, L. (2017). Human development from middle childhood to middle adulthood: Growing up to be middle-aged. (In collaboration with Katja Kokko.) London: Routledge (in press).

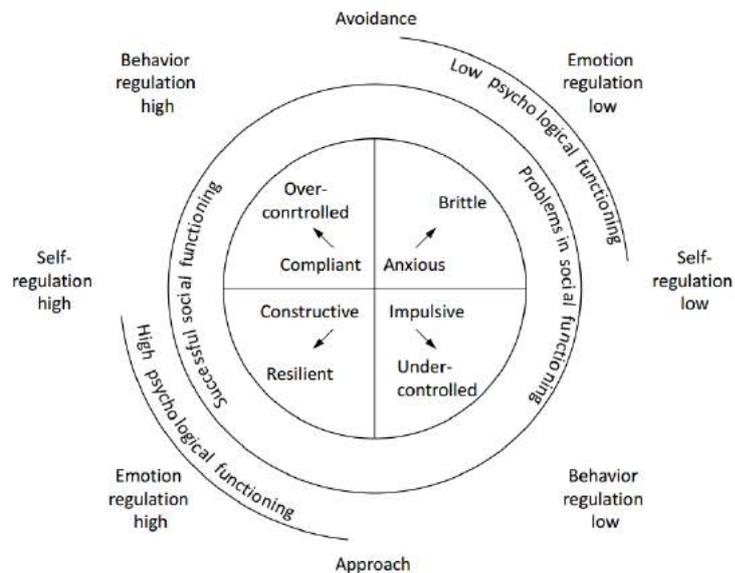


Figure 1

### sym103-7.4 Social Relations and Successful Adulthood

Toni Antonucci, Jasmine Manalel  
 University of Michigan, United States

Developmental psychology has traditionally understood the importance of the mother or primary care givers association with their children on normal development. We are becoming increasingly aware of the importance of social relations across the life span for health and well-being but longitudinal data has been rare. Incorporating the convoy model of social relations as the grounding theoretical perspective, we capitalize on a longitudinal study of over twenty years which focused on social relations in a regionally representative sample from a large metropolitan area in the United States we provide a detailed view of both cross sectional and longitudinal description of the structure, function, and quality of social relations from childhood through mature adulthood. Structure describes the composition of social networks, i.e. size, age, gender, relationship, while function describes the support provided to or received from close and important others. Quality describes the degree to which individuals believe they have a good or positive versus bad or negative relationship with their social network members. We are developing social relations clusters to understand important differences in social relations. Illustrative preliminary cross-sectional findings indicate that four clusters are common in adulthood: Family Focused; Friend Focused; Diverse (both family and friends), Restricted (limited family and friends). Finally, using the adult developmental milestones of education, marriage, parenthood and productive employment we examine the association between structure, function and quality of social relations and these attainment of adult developmental milestones. Policy implications for supporting the successful attainment of adult milestones will be considered and recommended.

## sym103-8 The impact of adults' socialization practices on prosocial behavior in early childhood

Veronica Ornaghi, Chair

*University of Milano-Bicocca, Italy*

Ilaria Grazzani, Chair

*University of Milano-Bicocca, Italy*

Carolien Rieffe, Discussant

*Leiden University, Netherlands*

Prosocial behavior concerns actions intended to benefit others without providing the helper an immediate payoff (Eisenberg et al., 2006). Children start early to behave prosocially towards others in a variety of forms such as helping, sharing, collaborating and comforting. Despite their biological origins, prosocial actions are socially learned from adults in different cultures and contexts (Tomasello, 2016).

The contributions of this Symposium, focused on the role that parents and teachers play in fostering prosocial behavior in early childhood, offers an overview of innovative line and methods of research in educational and developmental psychology.

The first paper presents the preliminary evidence about the development of a new questionnaire assessing parents' prosocial socialization strategies of children ranging from 12 to 46 months of age.

The second paper investigates to what extent caregivers' socialization goals and strategies, as well as temperament, influence toddlers' prosocial behavior.

The third paper focuses on the effects of an emotion-knowledge intervention on toddlers' prosocial and aggressive behavior at nursery school.

Finally, the fourth paper reports on a study examining how training preschool children in perspective taking may promote their positive behavior in kindergartner.

The Symposium will stimulate the discussion on what adults can do to enhance young children's prosocial skills in different educational contexts.

### **sym103-8.1 The Prosocial Practices Questionnaire: Impact Of Parents' Strategies On Children's Prosocial Behavior**

Elisa Brazzelli, Eleonora Farina, Ilaria Grazzani, Alessandro Pepe

*University of Milano-Bicocca, Italy*

**Introduction.** Despite the growing interest of research in prosocial socialization practices (e.g., modeling, contingency and coaching) and their influence on prosocial development in early childhood, to our knowledge no instruments have been developed for the assessment of such strategies.

**Aim.** The aim of the current study is twofold: 1) assessing the psychometric proprieties of the Prosocial Practices Questionnaire (PPQ), a new instrument to evaluate parents' prosocial socialization strategies; 2) investigating how parental strategies account for variation in toddlers' prosocial behaviors.

**Method.** A total of 409 Italian parents (M=36.04 years; SD=5.34; range: 21-61 years) from middle-class families in Northern Italy participated in the study. Children (218 boys) ranged in age from 12 to 46 months (M=28.37; SD=7.61).

Parents were asked to fill in two questionnaires: the PPQ (Grazzani et al., 2016), regarding their prosocial socialization strategies, and the EmQue-I13 (Grazzani et al., 2015; 2017) concerning toddlers' empathy and prosociality.

**Results.** Confirmatory analyses showed good fit indices for the 10 item model:  $\chi^2(31) = 51.15$ ,  $p = .013$ ,  $NC = 1.65$ ;  $RMSEA = .040$ ;  $NFI = .95$ ,  $NNFI = .97$ ,  $CFI = .98$ . Such model evidenced 3 different factors reporting reasonable internal reliability values: Modeling ( $\alpha = .673$ ), Contingency ( $\alpha = .698$ ) and Coaching ( $\alpha = .729$ ). In addition, Multiple Hierarchical Regression models (controlled for age and gender) evidenced that PPQ accounts for EmQue total scores, especially with regards to Prosocial behaviors (Coaching,  $R^2 = .16$ ,  $p < .001$ ) and Attention to other (Contingency and Modeling:  $R^2 = .14$ ,  $p < .001$ ).

**Conclusions.** The preliminary results of this study show that PPQ could be a useful instrument to assess parental prosocial socialization strategies. Furthermore, the outcomes of the multiple hierarchical regression confirm the influence of parents' socialization practices on children's prosocial behavior.

## **sym103-8.2 Socialization And Temperamental Factors That Influence The Development Of Prosocial Behavior**

Marta Giner Torréns, Joscha Kärtner  
*University of Münster, Germany*

In this study, we adopted a longitudinal approach to examine whether caregivers' socialization goals and strategies influence the development of toddlers' prosocial behavior. Furthermore, we examined the influence of temperamental factors (e.g., shyness and activity) on the emergence and development of prosocial behavior. A total of 75 middle-class families in Münster (Germany) participated in the study. Toddlers were tested at the ages of 1,5 and 2,5 years in prosocial tasks that included instrumental helping (e.g., handing a pen to an experimenter who was unable to reach for it); cooperation (e.g., putting plates in a cupboard together with the experimenter); and comforting (e.g., alleviating the experimenter's negative emotions after her toy broke). Additionally, mothers were asked to complete questionnaires regarding their socialization goals and strategies towards infants' prosocial behaviors, as well as toddlers' temperament. Results showed that: 1) Toddlers' helping and cooperative tendencies were negatively related to the use of punishment; 2) Unexpectedly, toddlers' helping and cooperative behaviors were negatively related to the opportunities to help provided at home, and negatively related to maternal positive reinforcement. These findings might indicate the bidirectional relationship between parenting and child development, i.e., a compensatory function of parenting; 3) The use of parental induction was positively related with children's comforting behavior; 4) "Shyness" was negatively associated with all three types of prosocial behavior, whereas "activity" was positively correlated with all prosocial measures. Overall, the results indicate that the domain-specificity of prosocial behavior is, at least in part, constituted by differential influences of specific social factors, from very early in the ontogeny. Furthermore, temperamental factors seem to play an important role in the performance of toddlers' prosocial actions.

## **sym103-8.3 The effects of an emotion-knowledge training on toddlers' prosocial and aggressive behavior**

Veronica Ornaghi, Alessia Agliati, Ilaria Grazzani  
*University of Milano-Bicocca, Italy*

**Introduction.** Within the flourishing area of research demonstrating the efficacy of emotion-based interventions carried out by trained teachers in increasing children's socio-emotional skills (Domitrovich et al, 2007; Ornaghi et al., 2015), this study makes an original contribution by focusing on the effects of training toddlers in emotion knowledge on both their prosocial and aggressive behavior.

**Method.** The study consisted in three phases: pre-test, intervention, and post-test. A total of ninety-five 26- to 36-month-olds (Mage at pre-test = 30.05) took part in the study. They were pre-and post-tested with measures assessing their general language ability, use of emotional-state lexicon (ESL), and emotion knowledge (EK). Children were video-observed for 20 minutes before and after the intervention in order to assess their prosocial (helping, sharing, and comforting) and aggressive (reactive and proactive) behavior. All toddlers participated in a 2-month intervention in which trained teachers read emotion-based stories to small groups of children and then either involved them in conversations about emotions (experimental condition) or did not (control condition).

**Results.** After controlling for age and language ability, the children in the experimental condition were found to outperform the control group on measures of EK ( $F(1,93)=23.13, p<.0001, \eta^2=.32.$ ) and EST ( $F(1, 93)=7.47, p=.009, \eta^2=.13$ ). Furthermore, the intervention fostered gains in prosocial behavior ( $F(1, 93)=5.19, p=.02, \eta^2=.11$ ), whereas it did not have a significant effect on the frequency of aggressive actions, which was lower at post-test in both groups. Exploratory mediation analyses showed that the intervention had an indirect effect on participants' prosocial behavior; such a relation was mediated by children's gains in EK ( $F(5, 89)=3.97, p=.03$ ).

**Conclusions.** The results encourage the implementation of early educational programs focused on EK in order to foster children's socio-emotional learning.

## **sym103-8.4 Perspective Taking As A Promoter Of Positive Interactions During Preschool Age**

Arianna Mori, Ada Cigala  
*University of Parma, Italy*

This study aimed at verify if it is possible to improve perspective taking and prosocial behaviour in preschoolers. Perspective taking represents a very important multidimensional social ability that allows children to understand others' thoughts and feelings, and to establish positive relations with other people. In order to try to improve perspective taking, we proposed an evidence based ecological intervention inside the kindergarten in which children, in small groups, were involved in activities such as storytelling, discussion, drawing and dramatization. The basic idea is that small group of peer represents a learning context in which children could re-elaborate the learned contents and reach new insights with respect to others' thoughts, feelings and perceptions.

The research used a pre-test/post-test quasi-experimental design in which 206 typically developmental preschoolers (104 males and 102 females) were categorized in either experimental or control group. We measured the ability of perspective taking through several tests, and prosocial behavior through repeated ecological non-participant observations before and after the training. The training, which lasted 15 days, was subdivided into nine different sessions, each lasting 45 minutes, and involved small group of 6-7 children. Before and after the training, every child completed nine perspective taking tasks (three tasks for each dimension of perspective taking) and was observed three times, each one of 45 minutes, in different days. Results showed a significant increase of perspective taking's scores after training, sustaining the possibility of promoting perspective taking ability in preschoolers. An increase of prosocial behavior after training was also observed. In conclusion, these results suggest that perspective taking may promote prosocial abilities, and indicate that teacher could be involved in activities which may improve perspective taking and prosocial behaviors inside kindergarten.

## Paper sessions 103, Wednesday August 30, 16:15 – 17:45 hrs.

### pap103-9 Peer Relations and Prosocial Behavior

#### pap103-9.1 Relational victimization and self-control in early primary school children

Susanne Koot, Pol A.C. van Lier

*Department of Psychology, Education and Child Studies, Erasmus University Rotterdam, Netherlands*

**Aim:** Psychosocial stress, such as relational victimization, is a risk factor for the development of child and adolescent psychopathology (e.g. Gini & Pozzoli, 2013; Arseneault et al., 2010). Emotion regulation may be affected by such social stress through difficulties in self-control. Previous research indicated that negative life events predict decreases in self-control among early adolescents (Duckworth et al., 2013). A possible mechanism through which early relational victimization can lead to maladjustment is through altered self-control. The aim of the current study was to test whether early elementary school relational victimization predicts impairments in self-control.

**Methods:** In this study 1122 children (mean age = 6.25 years,  $sd = .62$ ; 51.9% boys) were assessed on their self-control abilities using the Marshmallow Task (Mischel et al., 1972), a task measuring children's ability to delay gratification. Children were tested whether they could resist settling for a small, immediately available reward (one marshmallow) in order to get a larger reward later (three marshmallows). Teacher ratings were used to assess children's level of relational victimization ( $\alpha = .908$ ; SEQ-T; Crick & Grotpeter, 1996). Results were controlled for age, gender, and levels of physical victimization ( $\alpha = .844$ ; SEQ-T; Crick & Grotpeter, 1996) and motor impulsivity (hyperactivity:  $\alpha = .882$ ; SDQ-T; Goodman, 1997).

**Results:** A significant negative effect of relational victimization on self-control was found: children who received higher scores on relational victimization were less likely to inhibit their impulses and wait for a larger reward later ( $\beta = -.905$ ,  $p = .041$ ).

**Conclusion:** Relational victimization was related to reduced self-control on the Marshmallow Task. This suggests that self-control can be impaired by social stress already at early elementary school.

#### pap103-9.2 The Effect of Temperament Based Intervention Program on Social/Emotional Behaviors of Children

Yalçın Özdemir, Nermin Koruklu, Yaşar Kuzucu, Demet Çevik, Melek Özdemir

*Adnan menderes University, Turkey*

According to the temperament theory, if expectations from children and opportunities offered to them is harmonious with the temperament of the child, many children's problem behavior avoidable or it may contribute to the child's healthy development (McClowry, Snow ve Tamis-LeMonda, 2005). The purpose of the this research was to explore the the effects of temperament based intervention program for parents and teachers on the self-control and social/emotional behaviors of 5-9 years children. It was investigated whether there is significant difference between the self-control and social emotional behavior scores of children whose teachers and parents are in the experimental condition (takes the temperament based intervention program) and control group. Temperament based intervention program was aimed to teach teachers and parents effective strategies that are compatible with the child's temperament. In other words, we intended to enhance goodness of fit, the consonance of a child's particular temperament to the demands, expectations, and opportunities of the environment (Chess, 1984). At first teachers were recruited and then parents were recruited from participating teachers' classrooms. Teachers and parents for both experimental and control group were recruited from the same schools. Parents and teachers of students who continue to the preschool, first, second and third grade students was the sample of the study. Participants in the study included 30 teachers and 54 parents in the experimental, 30 teachers and 54 parents in the control group who were randomly assigned to experimental or control condition. Both parents and teachers completed or will complete the questionnaires as pre- test, post-test and fallow-up test. Since we are in the process of receiving the post-test data and we haven't yet got the fallow-up test data, we are unable to present the findings.

**pap103-9.3 Participation in Organized Sports and Youth Adjustment: Mediating Role of Peer Relationships**

Anna Lundström, Isak Eliasson, Metin Özdemir  
Örebro University, Sweden

**Aim.** Participation in organized sports, where there is an adult leader and scheduled practices, is a common free-time activity for youth in Western societies. Participation in such activities is associated with physical, cognitive, motor and psychosocial development. Despite this well-established association, why sports participation is linked to positive adjustment is not understood. In the current study, we tested whether peer relations could explain why there is an association between sports participation and youth adjustment. Organized sports context gives adolescents opportunities to engage in interactions with peers on a regular basis. Thus, we expect that the positive outcomes gained from organized sports participation can be partly attributed to the process of developing friendships.

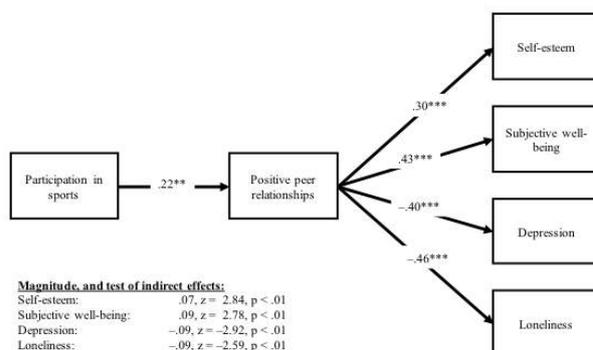
**Method.** We used data from the first wave of the Youth & Sports Study, a cohort-sequential longitudinal study on youth sports participation (N=679, Mage = 14.09, SD = .39) to test whether peer relationships mediate the association between organized sports participation and youth adjustment. Youth adjustment indicators were self-esteem, subjective well-being, depression and loneliness. We expected adolescents' friendships to mediate the effect of organized sports participation on their adjustment. In addition, we explored possible moderating role of social anxiety.

**Result.** The results were consistent with earlier research findings showing that adolescents involved in sports had better adjustment outcomes than their non-involved counterparts (Table 1). In addition, positive peer relationships significantly mediated the relationships between organized sports participation and youth adjustment for all four indicators (Figure 1). Nevertheless, social anxiety did not moderate the relationship between organized sports participation and positive adjustment.

**Conclusion.** In conclusion, the findings suggest that improved peer relationships may explain why participation in organized sports is associated with positive adjustment of youth. These results have implications for potential benefits of enhancing social aspects of organized sports context to enhance the adjustment outcomes of adolescents.

Table 1  
Mean level differences between youth who engage and do not engage in organized sports activities on the study variables.

	Involvement in organized sports				F	p
	Not involved		Involved			
	M	SD	M	SD		
<b>Adjustment outcomes</b>						
Self-esteem	2.95	.59	3.15	.54	16.92	<.001
Subjective well-being	3.45	.86	3.73	.75	16.23	<.001
Depression	1.94	.65	1.72	.55	18.20	<.001
Loneliness	1.59	.90	1.37	.78	8.50	.004
<b>Mediator variable</b>						
Positive peer relations	4.05	.72	4.27	.55	9.69	.002



**Figure 1:** Test of the mediating role of positive peer relationships on the association between participation in organized sports activities and youth adjustment outcomes (i.e., Self-esteem, SWB, depression, loneliness). Values on the directional paths and indirect effects are unstandardized regression coefficients.

Table 1/Figure 1

#### **pap103-9.4 Computerized sociometric methods for challenging samples**

Hinke Endedijk, Toon Cillessen,  
*Utrecht University, Netherlands*

In elementary school classrooms, peer nominations are a commonly used method to assess peer relationships. However, peer nominations are less reliable or not useable in studies with young children or children with special needs. In young children, peer ratings are more reliable than nominations, as children then receive a rating from each classmate and individual perceptions affect total scores less than with nominations. Paired comparisons are another suitable method, but the original offline procedure is very time-consuming. We developed a computerized version of both peer ratings and paired comparisons that are promising for sociometric research for challenging samples such as young children and children with special needs. In several studies we investigated the use of a computerized version of peer ratings or paired comparisons. First, we compared computerized ratings with the original offline ratings procedure. Results demonstrated comparable psychometric properties, but the computerized version provided additional data for further analysis of the peer evaluation process, and offers possibilities for additional support to children with special needs.

Currently we are comparing the computerized ratings method with a computerized version of paired comparisons. Both methods are comparable in their administration and take only 5 minutes per child when individually administered. The psychometric properties of both methods will be presented.

The present findings show that both computerized methods are promising to use with young children and children with special needs. Both methods are flexible in their use and can be adapted to children's specific needs.

#### **pap103-9.5 The power of children's forgiveness**

Reine Van der Wal  
*Utrecht University, Netherlands*

Although the topic of forgiveness has received abundant attention in research with adults, little is actually known about forgiveness processes in children. This is unfortunate, as research suggests that the capacity to forgive is associated with many beneficial outcomes, such as improved social relationships and psychological wellbeing. In my presentation, I will address the basic question whether a forgiving response benefits children's psychological wellbeing.

I will present data of two research lines: One line of research focuses on children's forgiveness in response to offending peers in the classroom. In a sample of 275 9-13 year-old children who completed self-reported and behavioral measures of forgiveness and various indicators of psychological well-being, this study revealed that forgiveness among peers was associated with enhanced psychological well-being. A second line of research focuses on children's forgiveness following parental divorce. A sample of 241 children of divorced parents (8-13 years) reported their psychological wellbeing and forgiveness in response to the divorce. We found a main effect of forgiveness: more forgiveness was associated with higher psychological well-being.

Together, these findings highlight the power of children's forgiveness. That is, forgiveness may be an important protective factor that can help to prevent the otherwise negative consequences of interpersonal conflict on children's psychological well-being.

## pap103-9.6 Prosocial behavior buffers the impact of peer rejection in early school years

Jin He, Hans Koot, J. Marieke Buil, Pol van Lier  
Erasmus University Rotterdam, Netherlands

A low social position among peers has widely been demonstrated to predict children's depressive and aggressive symptoms. However, little is known about potential protective factors in this association. Williams (2007; 2009) proposes that when experiencing initial rejection, children may use an adaptive strategy to try to avoid being further rejected through behaving in patterns that may restore social connections, such as increasing their prosocial behavior. The present study, thus, examined potential buffering effects of increases in prosocial behavior on the association between social preference among peers and the development of depressive and aggressive symptoms in the first few school years. We followed 324 children over 1.5 years across kindergarten and first grade in elementary school. During three assessments, children rated the (dis)likeability of each of their classroom peers and teachers rated each child's prosocial behavior and their depressive and aggressive symptoms. Results indicated that low social preference at the start of kindergarten (T1) predicted persistent low social preference at the start of first grade of elementary school (T2), which in turn predicted increases in both depressive and aggressive symptoms at the end of the first grade (T3). However, these indirect pathways were moderated by changes in prosocial behavior. Specifically (see figure), for children whose prosocial behavior increased during kindergarten, their social preference in first grade elementary school no longer predicted increases in depressive symptoms, and predicted less increase in aggressive behavior. In contrast, for children whose prosocial behavior did not increase in kindergarten, their low social preference in first grade elementary school continued to predict increases in depressive symptoms and larger increases in aggressive behavior. Our findings support Williams' ostracism theory in young children, and also suggest that interventions aimed at improving rejected children's prosocial behavior as early as in kindergarten may reduce subsequent risk for depressive and aggressive symptoms.

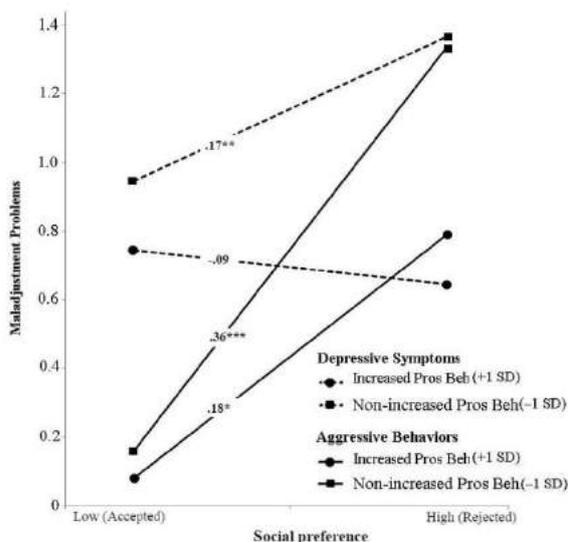


Figure 1: The modifying effect of increased prosocial behavior on the link between peer social preference and the development of depressive and aggressive symptoms. Notes: Pros Beh stands for prosocial behavior. Estimators in the figure are  $\beta$ s.

**pap103-10.1 Parental conflicts, negative life events and adolescents' adaptation: The contribution of personality**

Maria Doukakou, Frosso Motti-Stefanidi  
*National and Kapodistrian University of Athens, Greece*

The purpose of this study was to examine: a) whether parental conflicts and negative life events are risk factors for adolescents' adaptation and b) whether personal attributes are promotive and/or protective factors for adolescents' adaptation. The sample consisted of 2083 high school students (15-17 years). Parental conflicts and negative life events were examined as risk factors. Parental conflicts were measured with the Children's Perception of Interparental Conflicts Scale (Grych, Seid & Fincham, 1992). The two subscales referred to frequency of parental conflicts and adolescents' triangulation were used. Negative life events were measured with the Adolescent-Family Inventory of Life Events and Changes (McCubbin, Patterson, Bauman & Harris, 1982). Adolescents' adaptation was measured with the Strengths and Difficulties Questionnaire (Goodman, 1994, 1997) as well as with the self-reported school performance. Youth's personal attributes were measured with the Five Factor Personality Test (Asendorpf & van Aken, 2003). Results indicate that both parental conflicts and negative life events are risk factors for hyperactivity, emotional symptoms, conduct and peer problems as well as low school performance. Also, both risks are linked with emotional symptoms over and above emotional stability and with conduct problems over and above agreeableness. Moreover, more parental conflicts are linked with more emotional symptoms when there is low conscientiousness and with more conduct problems when there is low agreeableness. More negative life events are linked with more conduct problems when there is low agreeableness (Fig.1). Interventions should focus on reducing risk in adolescents, especially, those who are less conscientious and less agreeable.

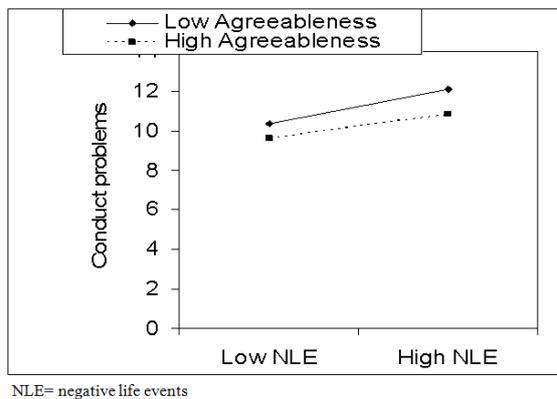


Figure 1: Interaction of negative life events and agreeableness to conduct problems

**pap103-10.2 Predicting educational attainment and income in young adulthood by personality during adolescence**

Ziyan Luan, Astrid Poorthuis, Roos Hutteman, Jens Asendorpf, Jaap Denissen, Marcel van Aken  
*Utrecht University, Netherlands*

Research has shown that educational attainment and work income can be predicted by Big Five personality traits (Ozer & Benet-Martínez, 2006). However, the predictive power has been shown to depend on the informant: for nonvisible traits such as neuroticism self-ratings have more predictive power, while for evaluative traits - traits that are socially desirable or undesirable, rather than neutral, such as openness - other-ratings have more predictive power (Connelly & Ones, 2010). Previous studies focused on cross-sectional data in adults and it is unclear whether the predictive power of self- versus other-rated personality is the same in adolescents.

This 18-year longitudinal study examined the predictive power of self- versus other-rated Big Five personality traits at age 12 and 17 in predicting educational attainment and work income at age 29. Participants were 186 German subjects (53% boys). At age 12, Big Five traits were rated by the adolescents, one of their parents and one of their (same-sex best) friends. At age 17, Big five traits were rated by the adolescents, their mothers and fathers. At age 29, educational attainment (highest achieved educational level) and work income were measured.

As shown in Table 1, educational attainment was predicted by higher conscientiousness, higher openness, and lower neuroticism at both age 12 and 17, but not by extraversion or agreeableness. This predictive power was primarily shown in other-ratings. Work income was predicted by higher conscientiousness, higher openness, and lower (other-rated) neuroticism at both ages. Higher friend-rated extraversion at age 12 and lower self-rated agreeableness at age 17 also predicted higher work income. This predictive power was shown in both self- and other-ratings of personality. In general, parents might be better informants of personality when the aim is to predict adolescents' future educational attainment and work income.

Age	Predictor		Educational Attainment		Work Income	
	Trait	Rater	<i>b</i>	$\beta$	<i>b</i>	$\beta$
12	Conscientiousness	Self	-0.08	-0.04	0.43	0.16
		Parent	0.41***	0.27	0.45*	0.20
		Friend	0.16	0.10	-0.04	-0.02
	Openness	Self	0.21	0.07	0.99*	0.21
		Parent	0.92***	0.43	0.76**	0.24
		Friend	0.66***	0.34	0.72*	0.25
	Extraversion	Self	-0.11	-0.07	0.13	0.05
		Parent	-0.04	-0.03	0.19	0.09
		Friend	0.23	0.14	0.63**	0.27
	Agreeableness	Self	-0.25	-0.10	0.02	0.01
		Parent	0.09	0.04	0.02	0.01
		Friend	0.19	0.11	-0.01	-0.00
Neuroticism	Self	0.12	0.05	-0.58	-0.17	
	Parent	-0.47**	-0.25	-0.65*	-0.23	
	Friend	-0.06	-0.03	-0.78**	-0.29	
17	Conscientiousness	Self	-0.12	-0.08	0.67***	0.31
		Mother	0.52***	0.38	0.51**	0.25
		Father	0.44***	0.33	0.74***	0.37
	Openness	Self	0.69**	0.24	0.35	0.08
		Mother	1.08***	0.58	1.09***	0.40
		Father	0.97***	0.51	0.81**	0.29
	Extraversion	Self	-0.19	-0.12	-0.17	-0.08
		Mother	0.12	0.10	0.14	0.08
		Father	0.04	0.02	0.30	0.14
	Agreeableness	Self	-0.01	-0.00	-0.92***	-0.31
		Mother	0.13	0.07	0.09	0.03
		Father	0.26	0.13	0.34	0.11
Neuroticism	Self	0.17	0.08	-0.02	-0.00	
	Mother	-0.70***	-0.41	-0.48*	-0.19	
	Father	-0.38**	-0.23	-0.92***	-0.38	

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , one-tailed. All predictors were tested in separate models as latent variables.

Table 1: Predictive Power of Self- vs. Other-Rated Personality

### pap103-10.3 Personality Development and Psychopathology During Adolescence: Investigation the Stagnation and Scar Models

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*University of Groningen, University Medical Center Groningen, Department of Psychiatry, Interdisciplinary Center Psychopathology and Emotion Regulation (ICPE), Netherlands*

**Aim.** To establish whether the experience of DSM-IV mental disorder during adolescence (age 11-19) stagnates personality development and leaves scars.

**Method.** We used personality data (disinhibition, neuroticism, extroversion) obtained at ages 11 and 19 and lifetime diagnostic information obtained with the Composite International Diagnostic Interview (CIDI 3.0) at age 19 in the Dutch TRAILS study. The CIDI data allowed to establish psychiatric status during childhood and adolescence for 1584 individuals.

**Results.** Three hypotheses were tested and largely supported. First, normative personality development is stagnated in individuals who experience mental disorder during adolescence. These individuals showed less reduction of disinhibition and neuroticism compared to normative development. Second, part of the stagnation

persists after disorder remission and may evolve into scars. Individuals with at age 19 remitted adolescent mental disorder still showed stagnated personality development (i.e., less reduction of disinhibition and neuroticism, less increase of extroversion). Part of the stagnation decayed with time as individuals who were remitted at least one year prior to age 19 had better personality outcomes than those who were remitted shorter (< one year). However, this was likely a partial 'catching-up', because long-remitted individuals still had more increased disinhibition and neuroticism than controls when adjusted for age 11 differences, while at age 11 they had similar (neuroticism) or even slightly better (disinhibition) scores compared to the controls. Third, stagnation and especially scarring were predominantly accounted for by one's cumulative mental disorder exposure during adolescence.

Conclusions. Because of the powerful study design, the results strongly suggest that the experience of mental disorder during adolescence stagnates personality development and leaves some (temporary) scars in major personality traits.

### **pap103-10.6 Cumulative neighbourhood disadvantage, COMT gene variants, and adolescent personality traits**

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Growing up in disadvantaged neighbourhoods can have consequences for the development of adolescents' personality traits. However, not all adolescents develop equally: while some youth develop towards maladaptation, others might demonstrate resilient adaptation when experiencing neighbourhood adversity. We studied whether between-individual differences in responses to neighbourhood adversity can be explained by genetic differences. Genetic variants in catechol-O-methyltransferase (COMT) have been linked to stress reactivity to environmental stressors. We argue that growing up in a deprived neighbourhood is such an environmental stressor that may be moderated by COMT variants. To predict the Big Five personality traits, we tested the interaction between COMT variants and length of exposure to neighbourhood poverty between birth and the age of 13. We used the Avon Longitudinal Study of Parents and Children (ALSPAC), a population based cohort study that recruited 14,541 women living in the county of Avon, UK, who were expected to give birth in 1991/1992. This study is based on 4,213 youth, whose personality traits were assessed by their parents when they were 13 years old. Additionally, for each year of the children's lives, we linked in Indices of Multiple Deprivation for the neighbourhood in which they lived that year. For these children, COMT variants were available as four single nucleotide polymorphisms (SNPs): rs4680, rs4818, rs6269, and rs165599. We calculated polygenic scores by counting the number of risk alleles on these four SNPs. The results showed that extraversion, conscientiousness, and emotional stability were negatively related to the length of exposure to neighbourhood disadvantage. However, this relation was stronger for adolescents who had more risk alleles on COMT variants. Adolescents with less risk alleles had a weaker or no relation between exposure to neighbourhood disadvantage and extraversion, conscientiousness, and emotional stability. Agreeableness and openness to experience were not related to exposure to neighbourhood disadvantage.

**pap103-11.1 Infant's practicing pre-communicative skills with objects predicts later verbal communication with others**

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Infants' resources allocation was found recently as a benchmark for motor and cognitive development. Little is known on how infants allocate their verbal communication resources and in what ways does verbal play with toys facilitates verbal communication with social agents. The current study aimed to explore the trajectories of communicative faculty allocation before and during speech onset, postulating the use of early communication resources with toys during play would be related to the ability to communicate with social agents verbally. The study employed an intensive repeated-measures prospective design with nine infants exploring their communicative behaviors between 8-16 months of age. Seventy-nine testing sessions each 60 minutes long, were micro-analyzed according to the communication target (e.g., object or mother) and infant's communicative behavior (e.g., vocalization, duplicate babbling, and speech (i.e., one-word utterances)). The main dependent measure was the relative usage frequency of each type of communicative behavior at each age a function of the total frequencies of all behaviors of each participant. Results showed that infants tend to direct most of their communication resources to objects before speaking to a human figure. Further, strong relations were seen between usage frequencies of babbling to objects at 8 m. and speech to object at 12m. ( $r=.906^{**}$ ,  $p<.001$ ) and babbling to the mother at 12 m. ( $r=.850^{**}$ ,  $p<.001$ ), as well as between babbling to object at 10 m. and speech to object at 10 m. ( $r=.906^{**}$ ,  $p<.001$ ), and babbling to the mother at 12 m. ( $r=.835^{**}$ ,  $p<.005$ ). In older ages when speech emerges, vocalization to object at 13 m. was linked to vocalizations and speech to the mother at 14 m. ( $r=.766^*$ ,  $p<.01$  and  $r=.675$ ,  $p<.01$ , respectively). Results suggest that infants' earlier practicing of basic communicative skills during spontaneous play with objects are linked to the later-emerging ability to communicate verbally with others.

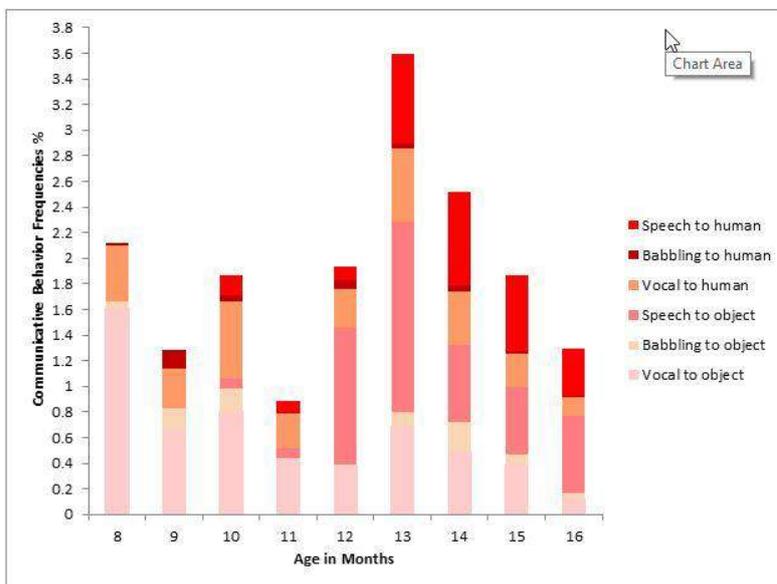


Figure 1: The frequency of communicative behavior according age in months

### **pap103-11.2 Latent trajectories of childhood language difficulties: the impact on school readiness**

Ragnhild E. Brandlistuen, Synnve Schjølberg, Mari V. Wang  
*Norwegian Institute of Public Health, Norway*

**Aim:** To explore latent trajectories of childhood language difficulties and the association with school readiness. **Methods:** Latent trajectories of childhood language difficulties were examined using Group-Based Trajectory Modeling (GBTM). Trajectory information was available for 42 200 children participating in the Norwegian Mother and Child Cohort study from the age of 1,5 through 5 years. Items from the mother-reported Ages and Stages Questionnaire (ASQ) measured language difficulties. School Readiness was measured at child age 5 years by mother-reported questions on Literacy skills from the Early Development Instrument (EDI) and home-reading from the Children in the Early Language in Victoria Study (ELVS). Preschool teacher-reported School Readiness (School Readiness Questionnaire (SRQ)) was available for a subsample of 7000 children. Covariates adjusted for included: maternal level of education, income, family history of language or learning difficulties, bilingual background, gestational age, birth weight and attention problems.

**Results:** Four language trajectories were identified for both boys and girls; 1: no difficulties 2: transient 3: late-onset 4: persistent. All language difficulty trajectory groups were associated with lower school readiness (mother-reported and preschool-teacher reported) for both boys and girls at the age of 5 years compared with no language difficulties ( $P < 0.05$ ). The associations were partly, but not fully, explained by attention deficits and other measured covariates.

**Conclusion:** Language difficulties in preschool years is an important precursor for reduced school readiness for both boys and girls at the age of 5 years. The finding supports the importance of monitoring and supporting child language development from early on to potentially promote school readiness.

### **pap103-11.3 The relation between linguistic skills and problem behavior in typically developing preschoolers**

Loes Janssen, Brigitta Keij, Jolien van der Graaff, Hannah De Mulder, Josje Verhagen, Hayo Terband  
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**Aim:** The high co-occurrence of linguistic and behavior problems in children is well-known: children with language disorders have an increased risk of developing behavioral disorders (e.g. Conti-Ramsden & Botting, 2004) and this risk is already apparent in young children (Yew & O’Kearney, 2013). However, whether linguistic problems can also evoke problem behavior in typically developing (TD) children is unclear. Therefore, the present study aimed to examine whether linguistic skills are related to problem behavior in TD preschoolers.

**Methods:** 50 monolingual preschoolers (4-6 years) participated in the study. We studied the influence of linguistic skills on behavior by eliciting ‘communication breakdown’ at different linguistic levels (phonetic-phonological, lexical-semantic, syntactic and pragmatic) during an interactive tablet game. The type, amount and intensity of children’s behavior in response to ‘communication breakdown’ was coded using a newly developed System for Coding Child Behavior in Interactive Tasks (SCCBIT). We also assessed the children’s receptive vocabulary (PPVT-III-NL) to test the validity of the game as a measure of linguistic proficiency.

**Results:** The PPVT scores correlated significantly with the total score of the game (number of successful communications),  $r(50) = .503$ ,  $p < .001$ . There was a significant negative correlation between total score of the game and total intensity of coded externalizing behavior (anger/frustration),  $r(50) = -.329$ ,  $p = .019$ .

Furthermore, the score on the pragmatic level correlated with both the total amount and intensity of coded externalizing behavior,  $r(50) = -.368$ ,  $p = .009$ ,  $r(50) = -.375$ ,  $p = .007$ .

**Conclusion:** The results indicate that linguistic skills and problem behavior are related in young TD children. Moreover, the PPVT validates the game as a measure of linguistic ability. Thus, the tablet game is a potentially interesting tool for screening language problems as well as for examining how preschoolers deal with them behaviorally.

#### **pap103-11.4 Communication skills of Russian preschool children: typical development in family – orphanage**

Olga Frolova, Elena Lyakso  
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The aim of the work is to reveal the specificity of communication in Russian preschool children grown up in orphanage compared with typically developing children from families.

Communication skills of 4-7 years old children of two groups: typically developing (TD, n=50), and orphans (n=40, with mild mental retardation - F 70 according ICD-10, and with mixed specific developmental disorders - F 83) were estimated. Model situations of adult-child interaction were used. Analysis of the themes, amount, and complexity of the replicas in the dialogues, lexicon, and clarity of articulation (spectrographic and perceptive analysis of speech) for assessment of child's verbal communication skills was made. Description of facial expression, gestures, behavior and features of emotional speech (expert's review of video and audio samples) for estimation of non-verbal communication skills was executed. Psychophysiological tests for detection of phonemic hearing and individual lateral profile of child were made.

The results showed that TD children used simple phrases and single words in dialogues more often than other replicas types. Amount of complex replicas increased with TD child's age. Amount of complex replicas in orphans group less compared with TD group, but orphans (F 83 group) used more amount of themes and common amount of replicas in dialogues. The features of the lexicon (connected with more frequent words) in orphans group were revealed. TD children articulated speech sounds more clearly compared with orphans; worst articulation was in orphans group (F 70). Orphans (F 70) used elements of non-verbal communication (gestures and facial expression) for clarifying their speech. Correlation between parameters of verbal, non-verbal communicative behavior and psychophysiological tests results was revealed.

The study results suggest a role of the factor of social deprivation (orphanage) and child's disease in communication skills development.

The work was supported by Russian Foundation for Basic Research (grants 15-06-07852, 16-06-00024).

#### **pap103-11.5 How stable is mothers' conversational style in a changing developmental context?**

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The paper addresses the issue of changing pattern of family socialization. Prior studies show that Estonian parents' childrearing values and goals have undergone changes over a period of 15 years. As to everyday family interactions, Estonian mothers have found to put considerably more effort into directing children's attention and behavior than eliciting their conversational participation, and they seldom praise their children. The current paper is interested in the question if and to what extent mothers' conversational style has been changed. With this aim, mothers' conversations with their 2-year-old children during two interaction contexts - at meals and during puzzle solving will be compared that were videotaped in 1992, 2002, and 2016 (10, 30 and 30 mother-child dyads respectively). The attention is paid to the amount of talk (utterances per minute), regulatory speech (the frequency of using attentional directives, behavioral directives and conversation-eliciting utterances) addressed to two-year-olds, and praises. The study showed that Estonian mothers have become less directive. The frequency of using attentional and behavior directives was drastically higher in the interactions observed in 1992 than in two later time points. In all three points of time, mother's speech contained significantly more attentional and behavioral directives during puzzle solving as compared to mealtime setting, but difference between interactional contexts was larger in 1992. Although praises were by far more prominent in interactions made in 2002 and 2016 than in 1992, children were still relatively seldom praised. Similarly to findings of studies made in other languages and cultural contexts, the mothers who talked more tended to expect more conversational participation from their children, and had children who talked more. Finally, the discussion focuses on possible reasons of changes in mothers' conversational style.

## pap103-11.6 Changes in face processing patterns in response to auditory noise

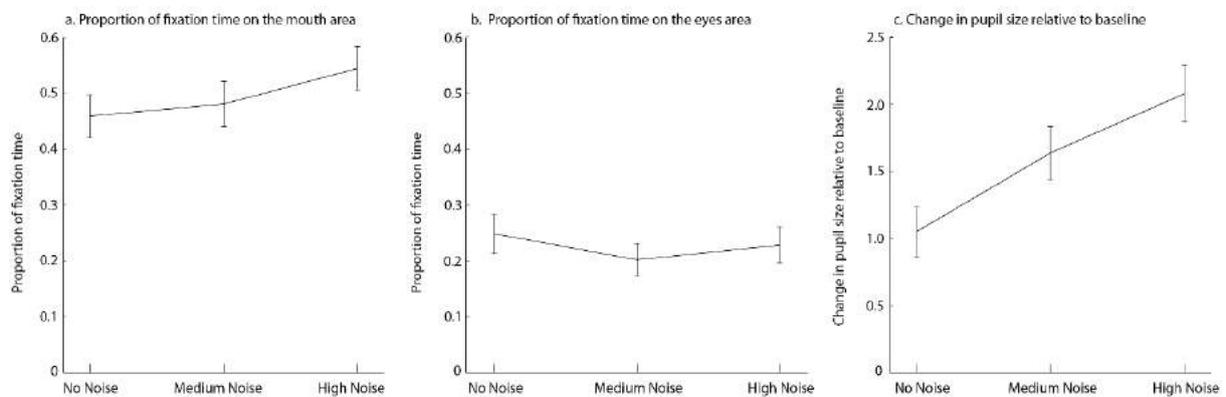
Magdalena Krol

SWPS University of Social Sciences and Humanities, Poland

The purpose of the study was to investigate the effect of auditory noise added to speech on the processing of faces in children aged 18-36 months. We hypothesized that the presence of noise will increase the difficulty of processing speech and as a result, children would allocate more attention to the mouth of the speaker, to gain visual speech cues from the mouth movements. We also hypothesized that this shift would cause a decrease in the fixation time to the eyes, potentially decreasing the ability to monitor gaze.

The addition of auditory noise increased the fixation time to the mouth area, but not at the price of decreasing fixations to the eyes. Thus, we found no trade-off between the attention allocated to social and linguistic cues. However, we found an increase in pupil dilation in response to the noise, signifying increased mental effort. We speculate that speech processing under adverse conditions may be achieved via mobilization of attention, that safeguards concurrent gaze monitoring, but comes at the price of increased mental strain.

We have also found a positive correlation between the propensity to look at the mouth and higher speech processing proficiency (measured using the looking-while-listening-task).



*Figure 1: Eye-movement patterns depending on the levels of auditory noise. A. Proportion of fixation time on the mouth area. B. Proportion of fixation time on the eyes area. C. Change in pupil size relative to baseline. Error bars denote SEM.*

**pap103-12.1 The psychological sovereignty in three cultures during transition from adolescence to youth**

Sofya Nartova-Bochaver, Anna Hakobjanyan, Svetlana Harutyunyan, Narine Khachatryan, Michael Shengtao Wu, Chan Zhou

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The psychological sovereignty (PS) is a person's ability to maintain and defend a part of personalized environment (Altman, 1985; Clayton, 2012; Heft, 2012; Nartova-Bochaver, 2008). According to parts of personalized environment, there are Body, Territory, Things and Belongings, Regime habits, Social contacts, and Values sovereignties identified. As a phenomenon, the PS is a trait of lower order, highly correlating with social adaptation and well-being. Our study was aimed at investigation on how PS changes within transition from adolescence to youth. In the current research we compared a PS level in relation to gender, age, and culture. The Psychological Sovereignty Questionnaire-2010 was used; the participants were adolescents (Mage=13) and university students (Mage=21), N=780, 361 males, 419 females, randomized at age, gender, and culture (Armenia, China, Russia). All of cultures are collectivistic and have had the socialistic past but vary in religion. Results show: the older respondents, the higher their PS level, with the exception of Armenian girls. Moreover, developmental PS changes in females are more critical than in males, independent of the directions of these changes. The culture factor differs adolescents female in PS level but doesn't adolescents male at all. University students are much more various in PS depending on culture. To sum up, the cultural differences are stronger in older students. PS scores, its general profiles and dynamics differ depending on gender. We found the lowest PS level in Chinese girls, and the highest one in Chinese young women. Chinese and Russian boys are more sovereign than girls, but Armenian girls are more sovereign than boys. This is because of the prevalent parent style varies among cultures widely. The results are discussed according to gender and cultural socialization. Supported by Russian Fund for Humanities, Project 16-06-00239/16.

**pap103-12.2 The Situation Assessment Of Refugee Children And Young People Living In Turkey**

Emine Hande Aydos, Ayca Ulker Erdem, Esra Akgul, Neslihan Guney Karaman, Aysel Coban  
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According to the United Nations Convention on the Rights of Children, every individual is a child until the age of 18. They have rights within the scope of four basic principles: high benefit of the child, non-discrimination, right to live-develop, and right to participate. In the last decade, human immigration has increased all around the world. This affects social structure of societies and reforms them. So, refugee movement in Turkey has social, economic and political-effects (Sankir, et.al, 2016). One of the most important and affected part of this movement are also children. The most distinctive characteristic of 2,072,290 registered-Syrians in Turkey is that 54.2% consist of children. This huge number needs to be taken into consideration in education, adaptation, social, and political-processes (Erdoğan, 2015). So, this study attempts to assess the situation of refugee children and young people coming to Turkey in terms of social-life adaptation and right to access education. In this sense, phenomenology (qualitative method), was employed to reveal an obvious situation in details. Participants were selected via snowball sampling-method. One-to-one interviews were carried out with parents about children. Findings show that children make friends with the children of relatives or familiar families in social terms while they have little communication with Turkish children. The children learn Turkish-language in a short time compared to their parents. The evaluation of children's participation in educational processes showed that some of families could not enroll their children in schools due to the issue of "residence permit". In addition, families with financial-disadvantages are not able to send their children to preschool-education institutions. It is noteworthy that there are children from all age groups that are prevented from their right to be educated. Another remarkable result is that some of the children face developmental-problems due to harsh conditions during migration and in the places they come from.

### **pap103-12.3 The Great Recession and the adult development of Irish third-level emerging adults**

Thomas Conway, *Padraíg Mac Neela*,  
*National University of Ireland, Galway, Ireland*

**Aim:** To investigate the potential impact of the Great Recession on the identity formation and young adult development of young Irish male undergraduates in the emerging adult stage. The 2008 global recession resulted in significant long-term increases in unemployment and emigration in the Republic of Ireland. Young men may experience threats both to gender identity and navigation of the emerging adulthood stage due to restricted lifestyle opportunity and converging gender roles.

**Methods:** This study employed a qualitative approach to explore the effects of the Great Recession on third-level emerging adult undergraduates aged between 18 and 25. A total of 31 university attendees took part in individual interviews. Participants consisted of final-year males, final-year females, and non-final year males. Inclusion of different groups enabled a comparative analysis of both gender and stage of study. Transcripts were analysed using thematic analysis.

**Results:** Findings revealed that male students experienced stress as a result of the recession, but adult development in a lengthy adverse economic climate also generated a resilience that facilitated a pragmatic, positive outlook. Participants conveyed that identity development is affected both positively and negatively by economic difficulties in terms of breadwinning, gender roles, and future expectations. Emigration is a prominent choice due to unemployment and fracturing social groups. Migration is not perceived as a negative, long-term option due to the interconnectedness enhanced by social media and budget travel.

**Conclusions:** The cyclical nature of recessions implies that the emerging adult stage of development will be impacted in industrialised countries where identity development and exploration is an important stage. The emerging adulthood stage emphasizes various forms of independence in becoming a young adult. This research suggests that this stage be restructured in light of the cyclical nature of global recessions.

### **pap103-12.4 Affective social learning: A conduit for the transmission of socio-cultural value**

Daniel Dukes, *Fabrice Clément*  
*Cognitive Science Centre, University of Neuchâtel, Switzerland*

The pioneering work of Bandura described social learning as the process by which individuals learn through observing and imitating others. One of his main objectives was to criticize the idea that most behaviours are exclusively motivated and guided by internal drives. Indeed, by demonstrating that simply observing how diverse social authorities may reward or punish others' actions can influence the observer's future behaviour, Bandura showed that the motivation to behave in a certain way can be socially influenced. For example, an infant may become motivated to learn how to use either a fork and knife or chopsticks through imitation, depending on the dominant culture.

This theory is nevertheless not without its flaws, particularly because it does not specify in detail the method by which observed behaviours can have such a large impact. Our objective is to show that recent developments in cognitive and affective science could renew this field of research. By reframing concepts such as social referencing, social appraisal and natural pedagogy, we propose to develop an affective social learning theory that can explain how infants and children learn not only how to use the objects in their environment, but also how to value them, through observing not only the actions, but also the emotional expressions of others. In this way, the infant can learn both instrumental information such as whether or not it is safe to cross a (visual) cliff and also information pertaining to the social values of the present culture – whether to support the Reds or the Blues, for example. In this way, cultures of social value may be transmitted and perpetuated through the generations.

## pap103-12.5 Friendship preferences and friendship quality of cross-ethnic friendships in multicultural schools

Elisabeth Stefanek, Dagmar Strohmeier  
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The aims of the study were to investigate (1) differences in same ethnic friendship preferences in Austrian, Turkish, and former Yugoslavian girls and boys in schools in Austria and whether (2) these preferences were related to ethnic diversity and perception of intercultural relations (i.e. associations, cooperations) in classes. Finally, (3) differences in friendship qualities (i.e. support, intimacy, conflict, and validation) in same and cross-ethnic friendships were investigated.

The sample comprises 325 students (Mage= 11 years, 52% boys, 40% immigrant students) in 9 schools in Austria. Students could nominate up to 10 friends from their class and should indicate one best friend. To control for the opportunity structure for same ethnic peers in classes the opportunity index developed by Strohmeier (2012) was calculated. Ethnic diversity was measured with an index developed by Simpson (1949) and perceptions of intercultural relations were measured with two subscales from the Interracial Climate Scale (Green, Adams, & Turner, 1988). Friendship quality of the best friend was assessed with the Friendship Quality Questionnaire developed by Asher and Parker (1993).

Results of an ANOVA yielded no significant differences in same ethnic friendship preferences between Austrian, Turkish, and former Yugoslavian girls and boys,  $F(6, 278)=1.87$ . Same ethnic friendship preferences were higher in classrooms with higher ethnic diversity but were not related to perceptions of intercultural relations (Table 1). For friendship qualities a MANOVA with same and cross-ethnic friendship and gender as independent variables and four dimensions of friendship quality as dependent variables was calculated and yielded no significant effect between same and cross-ethnic friendships but a significant effect on gender, with girls reporting higher friendship qualities. Thus, in order to foster cross ethnic friendships a more balanced distribution of ethnic groups in class rooms as well as measures to promote cross ethnic contact would be necessary.

Table 1 *Bivariate Correlations*

	2.	3.	4
1. Same ethnic friendship preference	.14*	-.09	-.02
2. Ethnic Diversity		.59**	.77**
3. Association			.71**
4. Cooperation			

Note. \*\*  $p < .01$ . \*  $p < .05$ .

Table 1

## pap103-12.6 Adolescent-parent relationships: Cross-cultural perspectives from America and India

Shagufa Kapadia  
*The Maharaja Sayajirao University of Baroda, India*

**Aim:** Adolescence is a biological and sociocultural construction. It is interpreted and experienced differently in different societies. Little attention has been paid to the meanings that adolescents give to family interactions, especially how they are interpreted, and the respects in which adolescence itself reflects both universal developmental tasks as well as culturally variable experiences. Pertinent questions in this regard are: What are the salient elements of the adolescent-parent relationship in India and America? How do Indian and American adolescents experience and interpret their relationship with parents? To what extent is adolescent capacity for interpersonal sensitivity and understanding reflected in the two cultures?

**Method:** The paper addresses these questions based on a cross-cultural research involving interviews of 120 American and Indian adolescent girls and boys from educated families in New York-USA and Baroda-India. Individual interviews were conducted in which adolescents were asked to discuss satisfactions and dissatisfactions that they experience in their relationships with their parents and ways in which they have resolved actual everyday disagreements that they have recently experienced with parents.

Results: The findings highlight how adolescents in the two cultural groups interpret and experience their relationships with their parents. Indian adolescents showed greater accommodation to parents than American adolescents and at the same time they accorded more legitimacy to parental authority. Indian adolescents demonstrated greater moral and role-related obligation to accommodate to parents, whereas American adolescents felt that parents were more controlling. Overall there was considerable goodwill and sensitivity for parents in both cultural contexts.

Conclusion: The findings offer valuable insight into the universal and culturally variable features of adolescent development. The results highlight adolescent capacity for intersubjectivity, and discuss how the dominant Western portrayal of adolescence as a stage of storm and stress has precluded adequate understanding of this aspect of adolescent development.

**pap103-13.1 Bystander or standing by: Bystanders active and passive behaviors in cyberbullying episodes**

Dorit Olenik-Shemesh, Tali Heiman  
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Cyberbullying (CB) is a form of interpersonal aggression that occurs on-line, through electronic means, most common among adolescents and has diverse negative socio-emotional and scholastic impacts (Smith, 2008, 2015; Brighi et al., 2012). The role of bystanders in CB episodes dynamics is uniquely powerful, yet, little is known about their involvement behaviors. The purpose of the current study was two-fold: 1. to examine the prevalence and characteristics of bystanders' behaviors in CB episodes, studying the differences between bystanders and non-bystanders in: Internet literacy, age, and gender.; 2. to study the differences between passive and active bystanders' behavior patterns in assisting cyber-victims, related to personal and socio-emotional variables.

The study was comprised of 1094 Israeli students (ages 12-18), studying in 18 schools in north, center, and south of Israel. Of the 1,094 participants, 497 (46.4%) were bystanders to CB episodes. Of the bystanders, 55.4% were identified as having a passive pattern of behavior - did not provide any help to cyber-victims, whereas 44.6% were identified as having an active pattern -helping cyber-victims. Furthermore, it was found that the "active bystanders" are more often girls, older, have more social support from significant others, and lower levels of emotional loneliness than "passive bystanders". A logistic regression model has revealed that gender and age predicted the probability of being an active bystander.

The research results may contribute to designing programs for providing peers tools and encourage greater involvement in CB incidents as supporters for victims. Such an intervention programs should focus on raising awareness to how to identify peers who call for help, and how to assist them. Moreover, the results emphasize the need for a variety of activities for strengthening social networks in helping cyber-victims in real time online, thus preventing further escalation of CB episodes

**pap103-13.2 Sleepless in Cyberspace: Longitudinal Associations Between Sleep-problems And Cyberbullying, Mediated by Anger**

Sara Erreygers, Heidi Vandebosch, Ivana Vranjes, Elfi Baillien, Hans De Witte  
*University of Antwerp, Belgium*

Background: Adolescents tend to go to bed later and sleep less as they grow older, although their need for sleep stays the same throughout adolescence. Poor sleep has negative consequences on personal and interpersonal functioning, including increased aggressive tendencies. Since adolescents' social life increasingly includes interactions via digital media, these interactions may also become more aggressive when adolescents' sleep problems increase. One of the ways in which online aggression may be enacted, is through cyberbullying. Although previous research has examined the role of sleep disruptions in offline bullying, the role of sleep in cyberbullying has not been addressed up to now.

Aim: Therefore, this study examines the longitudinal effect of diminished sleep quality on later cyberbullying behavior among adolescents. Because one of the pathways through which sleep is proposed to be linked to aggression is an affective pathway, namely via angry affect, we aim to examine whether feelings of anger mediate the predicted effect of sleep problems on cyberbullying.

Methods: Using two-wave longitudinal data from 1746 Belgian adolescents in the second year of secondary education (13 randomly selected schools), this study tests a mediation model of sleep quality and cyberbullying perpetration via anger, taking into account adolescents' use of digital media and their previous involvement in cyberbullying. Structural equations modeling and a bootstrap test are used as method of analysis.

Results: Results (see Figure) indicated that diminished sleep quality was indeed indirectly associated with later cyberbullying behavior through heightened feelings of anger, even when taking the effects of use of digital media and previous cyberbullying behavior into account.

Conclusions: These findings provide support for the proposed affective pathway linking sleep problems to cyberbullying. As sleep problems and anger seem to play a predicting role in cyberbullying behavior, important suggestions for cyberbullying intervention and prevention strategies are formulated.

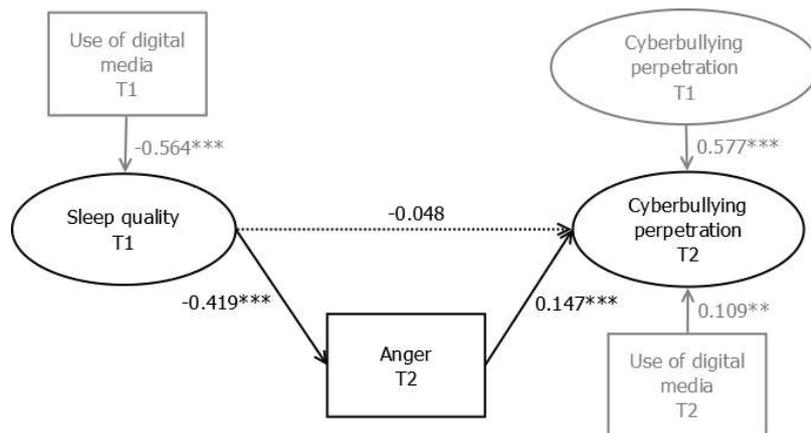


Figure 1: SEM model of the influence of sleep quality on later cyberbullying perpetration mediated via anger. Numbers indicate standardized parameter estimates. Ellipses represent latent variables, rectangles represent manifest variables. Control variables are in *g*

### pap103-13.3 Bystander Responses to Cyberbullying: The Role of Personal Responsibility

Amanda Duffy, Graham Bradley, Kiri Petersen  
Griffith University, Australia

**Aim:** This study drew on Latane and Darley's (1970) bystander intervention model to enhance understanding of bystanders' responses to cyberbullying on social networking sites (SNSs). In particular, the study explored whether pro-victim attitudes, defending self-efficacy, and personal responsibility for intervening were associated with a greater likelihood of defending the victim of cyberbullying and a lesser likelihood of remaining outside the situation. Further, the mediating role of personal responsibility for intervening was also explored.

**Methods:** 237 psychology students (188 females, 49 males) in their first year of University participated in the study. Aged between 17 and 25 years ( $M = 19.78$ ,  $SD = 1.81$ ), all participants had experience of SNSs and spent an average of 0 to 13 hours ( $M = 2.72$ ,  $SD = 1.90$ ) on these sites per day. Self-report measures that assessed the variables of interest were completed by participants via an online questionnaire.

**Results:** Greater defending self-efficacy and personal responsibility for intervening were each uniquely associated with greater defence of a victim of cyberbullying and a reduced likelihood that the bystander would remain outside the situation. Stronger pro-victim attitudes were uniquely associated with greater defending only. Further, the relations between attitudes and bystander responses, and self-efficacy and bystander responses, were mediated by personal responsibility.

**Conclusions:** Results support the application of the bystander intervention model to understanding the responses of young adults when they witness cyberbullying on SNSs. The findings also have practical implications, highlighting several avenues that could be pursued in the effort to increase the likelihood that bystanders will intervene when they see another person being cyberbullied. In particular, interventions could focus on enhancing individuals' feelings of personal responsibility for responding to cyberbullying, employing strategies that shape attitudes to be supportive of victims of cyberbullying and that increase witness' self-efficacy for dealing with cyberbullying incidents.

### pap103-13.4 Prevalence and predictors of sexting among early adolescents in Sweden

Jonas Burén, Carolina Lunde  
University of Gothenburg, Sweden

Sexting, here referring to sending nude or sexually explicit images or videos, appears to be fairly common among late adolescents. However, very few studies have focused on sexting among younger adolescents. The purpose of this study was to examine the prevalence of sexting among Swedish high school students, and the links between different psychosocial factors (social support from family and peers, offline- and online peer victimization) and sexting in this age group. In total, 916 adolescents from Swedish high-schools (grade 7 to 9, 13 – 16 years) completed a survey about sexting. The study showed that for both boys and girls it was more common to receive and to send sexts among older high school students (Figure 1). Hierarchical binary logistic regression showed that, for boys, age, social support and online peer victimization emerged as significant predictors of both receiving and sending sexts. For girls, only age and online victimization emerged as a significant predictor of receiving and sending sexts. These predictors remained significant after controlling for age, family income, school satisfaction and subjective well-being in subsequent steps. In sum, the present study indicates that sexting is quite common also among younger adolescents. For both girls and boys, sexting seems to be increasing with age, and is linked to adverse online experiences with peers. From the present study, it also seems important to direct attention towards the role of social support for boys' experiences of sexting. The findings will be further discussed from the viewpoint of adolescent development and the current knowledge about adolescent sexting.

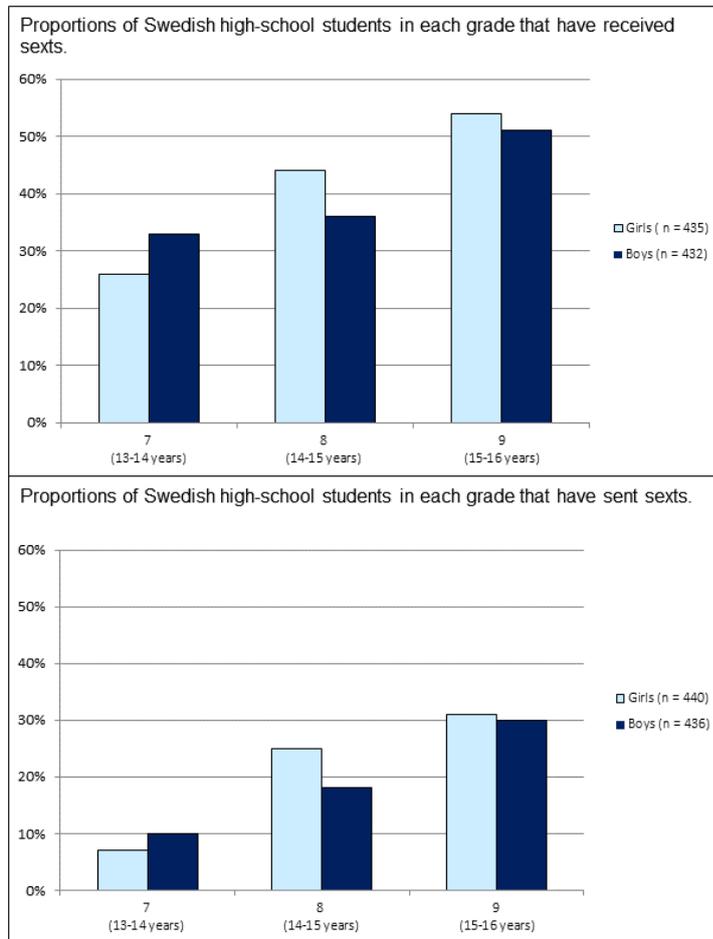


Figure 1

### **pap103-13.5 Parenting, adolescent disclosure and substance use: A “chicken or egg” dilemma**

Sophie Baudat, Grégoire Zimmermann, Stijn Van Petegem, Jean-Philippe Antonietti,  
*Institute of Psychology, University of Lausanne, Switzerland*

Adolescent disclosure has been established as the most important predictor of parental knowledge, which is generally recognized as a protective factor against adolescent problem behavior (e.g., Kerr, Stattin, & Burk, 2010). Further, longitudinal research has shown that both the general parental rearing style as well as parental monitoring are bidirectionally related to adolescent disclosure and problem behavior (e.g., Keijsers, Branje, VanderValk, & Meeus, 2010). However, the majority of these studies have considered two different strategies of information management (disclosure vs. secrecy) as a unidimensional construct. Moreover, few studies have explored the longitudinal relationships between parenting, adolescents' information management and substance use, specifically. Therefore, this two-wave multi-informant study aimed to extend previous research by examining the longitudinal associations between parental responsiveness, parental monitoring (rule-setting and solicitation), adolescent information management (disclosure vs. secrecy) and substance use.

At Time 1, 1105 high school students from the French speaking part of Switzerland (51.3% women; Mage = 15.08) and their parents completed self-report questionnaires. Six months later, 87% of the adolescents filled out the same questionnaires.

Longitudinal structural equation modeling analyses with latent variables showed that adolescents who perceived their parents as being responsive at Time 1 were more likely to disclose at Time 2. However, parental monitoring did not predicted changes in adolescent information management across time. Furthermore, both adolescent disclosure and secrecy were longitudinally related to more parental solicitation. Adolescent disclosure was associated with decreases in secrecy across time. Finally, adolescent substance use was longitudinally related to less parental responsiveness, less parental rule-setting and more secrecy. Additional analyses will be conducted with the third wave of the present study.

These findings provide further evidence that there are mutual influences between parents' rearing style and monitoring efforts, on one hand, and adolescents' information management and substance use, on the other hand.

### **pap103-13.6 Alcohol Use and Risky Sexual Behavior Trajectories from Adolescence to Young Adulthood**

Logan Stigall, Haylee DeLuca, Elizabeth Baker, Manfred van Dulmen  
*Kent State University, United States*

Throughout adolescence and into young adulthood, alcohol use and risky sexual behaviors become increasingly common (Johnson, O'Malley, Bachman, & Schulenberg, 2003). Furthermore, studies show that alcohol use and risky sexual behavior are associated. For example, alcohol use in adolescence predicts current and later risky sexual behavior (Kiene, Barta, Tennen, & Armeli, 2009; McAloney, 2015). However, research is limited and it is unclear if alcohol use trajectories predict risky sexual behavior trajectories or vice versa. While previous studies have documented the developmental trajectories for alcohol use and risky sexual behavior separately, it is not clear whether the developmental trajectories are associated.

The current study extends previous research by examining the interdependence of alcohol use (i.e., how many days respondent drank alcohol in the past 12 months) and risky sexual behavior (i.e., number of sexual partners in the past 12 months) trajectories from adolescence to young adulthood. Participants from the United States National Longitudinal Study of Adolescent to Adult Health reported on alcohol use and number of sexual partners across three waves of data (N = 19,693). Using Latent Class Growth Analysis (LCGA), we found 4 distinct trajectory classes for alcohol use (Figure 1; i.e., steady high, high increasing, low increasing, and low) and 4 distinct trajectory classes for risky sexual behaviors (Figure 2; i.e., high increasing, low increasing, decreasing, and low). A chi-square test of interdependence revealed that alcohol use and risky sexual behavior trajectories are dependent on one another,  $\chi^2(9) = 335.00, p < .001$ . Low stable and high stable alcohol use were associated with similar risky sexual behavior trajectories. However, decreasing risky sexual behavior is associated with steady high alcohol use. Findings suggest changes in alcohol use over time are systematically associated with changes in risky sexual behavior over time.

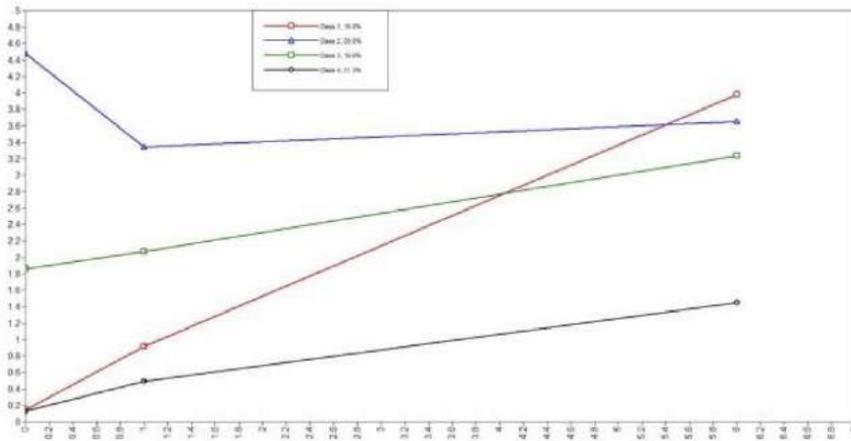


Figure 1. Four-class alcohol use trajectories.

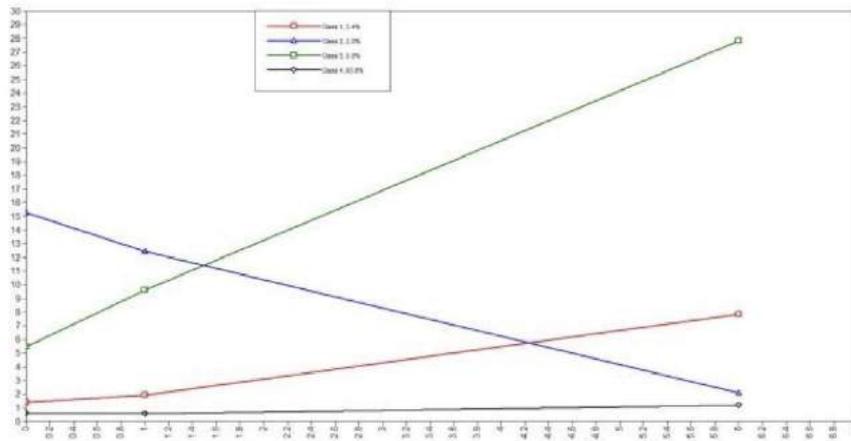


Figure 2. Four-class risky sexual behavior trajectories.

## Thursday August 31

### Keynote 2, Thursday August 31, 08:30 - 09:15

key02 Theory of mind development in childhood: The state of the art

Henry Wellman

*Psychology at University of Michigan, United States*

In this talk, I reflect on theory of mind as a field. I begin with some brief history, including how developmental research on this topic arose and how it developed. I then cover my view as to how theory of mind begins and unfolds in human development, what forces shape that development, and what accounts best explain the timetables and progressions of theory-of-mind understandings in humans. Much of what I say is articulated more fully in my recent book *Making Minds* (2014) with some updates for this talk. I end with my sense of where theory-of-mind research is likely to head in the near future.

## Symposium sessions 201, Thursday August 31, 09:30 – 11:00 hrs.

sym201-1 Public debate: multidisciplinary approaches in practice: impossible or piece of cake?

Will you join the discussion?

What is the best way to deal with social problems? It is to start with the children. Dynamics of youth of the Utrecht University is about working together in order to better understand child development. In order to complete the puzzle, one needs input from all corners of the university. Therefore it is necessary to work with scientists from different fields in order to find answers.

But collaboration between fields of expertise also comes with obstacles: the research culture is different in each field of expertise and it takes a long time before you understand one another and have developed a common vocabulary. It takes a lot of effort, and the benefits aren't immediately apparent. And you also encounter practical problems, such as: where will you publish? Many scientific journals only focus on one field of study.

And then there is the link with society as a whole. We can no longer afford to say: I'm just going to do my own thing. At the very least, you have to explain how your research will contribute to society. Society invests in us, so we have to pay them back.

Voice your own opinion and hear other points of view in our debate. Experts in youth research will present examples from their own practice and then present statements about multidisciplinary work and childhood development. We ask you to vote for or against each statement. The debate moderator will ask participants on both sides to share their opinion. Are you convinced by compelling arguments from across the room? You are allowed to switch sides at all times during the debate.

Chantal Kemner, Chair

*Utrecht University, Netherlands*

Gonneke Stevens

*Utrecht University, Netherlands*

Merel Jonker

*Utrecht University, Netherlands*

Kirsten Visser

*Utrecht University, Netherlands*

Mariëlle Beijersbergen

*Utrecht University, Netherlands*

Heidi Lesscher

*Utrecht University, Netherlands*

Sanne Nijhof

*University Medical Center Utrecht, Netherlands*

Christiaan Vinkers

*University Medical Center Utrecht, Netherlands*

Kors van der Ent

*University Medical Center Utrecht, Netherlands*

Petra van Dijk

*Utrecht University, Netherlands*

## sym201-2 When parenthood turns to disaster! New perspectives about parental exhaustion.

Parenthood has a main positive connotation in (future) parents and their family, as well as in the society. In many cultures, becoming a parent is expected and welcomed with great joy. Parents are expected to be close and happy with their children. However, sometimes the parenthood may turn to disaster. It is actually the case when post-partum depression arises, when parental burnout occurs or in a cultural context of hegemonic motherhood model. This symposium will contribute to the current knowledge on parental exhaustion by presenting several studies. The first paper will focus on the parental burnout, in particular the impact of cumulative effect of sociodemographic, situational, individual, parental and couple risks. The second paper will present a content analysis of the hegemonic motherhood model in the Portuguese society. The third will address a new dyadic perspective on post-partum depression and the important role of partner support. The last paper presents personality profiles of parents who burn out.

### sym201-2.1 A cumulative risk perspective about parental burnout

Marie-Emilie Raes, Moira Mikolajczak, Isabelle Roskam  
*UCL, Belgium*

Introduction: The main purpose of the research was to test the cumulative effect of risk factors on parental burnout. Previous study demonstrated that parental burnout was related to three main risk factors: individual, parental and couple factors. By contrast, socio-demographic factors and situational factors explained a very small part of the variance. In line with the cumulative risk model, we hypothesized that the accumulation of risk factors irrespective of their nature would be more strongly related to parental burnout than any kind of risk factor. In other words, an increase in the number of risks should be associated with an increase probability of parental burnout. Method: The hypothesis was tested in two large samples of respectively 381 and 1723 parents. Parents completed self-reported questionnaires about several demographic, situational, personal, parental and couple factors as well as the parental burnout inventory (PBI). Results: The analyses of the data provided arguments in favor of a cumulative risk effect. The results are discussed for their research and clinical implication.

### sym201-2.2 Hegemonic motherhood on Facebook: The Portuguese case

Filipa Cesar, Anne-Marie Fontaine, Alexandra Oliveira  
*Universidade di Porto, Portugal*

Introduction: Online social networks are currently important sources of informal support for mothers given their accessibility and extensive information on child care and maternity performance. Our approach aimed to identify the goals, attitudes, feelings, and practices attributed to mothers in Facebook groups and pages dedicated to maternity, thereby identifying the main features of the hegemonic motherhood model currently prevalent in Portugal. Method: Within the theme "motherhood" and considering only Portuguese sites, we took as a sample both the closed group and the public pages with the largest number of followers. Their publications and comments were collected through 2015 and submitted to a content analysis. Results: Results show a maternity model strongly focused on the child, highly demanding for mothers, and a strong criticism about their performance.

### sym201-2.3 Partner Support against depression during Transition to Parenthood: Towards a Dyadic Perspective

Aurélie Gillis, Sarah Galdiolo, Isabelle Roskam  
*UCL, Belgium*

Introduction: The main purpose of the research was to test whether the partner support plays a protective role against depressive symptoms during the transition to parenthood in a dyadic perspective. The majority of previous studies considered partner support from the father towards the mother but not in the reverse

direction. Method: The hypothesis was tested in a community-sample of 53 heterosexual couples. They completed self-reported questionnaires at two measurement occasions, i.e. in the third trimester of pregnancy and three months after childbirth. Results: The analyses of the data provided arguments in favor of a dyadic perspective about depressive symptoms during the transition to parenthood. And the importance of spousal support against postpartum depressive symptoms has also been highlighted. The results are discussed for their research and clinical implications.

#### **sym201-2.4 Individual Differences in Parental Burnout: Is Personality a Protective or Risk Factor?**

Sarah Le Vigouroux, Celine Scola, Marie-Emilie Raes, Moira Mikolajczak, Isabelle Roskam,  
*Université d'Aix-en-Provence, France*

Parental burnout is an emotional disorder related to the context of parenthood (Roskam, Raes, & Mikolajczak, in press). Personality differences in parental burnout were explored. One thousand seven hundred twenty-three parents, age 20 to 75 years, responded to a questionnaire. Results indicated that three personality traits are linked to this syndrome. A high level of neuroticism, a low level of conscientiousness, and a low level of agreeableness were all found to be risk factors for parental burnout. Parents who have difficulty initiating and maintaining positive affective relations with their child(ren) (high neuroticism), identifying and responding to their child(ren)'s needs (low agreeableness), or providing their child(ren) with a structured and coherent environment (low conscientiousness) are more likely to experience parental burnout syndrome.

Susan Branje, Chair & Discussant  
*Utrecht University, Netherlands*

This symposium brings together four presentations from different countries on the role of parenting and family processes in adolescents' psychosocial development. Although ample research has examined effects of parenting on adolescent development, questions remain regarding the role of parenting in adolescents' violence in rural low-resource communities, the role of fathers versus mothers, the role of maternal individual characteristics and the time scale on which parenting effects take place. Using longitudinal data from four different samples and including multiple reporters and different family types, the symposium will add to our understanding of the complexities in the role of parenting behaviour for psychosocial adjustment during adolescence.

The first presentation will provide an overview of patterns and prevalence of community violence in rural African American communities and test a risk-resilience family-based model of the pathways through which caregivers' navigate challenges associated with raising children in low-resource communities to effectively protect their children from dangerous surroundings and antisocial activity. The second study tries to disentangle the role of fathers and mothers in predicting children's adjustment and examined how parenting role division moderates the longitudinal interplay between parenting and children's socio-emotional adjustment. Using a self-determination theory perspective, the third and fourth study examine the role of psychological control (study 3 and 4) and autonomy support (study 3). The third presentation will focus on the role of maternal affective and cognitive empathy and maternal psychological control in predicting adolescents' depressive symptoms, as well as the mediating role of mothers' psychological control in these associations. The fourth study examined the unique day to day relations between perceived daily autonomy support and psychological control from mothers, teachers, and siblings and children's basic psychological needs and well-being. A discussion with the audience is organized about the role of family processes in children's psychosocial adjustment.

### **sym201-3.1 Families Matter: Examining Underexplored socialization**

Velma McBride-Murry  
*Vanderbilt University, United States*

Violence, delinquency, and gang activities often associated with urban communities are an emerging problem in rural communities (Weisheit & Wells, 2004). Rural youth are equally or more likely to be exposed to violent activities. Community violence is a consequence of larger social and economic problems. Context and environmental settings that increase youths' vulnerability to risk engaging behaviors share commonalities -- ineffective socialization that hinders internalization of conventional behaviors, lack of structured prosocial activities, limited opportunities for traditional adulthood transitions; and a place to congregate without adult oversight. These cumulative risk theoretical explanations have not been empirically validated. Despite lack of empirical support, efforts to reduce community violence tend to target these areas, in particular neighborhoods and schools anti-violence educational programs or campaigns highlighting potentially harmful situations, anger management, self-control, and problem-solving skill development among youth. Those who are not influenced by these approaches are often sent to juvenile detention centers. Often left unexplored in violence prevention is most significant socializing agent of youths, family.

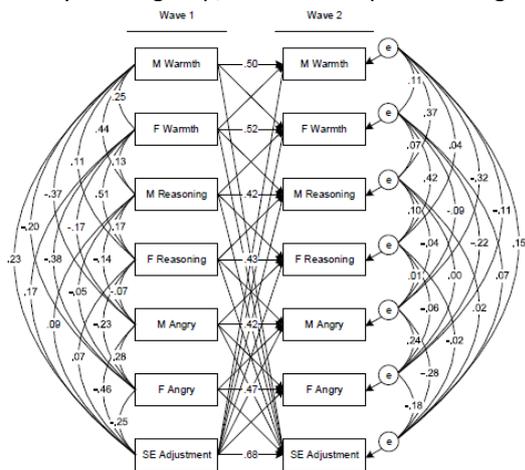
This presentation will provide an overview of patterns and prevalence of community violence in rural African American communities and test risk-resilience family-based model of the pathways through which caregivers' navigate challenges associated with raising children in low-resource communities to effectively protect their children from dangerous surroundings and antisocial activity (Brody, Murry, et al., 2004; Murry, Berkel, 2009), teach vigilance, foster self-regulation, and encourage youth to anticipate and avoid dangerous situations (Murry, Berkel et al., 2011; Murry, Block, Liu, 2016). A risk-resilience model to identify factors that buffers rural African American youth against violence will be developed using data from the Family and Community Health Study (FACHS), a 14-year longitudinal study of 897 African American families with 10-11 year old children at the time of recruitment.

## sym201-3.2 Parenting role divisions moderate fathers' vs. mothers' socialization of socio-emotional adjustment

Caspar Van Lissa, Renske Keizer  
Erasmus University Rotterdam, Netherlands

Whether fathers and mothers play similar roles in children's socio-emotional development is an ongoing debate. Some have argued that fathers' influence is qualitatively different from mothers' (e.g., Paquette, 2004); others have argued that fathers' influence is simply smaller than mothers' (Lucassen et al., 2011). Differences in influence may be explained by parenting role divisions, as fathers often spend less time caring for children (Fagan, Day, Lamb, & Cabrera, 2014). Unfortunately, studies on parenting behaviors often ignore parenting role divisions, and vice versa. We aimed to disentangle these two aspects of parenting, by examining parenting role division as a moderator of the longitudinal interplay between parenting and children's socio-emotional adjustment.

We analyzed two-year longitudinal data of 2699 children in intact families (Mage at T1 = 6.29, SD = .45). Mothers reported on children's socio-emotional adjustment, and both parents completed measures of Warmth, Inductive Reasoning, Angry parenting, and involvement in care activities. We used Latent Class Analysis to identify four groups with different divisions of maternal/paternal involvement: 1) Both high, 2) Both low, 3) Higher mother-involvement, and 4) Higher father-involvement. We then conducted multi-group cross-lagged panel modeling (Figure 1). The results (Table 1) were in line with the notion of differences in degree, as mothers' parenting appeared to have more of an impact than fathers' parenting, regardless of the direction of the effect (i.e., more positive effects of maternal warmth, more negative effects of maternal anger). However, there was also evidence that fathers can play a compensatory role: When mother involvement was relatively low and father involvement was high, paternal warmth had a positive effect on socio-emotional functioning, and only in this group, the effect of paternal anger was non-significant.



Note. This figure shows standardized coefficients, averaged across latent classes, without significance asterisks. Coefficients relevant to the research questions are presented by latent class in Table 1. M refers to mother, F to father.

Table 1

Multi-group cross-lagged panel model of parenting and socio-emotional adjustment

Parental involvement (latent class):	Mother High (N = 368)	Both Low (N = 439)	Both High (N = 1226)	Father High (N = 666)
<b>Initial (T1) correlations of socio-emotional adjustment with parenting</b>				
M Warmth 1	.22***	.22***	.22***	.24***
F Warmth 1	.15***	.16***	.17***	.20***
M Reason. 1	.09***	.08***	.09***	.09***
F Reason. 1	.05**	.05**	.06**	.11***
M Angry 1	-.46***m	-.43***m	-.46***m	-.50***m
F Angry 1	-.23***f	-.24***f	-.25***f	-.28***f
<b>Parenting effects on socio-emotional adjustment</b>				
M Warmth 1	-.05**m	-.05**m	-.05**m	-.05**m
F Warmth 1	-.01a	-.01a	-.01a	.08*bf
M Reason. 1	-.02	-.02	-.02	-.02
F Reason. 1	.02	.02	.02	-.04
M Angry 1	-.04*	-.04*	-.04*	-.04*
F Angry 1	-.08***a	-.08***a	-.07***a	.03b
<b>Child effects of socio-emotional adj. on parenting</b>				
M Warmth 2	.09***	.08***	.09***	.08***
F Warmth 2	.08***	.07***	.10***	.09***
M Reason. 2	.02	.02	.02	.02
F Reason. 2	.00	.00	.00	.00
M Angry 2	-.13***m	-.12***m	-.14***m	-.12***m
F Angry 2	-.06***f	-.05***f	-.07***f	-.06***f
<b>Longitudinal interplay between parents</b>				
F Warmth 1 → M Warmth 2	.09***	.09***	.08***	.08***
M Warmth 1 → F Warmth 2	.05***	.05***	.07***	.07***
F Reason. 1 → M Reason. 2	.10***	.09***	.08***	.08***
M Reason. 1 → F Reason. 2	.04***	.05***	.06***	.07***
F Angry 1 → M Angry 2	.14***	.13***	.13***	.13***
M Angry 1 → F Angry 2	.08***	.09***	.10***	.10***

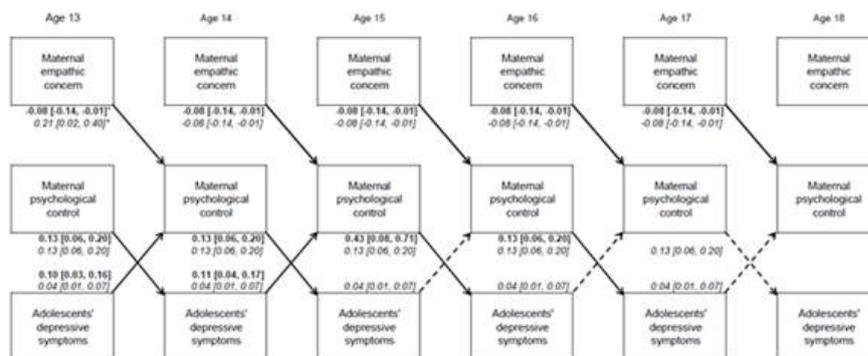
Note. \* p < .05, \*\* p < .01, \*\*\* p < .001. M refers to mother, F refers to father. Letters a and b indicate which parameters differ significantly between the four latent classes of parental involvement. Lowercase letters m and f indicate which parameters differ significantly between mothers and fathers (determined by Wald tests). Model fit: RMSEA = .019, CFI = .991, SRMR = .058. Some parameters are omitted for the sake of brevity (see Figure 1 for parenting behavior inter-correlations and residual correlations at T2).

Figure 1: Schematic drawing and results of cross-lagged panel model

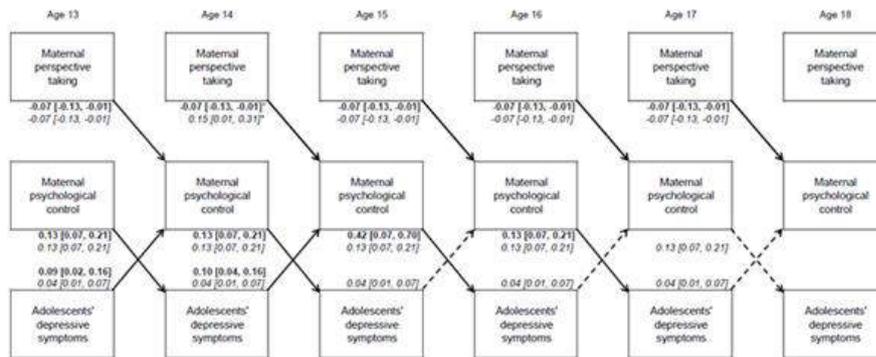
### sym201-3.3 Depressive Symptoms across Adolescence: Links with Maternal Empathy, Psychological Control

Lente Werner, Jolien van der Graaff, Wim Meeus, Susan Branje  
 Utrecht University, Netherlands

Building on self-determination theory (Deci & Ryan, 2000), the aim of this study was to examine the role of maternal affective and cognitive empathy in predicting adolescents' depressive symptoms, through mothers' psychological control. Less empathic mothers may be less sensitive to adolescents' need for psychological autonomy, and thus prone to violating this need using psychological control, which may in turn predict adolescents' depressive symptoms. Moreover, according to interpersonal theory of depression (Coyne, 1976), adolescents' depressive symptoms may elicit rejecting responses, such as mothers' psychological control. For six waves, 497 adolescents (57% boys, MageT1 = 13.03) annually completed questionnaires on depressive symptoms and maternal psychological control, while mothers reported their empathy. Multigroup cross-lagged path analyses were performed to examine the bidirectional relations over time separately for boys and girls. After testing for time-invariance to examine change over time in all relations, bootstrapped mediation analyses were executed to examine the mediating role of psychological control (Preacher & Hayes, 2008). Results showed that throughout adolescence, both mothers' affective and cognitive empathy indirectly predicted boys' and girls' depressive symptoms, through psychological control. Additionally, depressive symptoms predicted psychological control for boys, and early adolescent girls (Figure 1 and 2). These findings show that, although mothers' empathy was not directly related to adolescents' depressive symptoms, both aspects of mothers' empathy are important in predicting adolescents' depressive symptoms, through psychological control. Moreover, from the perspective of self-determination theory (Deci & Ryan, 2000), the finding that mothers' psychological control predicted adolescents' depressive symptoms implies that violation of adolescents' need for psychological autonomy is indeed related to lower wellbeing. Additionally, adolescents' depressive symptoms also predicted mothers' psychological control. This supports interpersonal theory of depression (Coyne, 1976) that adolescents' depressive behaviors evoke negative reactions from others. Finally, these results highlight the importance of taking gender into account when examining adolescent-effects.



**Fig 1** Unstandardized results of the longitudinal relations of EC, psychological control and depressive symptoms significant at  $p < .05$ . For reasons of clarity, non-significant cross-paths, within-wave correlations and stability paths are not depicted. Solid arrows indicate significant paths for boys and girls. Dotted arrows indicate significant paths for boys. Estimates are printed in bold for girls and in italic for boys. 95% CI is shown between brackets. \* Significantly different between boys and girls at  $p < .05$  when comparing the 95% CIs



**Fig 2** Unstandardized results of the longitudinal relations of PT, psychological control and depressive symptoms significant at  $p < .05$ . For reasons of clarity, non-significant cross-paths, within-wave correlations and stability paths are not depicted. Solid arrows indicate significant paths for boys and girls. Dotted arrows indicate significant paths for boys. Estimates are printed in bold for girls and in italic for boys. 95% CI is shown between brackets. \* Significantly different between boys and girls at  $p < .05$  when comparing the 95% CIs

### sym201-3.4 Children's Daily Well-being and Mothers', Teachers', and Siblings' Autonomy-Support and Psychological Control

Maarten Vansteenkiste  
Ghent University, Belgium

This study examined the unique relations between multiple sources (i.e., mothers, teachers, and siblings) of perceived daily autonomy support and psychological control and children's basic psychological needs and well-being. During 5 consecutive days, two children from 154 families (Mage youngest child = 8.54 years; SD = .89 and Mage oldest child = 10.38 years; SD = .87) provided daily ratings of the study variables. Multilevel analyses showed that each of the sources of perceived autonomy support and psychological control related uniquely to changes in daily well-being and ill-being. These associations were mediated by experienced psychological need satisfaction and frustration, respectively. Overall, the findings testify to the dynamic role of autonomy support in children's development. Implications for future research are discussed.

Pol van Lier, Chair  
*Erasmus University, Netherlands*  
Anja Huizink, Discussant  
*Vrije University Amsterdam, Netherlands*

Stress stemming from the social context and relationships with others becomes more salient in childhood. Stressful social experiences have important implications for children's stress system functioning and the potential onset of psychopathology. Exploring the associations of salient chronic stressors and the activation of the stress system will help to identify children at risk for developing behavior problems. Evidence suggests that chronic stress is associated with alterations of a central stress response system, the hypothalamic-pituitary-adrenal (HPA) axis, leading to down-regulation of the stress system. However, it is still unclear to what degree repeated exposure to salient social stressors impacts HPA-axis functioning in children. This symposium will contribute to this area of research by examining the associations of social experiences at home and school with psychophysiological indicators in childhood. Paper 1 will address the impact of early life stress on HPA-axis functioning in post-institutionalized kindergarten-aged children for whom data on social functioning and peer problems are available from multiple perspectives. Paper 2 will focus on the associations of salient peer stressors, specifically low peer acceptance with HPA-axis functioning in elementary school children. Paper 3 will focus on the stress that comes from the acquisition and maintenance of high status in the peer context. This paper will address the complex associations of popularity and bullying with diurnal cortisol across the school day. Paper 4 will focus on bullying and HPA-axis functioning in adolescents. Together, the four studies in this symposium will address the impact of stressful social situations on HPA-axis functioning and problematic behaviors in children and adolescents in different contexts.

#### **sym201-4.1 Early deprivation, hypocortisolism and peer problems in kindergarten**

Carrie DePasquale, Clio Pitula, Shanna Mliner, Megan Gunnar  
*University of Minnesota, United States*

Post-institutionalized (PI) youth are at increased risk for peer relationship difficulties (Pitula et al., 2014). This is presumed to reflect the impact of early life stress (ELS) experienced prior to adoption. Chronic stress has been associated with alterations in the diurnal rhythm of cortisol (i.e., hypocortisolism, Gunnar & Quevedo, 2007; Koss et al., 2014). However, the association of peer problems with early patterns of cortisol production has not been examined in PI children. The present study examined this relationship in Kindergarten-aged children. Supportive parenting was also considered as a potential moderator of the impact of ELS on physiological and social functioning.

Participants were 78 PI children (60% female) reared in orphanages overseas before US adoption, between the ages of 17 and 36 months ( $M=25$  mos.). Two comparison groups were used. Participants completed four assessments over a two-year period. Morning cortisol levels and diurnal slope were aggregated. Teachers and parents completed the MacArthur Health and Behavior Questionnaire (Essex et al., 2002). Trained observers coded and rated children's behavior in the kindergarten classroom (Gunnar et al., 2010).

Early institutional care was found to predict greater peer problems, according to teachers and observers ( $t(143) = -3.73, p < 0.001$ ;  $t(58) = -2.78, p < 0.01$ ). PI children were more likely to show an early pattern of hypocortisolism ( $t(84) = -10.16, p < 0.001$ ). In turn, this early cortisol pattern predicted significantly greater peer difficulties ( $t(124) = 3.05, p < 0.01$ ). Parenting quality did not significantly moderate the impact of early deprivation on peer problems, but did have a direct effect ( $t(142) = -2.14, p < 0.05$ ). Results provide initial evidence for a biological mechanism by which early adverse experiences get under the skin to produce later social problems.

#### **sym201-4.2 Early elementary school classroom social experiences and diurnal cortisol levels**

Pia Behnsen, Susanne Koot, Marieke Buil, Anja Huizink, Pol van Lier  
*Erasmus University, Netherlands*

Social stress has been linked to altered HPA-axis activation, which is in turn associated with the onset of psychopathology. Children can become exposed to negative peer relations, such as poor appraisal among classroom peers already in elementary school, which is considered a social stressor. However, little is known about the association of classroom peer appraisal and the physiological stress system in children. The goal of this study was to examine the association of peer acceptance and peer non-acceptance on changes in diurnal cortisol concentration in first, second and third grade elementary school children from 20 mainstream elementary schools in the Netherlands

In a sample of 222 children (Mage = 6.97 years, SD = 0.99, 55% boys) attending mainstream elementary schools saliva samples were collected at awakening, 30 minutes post-awakening, at noon and 8 pm during a weekend day. From these assessments, the Cortisol Awakening Response (CAR), diurnal cortisol concentration (AUCg) and diurnal cortisol slope were determined. Peer nominations of peer acceptance (being liked), and peer non-acceptance (being disliked) were collected across a one year interval (before and after cortisol collection). Associations were controlled for peer victimization and children's levels of emotional problems and conduct problems.

Low peer acceptance was associated with heightened cortisol awakening response, heightened diurnal cortisol output and lower cortisol reductions across the day. Peer non-acceptance and the interaction with peer acceptance (peer rejection) were not associated with cortisol output indicators.

Results thus provide evidence of associations between peer experiences and HPA axis functioning already in the early years of elementary school. The findings emphasize the association between poor appraisal among classroom peers and children's heightened stress system activation.

#### **sym201-4.3 Associations of Popularity and Bullying with Diurnal Cortisol in the Peer Context**

Yvonne van den Berg, Tessa Lansu, Toon Cillessen  
*Radboud University, Netherlands*

This study examined the association between elementary school children's bullying aggression and activity of the hypothalamic pituitary adrenocortical (HPA) axis and the moderating effect of peer status (popularity) on this association. The cortisol intercept and slope were examined. Lower cortisol levels were expected for high status aggressive children than for low status aggressive children. We expected popular bullies to exhibit a flatter diurnal curve than other children. The further moderating role of gender was explored.

Participants were 97 fourth-grade children (54% boys). Bullying aggression was assessed by peers, teachers, and the children themselves. Sociometric measures yielded scores for popularity in the peer group. Salivary cortisol was collected five times a day on two consecutive school days. Morning, noon, afternoon, and bedtime levels were computed by taking the average of each time across both days.

Table 1 includes descriptive statistics and correlations. Boys scored higher than girls on bullying; there were no gender differences in popularity or cortisol. Popularity and bullying correlated positively for boys, but negatively for girls. There were no correlations of mean levels of cortisol with popularity or bullying.

Growth curve models were run predicting the diurnal trajectory of cortisol across the school day from popularity, bullying, gender, and their interactions. There were significant effects of gender x bullying on the intercept and slope of cortisol, and of gender x popularity on the slope. For girls, however not for boys, cortisol change across the day was strongly moderated by bullying. Girls high in bullying demonstrated low levels of morning cortisol followed by a blunted pattern. These results point to potentially high levels of stress in the peer context at school and adjustment difficulties for high-bullying girls.

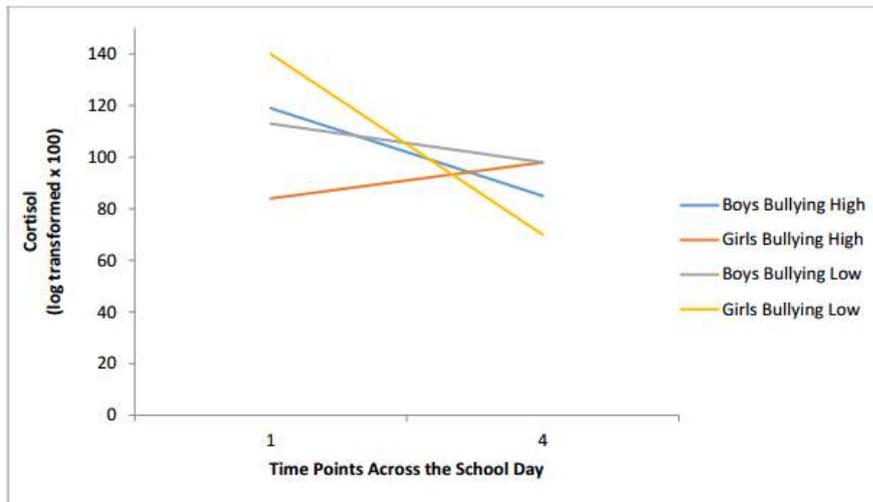


Figure 1: Fitted growth curves of changes in diurnal cortisol across the school day by bullying and gender.

#### sym201-4.4 Hair cortisol and DHEA in relation to social stress in adolescence

Susanne de Rooij, Andrea Allegrini, Anja Huizink, Pia Behnsen  
 Vrije University, Netherlands

Peer relations become increasingly important during adolescence and are accompanied by social stress. Social stress stimulates the Hypothalamic-Pituitary-Adrenal-axis resulting in increased levels of cortisol and dehydroepiandrosterone (DHEA). Previous studies have shown that cortisol is positively and DHEA negatively associated with chronic stress. We hypothesized that hair cortisol would be high in adolescents who are being bullied and DHEA would be high in adolescents bullying.

We collected hair in 218 adolescents (12-18 years), of whom 203 (39% boys; 61% girls) provided sufficient hair (1 cm) to assess cortisol and DHEA over a period of 1 month and 139 (12% boys; 88% girls) provided enough for 3 months. Cortisol and DHEA were assessed by liquid chromatography tandem mass spectrometry and the DHEA/cortisol-ratio was calculated. Participants also filled out the Dutch Participant Role Scale (n=179). During the past 4 months, 31 participants indicated to have bullied and 33 to have been bullied at least once. Cortisol, DHEA and DHEA/cortisol-ratio during the last month or 3 months total were not significantly associated with bullying or being bullied. However, there were trends suggesting that those bullying had higher DHEA ( $p=0.07$ ) and higher DHEA/cortisol-ratio ( $p=0.08$ ). Looking at boys and girls separately, it appeared that especially bullying girls tended to have higher DHEA ( $p=0.06$ ) and boys being bullied tended to have lower DHEA ( $p=0.07$ ).

We did not find evidence for higher cortisol among adolescents who experience high social stress due to being bullied. DHEA levels and DHEA/cortisol-ratio appeared to be somewhat associated with both bullying and being bullied in the expected directions. There was also some suggestion of sex differences, but this was based on small numbers. Future studies should further explore the role of DHEA in adolescent boys and girls with social stress.

## sym201-5 Acculturation and Integration of Children from Culturally Diverse Backgrounds (2) Focus: Promoting positive intergroup relations in children

Barbara Reichle, Chair

*Ludwigsburg University of Education, Germany*

Zuhal Ülger, Chair

*Ludwigsburg University of Education, Germany*

A preference for one's own group over others and negative attitudes toward others who belong to a different group appears around the age of 5. Positive experiences with members of a perceived outgroup, intergroup friendships in particular, help to counter negative perceptions or stereotypes associated with that group. This symposium highlights strategies that promote the acculturation and integration of children from culturally diverse backgrounds. (1) Zuhal Ülger and her colleagues conducted an imagined intergroup contact intervention with first-grade children in Germany. Their research revealed that encouraging children to mentally imagine a positive encounter leads to more positive attitudes and behavior toward ethnic outgroup members. (2) Tobias Stark conducted a discussion-training intervention that aimed to produce intercultural competences in 11 and 12-year-old children in the Netherlands. (3) Jolien Geerlings and her colleagues explored teachers' influence on the extent of students' intergroup friendships by identifying verbal and nonverbal teacher norms in more and less diverse classrooms in the Netherlands. (4) Adam Rutland and his colleagues longitudinally studied the relation between acculturation strategy and peer relationships in African-Caribbean British children. (5) Brit Oppedal, a senior researcher at the Norwegian Institute of Public Health, Oslo, Norway, and an expert on factors that contribute to bicultural development and adaptation, will serve as a discussant and highlight the central themes of the symposium.

### sym201-5.1 Changing children's intergroup attitudes through imagined intergroup contact

Zuhal Ülger, Barbara Reichle, Samuel Gaertner

*Ludwigsburg University of Education, Germany*

The present research examined the impact of an intervention aimed to promote positive intergroup relations. An intervention based on imagined intergroup contact, that is the mental simulation of a positive social interaction with an outgroup member (Crisp & Turner, 2009), was devised and evaluated. To further advance research on imagined contact, we examined imagined contact effects (a) in an ethnically diverse school setting and (b) investigated effects on ethnic majority and minority children's intergroup attitudes and behavior. Several authors have proposed that imagined contact may prepare for direct intergroup encounters (e.g., Cameron, Rutland, Turner, Holman-Nicolas, & Powell, 2011; Crisp, Stathi, Turner, & Husnu, 2009; Vezzali, Capozza, Giovannini, & Stathi, 2012), this research is the first to test the effect of imagined contact on children's actual intergroup behavior. Thirty-nine first-grade children between 6 and 7 years of age took part in a 2-week intervention consisting of four sessions with dependent variables assessed before and after the intervention. Children were randomly assigned to the imagined contact (n = 21) or control condition (n = 18). Our results extend prior work by showing that imagined intergroup contact predicts both positive outgroup attitudes and willingness to engage in intergroup interactions in both ethnic majority and minority children. Our results also indicate differences in the realization of prosocial intergroup behavior with ethnic majority children being more likely to perform the intended behavior.

## **sym201-5.2 Effects of a discussion-training intervention on culturally diverse students' intercultural competences**

Tobias Stark

*Utrecht University, Netherlands*

This study evaluates the outcome of a discussion-training intervention among 11 to 12 year old primary school students in the Netherlands. The intervention consists of a 5-week program in which trained professionals teach students once a week how to express their opinion in a discussion, let others take their turn to speak, listen to and accept opposing opinions, and engage in a civilized discussion. I expect effects of this training not only on students' language and conversational abilities but also on their intercultural competences and attitudes because each training session focuses on a societal sensitive subject. Discussion topics are gender equality, the importance of knowledge about other cultures and religions, equal opportunities for minority children, and the multicultural society. Using validated scales, I test if the intervention enhances students' self-perceived competences to engage with people of various ethnic and religious groups. I also test for change in students' self-confidence and their perceived ability to deal with interpersonal conflicts. Making use of social network analysis, I test whether the intervention reduces ethnic prejudice among minority and majority children and if this change is accompanied by social integration in the form of more intercultural relationships in the classroom friendship networks. I compare students' self-reported intercultural competences and attitudes shortly before the intervention starts with their competences and attitudes three weeks after the intervention ended. The intervention group (20 school classes, n = 500 students) completes next to the pre- and post-test also a follow-up measure three month later, which allows for tests of long-lasting effects of the intervention. The control group (20 school classes, n = 500 students) only completes the pre- and post-test because the intervention will take place in these classes after the post-test as well.

## **sym201-5.3 Do verbal and non-verbal teacher norms facilitate interethnic friendships in diverse classrooms?**

Jolien Geerlings, Jochem Thijs, Maykel Verkuyten, Linda Tropp

*Utrecht University, Netherlands*

This research examined whether teachers influence the extent to which their students are engaged in outgroup friendships. We hypothesized that when teacher display more positive multicultural norms, both in the way they verbally teach about multicultural values and in the way they non-verbally interact with students with an ethnic minority background, their students would be more likely to report interethnic friendships. We also expected these effects to work differently in more versus less diverse classrooms and for ethnic majority versus minority groups. Our analyses use data gathered in among native Dutch majority (n = 343) and non-native Dutch minority (n = 321) students (ages 9 to 13 years) in 35 multi-ethnic classrooms in the Netherlands, all being taught by native Dutch teachers. Using multi-level analyses we are able to model both variation in individual perceptions of students (within the same classroom) as the well as variation between classrooms/teachers. Our results show that majority students, but not minority students, report more outgroup best friends when they personally perceive their teacher to display positive norms about multiculturalism, especially in ethnically diverse classrooms. At the teacher-level we find that when native Dutch students in a classroom are on average perceiving the norm stated by teachers to be positive about multiculturalism, this will be related to more outgroup friendships. However this is only the case in classrooms with an ethnically diverse student population. In classrooms with less diversity, this norm is related to less outgroup friendships. We find no evidence of the behavioural norms as displayed by the teacher to have an effect on outgroup friendships. Seeing a teacher have positive interactions with minority students in class seems not to be associated with how students interact with outgroups in class.

#### **sym201-5.4 Acculturation and peer relationships among African-Caribbean British children**

Adam Rutland, Aderonke Adeyanju, Alice Jones  
*Goldsmiths, University of London, United Kingdom*

Recent research suggests that ethnic minority status children with age increasingly adopt an integration acculturation strategy, though teachers report that such a strategy is associated with peer problems (Brown, Baysu, Cameron, Nigbur, Rutland, Watters, Hossain, LeTouze, & Landau, 2013). This longitudinal study extended previous research by examining the relationship between acculturation and actual peer relationships (as determined by peer nomination) among African-Caribbean British children. Ninety-one children aged 5 to 11 from a highly diverse city at two time points completed a measure of acculturation that assessed the desire to maintain ethnic culture (CM: Culture Maintenance) and to have contact with the ethnic majority status culture (CP: Culture Practice) (Nigbur, Brown, Cameron, Hossain, Landau, LeTouze, Rutland, & Watters, 2008). They also completed the Strength and Difficulties Questionnaire (SDQ) and Social Inclusion Survey (SIS; Frederickson & Graham, 1999), which is a peer nomination measure of how much the children don't like (exclude) and do like (include) same-ethnic and cross-ethnic classmates. Results showed that children's chosen acculturation strategy influenced their peer nominations, especially the extent to which they socially excluded same-ethnic peers. Children who adopted an assimilation strategy (i.e., low in CM and high in CP) with age increasingly excluded same-ethnic peers. Whereas, children who adopted an integrationist strategy (i.e., high on both CM and CP) with age significantly reduced their exclusion of same-ethnic peers. It was also found that children who exhibited an integrationist acculturation strategy self-reported more peer problems. Overall, this study suggests that children adopting an assimilation strategy with age become isolated from peers within their own ethnic group. The results also indicate that integrationist children need social support since they self-reported more peer problems, suggesting difficulties are associated with such an acculturation strategy when growing up in the context of an ethnically and culturally diverse city.

## sym201-6 The Highly Sensitive Child Scale as a Measure of Differential Susceptibility: Cross-Cultural and Developmental Findings

Francesca Lionetti, Chair  
*Queen Mary University of London, United Kingdom*  
Annalaura Nocentini, Chair  
*University of Florence, United Kingdom*  
Michael Pluess, Discussant  
*Queen Mary University of London, United Kingdom*

According to the Differential Susceptibility framework (Belsky & Pluess, 2009) children differ in their susceptibility to the environment, with some being more sensitive than others. To date, most research on individual differences in susceptibility, or Environmental Sensitivity, is based on relatively distal markers of susceptibility (e.g., mother reported difficult temperament, genetic variants etc.). However, the Highly Sensitive Child scale (Pluess et al., 2017), adapted from the Highly Sensitive Person scale (Aron et al., 1997), represents a promising and more proximal self-report measure of sensitivity to environmental influences in children and adolescents. In the current symposium we present new data on the Highly Sensitive Child (HSC) scale as well as a newly developed observational scale for environmental sensitivity in preschoolers, the Highly Sensitive Child rating system. Papers included in this symposium feature samples of children and adolescents from 3 to 17 years of age from four Countries: United Kingdom, Belgium, Italy, and United States.

The first paper, involving four UK-based samples of children and adolescents, provides detailed information on the development of the HSC scale and presents data on the existence of distinct sensitivity groups in the population. The second paper examines cultural differences between Belgium and UK adolescents in their responses to the HSC scale, exploring measurement invariance between the two samples. The third paper reports detailed results on the psychometric proprieties of the scale administered in two large samples of Italian adolescents and provides data on the associations with established temperament traits. The fourth paper presents a new observational rating system named the Highly Sensitive Child rating system, providing data from a sample of USA-based pre-schoolers.

### sym201-6.1 Environmental Sensitivity in Children: Empirical Evidence for Different Sensitivity Groups

Michael Pluess, Elham Assary, Francesca Lionetti, Kathryn Lester, Eva Krapohl, Arthur Aron, Elaine Aron  
*Queen Mary University of London, United Kingdom*

**Aim:** Humans differ substantially in their sensitivity to environmental influences with some being generally more and some generally less affected by experiences they make. Several theories suggest that the majority of the general population is characterized by lower and only a minority by higher sensitivity. These two distinctive patterns have been described in the popular Orchid-Dandelion metaphor (Ellis & Boyce, 2011) according to which “Orchids” represent those individuals who are generally more sensitive and “Dandelions” those who are generally less sensitive to environmental quality. However, whether such distinct sensitivity prototypes exist has not yet been tested in children. After introducing the theoretical background for individual differences in environmental sensitivity we will provide information on the development and psychometric properties of the Highly Sensitive Child (HSC) scale as a measure of Environmental Sensitivity, before presenting results on the existence of different sensitivity groups.

**Methods:** Findings are based on four different UK-based samples with children ranging in age from 8-17 years and a total sample size of N = 3,581. Latent Class Analysis, a hypothesis-free and data-driven statistical approach was applied in order to test whether children fall into different sensitivity groups based on the 12 items included in the HSC scale. Analyses were conducted in three separate samples.

**Results:** Analyses confirmed the existence of a highly sensitive group making up 20-35% of the population. However, the best fitting models across the three samples suggested three rather than two distinct sensitivity groups, a new finding which none of the current theories on Environmental Sensitivity predicted. Besides the highly sensitive group (20-35%), there was also a medium sensitivity group (approx. 41-47%) and a low sensitive group (approx. 25-35%).

Conclusion: Children appear to fall into three different sensitivity groups rather than the hypothesised two groups: Low (30%), medium (40%) and high (30%) sensitivity.

## sym201-6.2 Environmental Sensitivity in Belgian Children and Adolescents

Sofie Weyn, Karla Van Leeuwen, Michael Pluess, Francesca Lionetti, Luc Goossens, Stephan Claes, Hilde Colpin, Wim Van Den Noortgate, Karine Verschueren, Patricia Bijttebier  
*KU Leuven, Belgium*

Children and adolescents differ in their degree of environmental sensitivity, that is the ability to perceive and process information about their environment. A possible marker for environmental sensitivity is Sensory Processing Sensitivity (Aron & Aron, 1997). Sensory processing sensitivity is conceptualized as a common personality trait and can be measured with the “Highly Sensitive Child” (HSC; Pluess et al., under review) scale, a for children and adolescents adapted version of the “Highly Sensitive Person scale” (Aron & Aron, 1997). According to factor analyses the HSC scale reflects three components, namely Aesthetic Sensitivity (AES), Low Sensory Threshold (LST), and Ease of Excitation (EOE). The aim of the present study was to examine whether there are cultural differences in how children and adolescents respond to the HSC scale. Methods: Two Belgian samples of 472 children (42.8% boys, Mage= 12.26, SD=1.19) and 988 adolescents (50% boys, Mage=14.83, SD=0.92), and two UK samples of 532 children (38.2% boys, Mage=11.63, SD=0.69) and 1,431 adolescents (41.6% boys, Mage=17.06, SD=.88) completed the HSC scale. Measurement invariance analyses were conducted. Results: We found evidence for configural and partial metric invariance (Table 1). This means that both groups attributed the same meaning to the items of the HSC scale. However, we did not find evidence for scalar invariance (Table 1). This might be due to the Belgian respondents scoring systematically higher on the HSC scale than the UK group, especially for the AES subscale. Therefore, no valid mean-level comparisons between the Belgian and UK samples can be made. Conclusion: There are cultural differences in how children and adolescents respond to the HSC scale, especially regarding Aesthetic Sensitivity. Our results will be discussed in light of previous analyses on HSC data and future research plans.

Table 1 Summary of the Measurement Invariance Analysis for the Belgian and UK Adolescent and Child Samples.

Model	$\chi^2$	df	CFI	RMSEA A	SRMR R	AIC	BIC	$\Delta\chi^2$	$\Delta df$	$\Delta CFI$	$\Delta RMSEA$	$\Delta SRMR$	$\Delta AIC$	$\Delta BIC$
Adolescent samples:														
Model 1 (configural invariance)	361.308	84	.956	.055	.036	99460.863	100013.046							
Model 2a (metric invariance)	530.968	108	.934	.058	.064	99603.773	100017.910	169.660	24	-.022	.003	.028	142.910	4.864
Model 2b (partial metric invariance)	442.055	104	.947	.053	.054	99507.225	99944.370	80.747	20	-.009	.002	.018	46.362	-68.676
Model 3a (scalar invariance)	916.007	116	.874	.077	.082	99992.439	100360.561	473.952	14	-.100	.024	.028	485.189	416.191
Model 3b (partial scalar invariance)	531.039	110	.924	.061	.062	99660.988	100063.621	88.984	6	-.023	.008	.008	153.763	119.251
Child samples:														
Model 1 (configural invariance)	135.166	84	.969	.035	.035	44873.529	45039.580							
Model 2a (metric invariance)	270.190	108	.903	.055	.096	44990.172	45343.386	135.024	24	-.066	.020	.061	116.643	303.806
Model 2b (partial metric invariance)	163.646	101	.962	.035	.051	44876.514	45264.068	28.480	17	-.007	.000	.016	2.985	224.448
Model 3a (scalar invariance)	269.687	113	.906	.053	.065	44973.586	45302.272	106.041	12	-.056	.018	.014	97.072	38.204
Model 3b (partial scalar invariance)	202.259	107	.943	.042	.051	44908.613	45266.733	38.613	6	-.019	.007	.000	32.099	2.665

Note. All Chi squares and difference in Chi squares ( $= \Delta\chi^2$ ) were significant ( $p < .001$ ). CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual; AIC = Akaike information criterion; BIC = Bayesian information criterion;  $\Delta df$  = difference in degrees of freedom;  $\Delta CFI$  = difference in comparative fit index;  $\Delta RMSEA$  = difference in root mean square error of approximation;  $\Delta SRMR$  = difference in standardized root mean squared residual;  $\Delta AIC$  = difference in Akaike information criterion;  $\Delta BIC$  = difference in Bayesian information criterion.

Figure 1: Summary of the Measurement Invariance Analysis for the Belgian and UK Adolescent and Child Samples

### **sym201-6.3 Highly Sensitive Child scale: Investigating Construct-Validity in an Italian Sample of Children**

Annalaura Nocentini, Ersilia Menesini, Francesca Lionetti, Michael Pluess  
*University of Florence, Italy*

Environmental Sensitivity, defined as the ability to perceive and process environmental stimuli, can be measured in children and adolescents with the Highly Sensitive Child scale (HSC, Pluess et al., 2017). According to initial analyses in UK samples reported by Pluess et al. (2017), factor analyses supported a bifactor structure of the scale, with a general factor of Environmental Sensitivity and three individual factors. Furthermore, latent class analyses supported the distinction between three Sensitivity groups: high sensitivity (20-35%), medium (41-47%) and low sensitive children (25-35%). However, these findings were all based on children from the United Kingdom. The present study aims to replicate these findings on the factor structure and sensitivity groups in Italian children, and to delineate the temperamental profile of the three sensitivity groups. Participants were drawn from two different Italian samples: the first including 1,991 middle school students (grade 6) and the second involving 1,068 high school students (grade 7-9). The HSC scale and the Early Adolescent Temperament Questionnaire (Ellis et al., 1999) were administered in both samples. Findings confirmed the bifactor structure of HSC scale in the Italian sample. However, the HSC subscale Aesthetic Sensitivity showed lower reliability and a very high average mean, suggesting that in the Italian culture this scale should be considered with caution. Furthermore, latent class analyses did not replicate the Sensitivity groups identified in the UK population. However, the three sensitivity groups were created with an alternative approach by stratifying the sample based on the distribution (top 30%, medium 40% and bottom 30%). Comparisons between these groups across the temperament scales showed that the low-HSC group was characterized by a significant lower level of activation, lower reactive temperament and lower empathy, compared to the High-HSC group. Cultural aspects related to the measurement of HSC will be discussed.

### **sym201-6.4 Evaluating Environmental Sensitivity in Preschoolers: The Highly Sensitive Child Rating System**

Francesca Lionetti, Elaine Aron, Arthur Aron, Daniel Klein, Michael Pluess  
*Queen Mary University of London, United Kingdom*

A large number of studies support the theoretical proposition that some children are more sensitive to environmental influences than others. Such individual differences in environmental sensitivity have been associated with parent-reported or observed-rated child temperament, as well as physiological and genetic factors. Although these child characteristics are capturing environmental sensitivity to different degrees, none of them represents a direct measure of sensitivity. Recently, we developed a new observer-rated measure of environmental sensitivity in early childhood as a more direct and objective assessment of environmental sensitivity.

Participants were 59 children aged 3-4 years (31 girls), selected from a sample of 550 children from the Stony Brook Temperament Study. The rating system was developed based on seven episodes from the Laboratory Temperament Assessment Battery (Lab-TAB; Goldsmith et al., 2001). In a first attempt to validate the new rating scale, we conducted factor analyses and investigated correlations with temperament traits. Parallel analysis indicated the existence of one factor confirmed by an Exploratory Factor Analysis. Correlations between the summary score and temperament were  $r = .55$  and  $.51$  for inhibition and fear, respectively, and  $-.18$  for exuberance. No relevant association with gender and age was identified ( $r = .10$  and  $.07$ , respectively). Using a 30%/40%/30% split recently proposed for discriminating among children low, medium and high in sensitivity (Pluess et al., 2017), cut-off scores were 3.49 for low-sensitivity and 4.60 for high sensitivity. These first results suggest that the new rating system may be a promising tool for the assessment of environmental sensitivity in preschoolers. Specifically, a pattern of correlation with temperament comparable to that identified using self-report measures of environmental sensitivity in middle childhood and adolescence emerged as well as comparable cut-off scores. Further data on the moderating role of the scale will be available and presented by the conference date.

## sym201-7 Early childcare settings and their role for children's development of effectiveness in social interactions

Judith Silkenbeumer, Chair

*Westfälische-Wilhelms Universität Münster, Germany, Germany*

Tatiana Diebold, Chair

*Thurgau University of Teacher Education, University of Konstanz, Switzerland*

The focus of this symposium is on children's social interactions in early childhood educational and care contexts and their associations with child development, especially in the realm of social-emotional competence. Teacher-child interactions, but also peer interactions are of great importance, both providing a wide range of possibilities to create and structure supportive developmental learning environments. Various factors contribute to the different ways, in which social interactions can have their impacts on children's developing competencies. The current symposium addresses this issue and includes five contributions, investigating associations between structural, teacher and child variables and children's interactions in the ECEC context. The first contribution focuses on the crucial role of peer interactions in childcare settings, outlining theoretically how child interaction competence can be conceptualized and assessed and which factors enable positive peer interactions and its impact on child development. The second contribution focuses on the comparative analysis of interaction quality between teachers and groups of children in New Zealand's and Germany's ECEC-centres. In the third contribution, interaction qualities and participation practices in classrooms are considered as moderators between children's ideas about participation and their social skills. The fourth contribution explores the impact of groups' age composition on children's behavior in classroom interactions. In the fifth contribution, associations between children's capacity to self-regulate emotions and their pro- and antisocial behaviors in classroom interactions are investigated.

### sym201-7.1 Peer interaction quality as part of early child care quality

Gerlind Grosse

*University of Leipzig, Germany*

Interaction quality has been determined as a crucial factor for the positive effects of early childcare. So far, most of the research has focused on adult-child interaction quality in childcare settings. However, children spend a much higher proportion of their daily interactions in peer interactions. Peer interactions have been shown to carry vast potential for child development.

The presentation addresses three questions related to peer interaction quality based on theoretical analysis and review of the literature:

- 1) Which are the basic competences which child interaction competence is comprised of and how can they be measured?
- 2) What are the situational factors that enable or foster high quality peer interactions?
- 3) How does peer interaction quality correlate with adult-child-interaction quality and how does it influence outcome variables of child development?

### sym201-7.2 Quality of Teacher-Children-Interaction in ECE-Settings between Germany / New Zealand

Claudia Hruska, Theresa Wege

*University of Vienna / University Leipzig - Faculty of Education and Leipzig Research Center for Early Child Development (LFE), Germany*

Aim: The latest national study of ECEC-centres in Germany (NUBBEK) showed the quality is only at a moderate level. Latest discussions focus on process quality, such as teacher-child interactions, rather structural aspects of quality. In New Zealand, fundamental changes in the ECE-system have been realised to implement the ideas of the holistic curriculum Te Whariki over the last two decades. The recent study focuses on the comparative analysis of teacher-group of children quality in ECEC-centres of Germany (federal state Brandenburg) and New Zealand (region Otago).

Methods: Video-based analysis of daily life situations in different ECEC-centres of both countries where recorded. Hotspots of teacher-children-interactions have been selected and analysed using InterMixAge (IMA). The IMA-instrument has seven dimensions and was developed to analyse interactions in age-mixed groups. Two trained assessors have estimated the quality of interaction due to the dimensions and indicators independently from each other.

Results: First analyses show the high concordance of the two observers. Hence, the inter-rater-reliability was above 80%. Analyses by dimensions x country emphasise good to a high quality of interaction for New Zealand's centres. Furthermore, dimensions have been shown significant effects.

Conclusions: This first study comparing the quality of interactions between teachers and groups of children in New Zealand's and Germany's ECEC-centres illustrate a higher quality in New Zealand centres. Due to fundamental changes in structural quality during the last two decades also the process quality has been enhanced as well. Whereas aspects of structural quality have a high impact on process quality, processes have to be developed in teacher education, further training and accompanying reflections. Moreover, New Zealand has changed a lot to develop higher quality in ECEC-centres, such as teacher education, further education, or process orientated assessment. More effort to foster the quality of processes in ECEC-centres has to investigate in Germany.

### **sym201-7.3 Associations between children's ideas about participation and their social skills: Classroom-level moderators**

Nadine Correia, Margarida Fialho, Cecília Aguiar

*ISCTE – Instituto Universitário de Lisboa, CIS-IUL, Lisbon, Portugal, Portugal*

Children's right to participation is a core principle of the Convention on the Rights of the Child (1989) and has recently gained ground in the research field. It refers to children's right to take part in decision-making processes that may be relevant in their lives, influencing decisions taken in their regard within family, school, or the community. Few studies have been conducted on this topic, specifically in early childhood and care settings (ECEC), but the positive relationship between children's participation and the quality of these settings is already documented, suggesting children attending high-quality ECEC settings report more opportunities to participate or exert influence (Sheridan, 2007). Also, children's participation should be considered when evaluating ECEC quality (Katz, 1998). However, little empirical evidence exists on the effects of participation on preschool children's development. For this reason, we aim to explore associations between children's ideas about participation, their social skills, classroom quality, and observed participation practices. Specifically, classroom quality (i.e., teacher-child interactions quality) and observed participation practices will be tested as moderators of the relationship between children's ideas (i.e., conceptions, expectations, and perceptions) about participation and children's social skills (i.e., assertiveness and self-control). Participants were (a) 60 ECEC settings of the Lisbon area and respective teachers, observed with the Classroom Assessment Scoring System (CLASS; Pianta, La Paro, & Hamre, 2008), and with the "Participation Practices Promotion in Preschool Settings", and (c) 360 children attending those classrooms, assessed with the Portuguese version of the Social Skills Rating System (Gresham & Elliott, 1990), and interviewed with "Choosing classrooms: A structured interview on children's right to participate" (Correia & Aguiar, 2017). Associations between variables will be analysed (using multilevel analyses) and preliminary results presented, expecting to provide relevant empirical evidence on the developmental effects of children's experiences and ideas about participation in preschool contexts.

#### **sym201-7.4 The Impact of Groups' Age Composition on Children's Engagement in Day Care**

Tatiana Diebold, Sonja Perren

*Thurgau University of Teacher Education, University of Konstanz, Switzerland*

Previous studies provided inconsistent results concerning the impact of groups' age composition on children's behaviour and interactional quality in the context of early education and child care. Day care in Switzerland is characterized by a wide age-heterogeneity and a high flexibility. Children usually are cared for in mixed-age groupings with an age range from four months up to five years. Furthermore, children can attend day care very flexible, depending on individual parents' needs. This results in continuous changes in the peer group composition. The specific characteristic of Swiss day care offers favourable conditions to enhance our understanding of the role of age composition in the context of day care. This study investigated the association between age composition of peer-group and children's engagement with caregivers, peers, and tasks. Nine day care groups participated in the study. In each group, six three-year-olds were selected for the focal child observations (N = 54), which were performed using inCLASS (Downer et al., 2010). Each child was observed across two visits. For each observation cycle, the present age composition was recorded to investigate the actual situation impact of changes in age group composition on children's behaviour. Additionally, children's usual presence time was obtained through caregivers in order to assess age composition variables on group level.

Preliminary results from multilevel structural equation modelling suggested that median age of children enrolled in the day care group were positively related to child engagement with tasks ( $b = .51, p < .001$ ) and negatively associated with children-caregiver interactions ( $b = -.70, p < .01$ ). Further, the wider the peer group age range the less negative interactions with caregivers and peers children show ( $b = -.09, p < .05$ ). In conclusion, groups' age composition plays a significant role for child engagement in day care.

#### **sym201-7.5 Associations between children's self-regulation of emotion and their social interactions in preschool**

Judith Silkenbeumer, Joscha Kärtner, Eva-Maria Schiller

*Westfälische Wilhelms-Universität Münster, Germany*

Children's capacity to regulate own emotions is significant for their effectiveness in social interactions (Rose-Krasnor, Denham, 2009). Children with higher competencies in emotion regulation behave socially more appropriate and have fewer conflicts with peers (Denham et al., 2007). The preschool setting provides children with critical experiences and challenges with regard to their social-emotional skills. The focus of the present study is on children's interactions in the preschool during naturally occurring situations. Preschoolers aged 4 to 6 years ( $n = 28$ ) and their teachers ( $n = 9$ ) from 3 preschool classrooms participated in the study. Extensive video recordings of everyday interactions in the classroom were conducted to identify (1) episodes that required the regulation of negative emotion and (2) episodes that provided possibilities to show pro- or antisocial behaviors in interactions with peers and teachers. Further, teachers rated children's emotion regulation and their prosocial behavior. The episodes were analyzed with regard to (1) the extent that children were able to regulate negative emotions by themselves rather than to be co-regulated by teachers (2) children's ability to apply rather prosocial than antisocial strategies and behaviors in interactions. Preliminary associations between the different variables suggest that children with higher competencies to self-regulate emotions display higher levels of prosocial behavior in interactions than children that need still more support in regulating their negative emotions. The observational results are in accordance with teacher ratings and point out the importance of the preschool setting as an important learning environment for social-emotional competencies.

## sym201-8 (Social-)Cognitive mechanisms of prospective memory development

Mareike Altgassen, Chair  
*Radboud University, Netherlands*

This symposium will explore the (social)cognitive mechanisms driving prospective memory development across the lifespan. Prospective memory refers to the self-initiated delayed execution of intended actions. For example, remembering to congratulate someone for their birthday when you see them later today or remembering to take the garbage out on Monday evening. Prospective memory performance develops across the lifespan in an inverted u-shaped pattern, showing an increase in performance across childhood and adolescence to young adulthood, and a decrease in old age. To date, little is known about the developmental processes that may be associated with these age-related changes, and how social/environmental factors might influence performance. Previous studies indicate that successful prospective remembering involves retrospective memory (e.g., remembering what needs to be done and when), executive functioning (e.g., monitoring for the prospective event or target time, inhibition of other ongoing activities at the appropriate moment and switching to the intended action) and possibly also the ability to mentally pre-experience the future (so-called episodic future thinking). However, to date it is still unclear whether the rise and fall of PM performance across the lifespan relies on the same or different cognitive mechanisms. To address this question, this symposium will present various studies across the lifespan. Importantly, the underlying mechanisms will not only be studied in healthy, neurotypical individuals, but also in children and adults with autism spectrum disorder; a pervasive developmental disorder that is not only associated with social communication deficits, but with a unique cognitive profile which may help us to understand the driving mechanisms of neurotypical (social-)cognitive development.

### sym201-8.1 Episodic future thinking improves children's prospective memory performance

Mareike Altgassen, Anett Kretschmer, Lydia Reuter, Katharina Schnitzspahn  
*Radboud University, Netherlands*

**Aim:** Prospective memory shows a developmental increase across childhood and adolescence. There is first evidence suggesting that encoding strategies such as episodic future thinking improve prospective memory performance in children. The present study aimed at testing whether the beneficial effects of episodic future thinking extend from typical lab-based tasks to complex ones with real-life task demands.

**Method:** Overall, 56 children (mean age:  $M = 10.73$  years) were randomly assigned to either the episodic future thinking or the control condition. Children participated in a 'sightseeing tour' (ongoing activity) inside the lab with various socially relevant and neutral prospective memory tasks embedded. **Results:** Results showed significantly higher prospective memory performance in the episodic future thinking compared to the control group. There was no difference between neutral and social prospective memory tasks and the social dimension did not interact with encoding group.

**Conclusion:** Results suggest that episodic future thinking is an effective strategy to improve children's everyday prospective memory. These beneficial effects seem to be independent from the nature of the prospective memory tasks (i.e., social vs neutral tasks) and with this children's motivation to successfully complete the tasks.

### sym201-8.2 Effects of motivation on autistic children's prospective memory performance

Daniel Sheppard, Mareike Altgassen  
*Radboud University, Netherlands*

**Aim:** The current paper investigated the role of motivation in the prospective memory performance of 61 autistic adolescents, and 61 non-autistic controls.

**Method:** Motivation for performance on a time-based prospective memory task, embedded within a 2-back working memory task, was manipulated by way of instruction and reward, creating 3 motivation conditions: 1) social motivation; 2) personal motivation; 3) standard motivation.

Results: A main effect of condition indicated that motivation for personal (monetary) reward was sufficient to induce greater performance in that condition, compared to the other two conditions. A main effect of group, but no interaction, revealed that, whilst the non-autistic participants outperformed the autistic participants, the effect of motivation was the same for both groups. Between-group performance did not differ with regards precision (temporal proximity to target time). However, control participants did monitor the time more frequently during periods close to the target time, suggesting a better use of strategic monitoring. Conclusion: The time-based prospective memory deficits of the autistic participants in this paper are in line with the literature. However, the novel investigation into motivation revealed that rewards of a personal nature can support prospective memory performance, of autistic and non-autistic adolescents, whereas social rewards may not.

### **sym201-8.3 How reminders alter the processing of intentions**

Jan Rummel

*University of Heidelberg, Germany*

Aims: Prospective memory is an umbrella term for those cognitive processes that allow us to remember to execute an intention at the appropriate moment. It is assumed that both controlled attentional and spontaneous retrieval processes can result in successful intention execution (Einstein & McDaniel, 2007). In the presented study, I investigated how the presentation of reminders during the intention retention phase (i.e., after intention formation but before it is to be executed) alter intention processing.

Method: For this purpose, two experimental groups of participants received prospective memory instructions to react to certain stimuli in a later to-be-performed ongoing task with a special response. A control group performed the ongoing task alone. All participants performed a filler task before performing the ongoing task during which participants were, from time to time, asked to describe their thoughts. Participants of one experimental group were additionally presented with the intention-relevant stimuli during the filler task.

Results: Thought-probe results showed that reminders that occur during intention retention initiated intention-related thoughts and the more such thoughts participants reported the higher was the likelihood that the intention was later fulfilled.

Conclusions: Reminders change the way intentions are processed and this may have implications for groups with special intention execution problems such as elderly people.

### **sym201-8.4 Prospective memory abilities while driving in adults with an autism spectrum disorder**

Veerle Ross, Giovanni Vanroelen, Ellen Jongen, Tom Brijs, Mareike Altgassen, Karin Van Vlierden, Martijn van Beers, Robert A. C. Ruiter, Geert Wets, Kris Brijs

*University of Hasselt, Belgium*

Aim. Driving is an important step towards autonomy. The driving task consists of several subtasks, running in parallel. This requires the ability to switch in a smooth manner (e.g., shifting, steering, changing lanes, and keeping traffic rules into account). Therefore, driving is a complex goal-directed task that places high demands on perceptual, cognitive, and motor processes. The little research that exists suggests that people with ASD experience difficulties more specifically in complex driving situations, requiring multi-tasking and inducing increased cognitive load. Furthermore, it is not only necessary to handle the vehicle, but also to navigate through rural, urban, and highway traffic environments while concurrently remembering appointments and obeying a schedule. People with ASD however experience difficulties with coordinating and sequencing activities, and with planning ahead. Following this, prospective memory (PM) might interfere with driving. PM is the ability to remember to carry out intended actions in the future while being engaged in other ongoing activities. Two subtypes of PM are event-based PM (EBPM) and time-based PM (TBPM). The former refers to the execution of intentions at certain events (i.e., prospective cues), the latter refers to the execution of intentions at certain times.

Methods. This driving simulator study aims to investigate PM (i.e., EBPM and TBPM) as an underlying mechanism of driving in adults with ASD (i.e., 18-62 years old). To this end, we translated several EBPM and TBPM tasks to a simulated driving environment. The influence of cognitive abilities (e.g., working memory,

planning) is also investigated. A control group, balanced for age and gender, is included. The inclusion of a broad age range allows the investigation of developmental cognitive differences. Results. Data collection is ongoing and will be finished in February. The analyses are planned in March.

### **sym201-8.5 The role of cognitive control for prospective memory in aging**

Katharina Schnitzspahn, Nicola Ballhausen, Matthias Kliegel  
*University of Aberdeen, United Kingdom*

**Aim:** Prospective memory (PM) shows a general age decline when measured in the laboratory. One of the core issues in the current aging debate is the question which developmental mechanisms may be underlying this behavioral change. One prominent candidate is the need for cognitive control in PM tasks. In particular, the age decline in cognitive control has been suggested to underlie observed age impairments in PM. Correlational studies support this suggestion. The aim of the present research project was to examine it more closely with the help of three experimental aging studies.

**Methods:** In each of the three studies, young (18-30 years) and older adults (60-80 years) performed two PM tasks which varied in their cognitive control demands. Specifically, cognitive control needs of the PM tasks have been manipulated experimentally by varying 1) cue salience, 2) cue-action association and 3) shifting requirements in the ongoing task.

**Results:** In line with former literature, results from all studies show clear PM age declines. Further, main effects for cognitive control demands were observed in all studies confirming that the difficulty manipulations were successful. Importantly, age and cognitive control demand only interacted in two of the three studies. As expected, age effects were bigger in the ongoing task condition requiring high levels of shifting. Surprisingly, age effects were bigger for salient compared to non-salient cues.

**Conclusions:** Results suggest that older adults are especially impaired if the PM task requires high levels of shifting and do not profit as much as young adults from visual cue manipulations. These findings highlight the need to consider specific facets of cognitive control such as shifting to explain PM age effects instead of general PM task demands per se.

**pap201-9.1 Parenting and Sibling Relationship: Differences across Siblings?**

Sule Selcuk, Berna Aytaç,  
Hacettepe University, Turkey

Siblings are important sources for emotional support across all developmental periods, so it is important to define the origins and mechanisms of sibling relationship (SR). We aimed to investigate (1) whether maternal control (MC) and discipline (MD) practices reflects on SR (i.e., positive affect-enjoyment and conflict) through their influence on children's perceptions of maternal warmth (PMW) and anger (PMA), and (2) whether this pattern of relationships differs across younger and older siblings. In general, previous studies working on SR recruited only one child in a family and adolescent samples. To fill this gap, we recruited two siblings growing in the same family who are in the childhood period. 100 Turkish families with older (range: 5.3 - 8.7 years) and younger siblings (range: 3 - 5.5 years) participated. Mothers reported positive and negative MC, observers rated positive and negative MD, and children reported PMW and PMA, and quality of SR. Results of path analyses revealed that for both younger and older siblings, (a) higher positive MC was associated with higher PMW, which in turn related to higher sibling positive affect-enjoyment, (b) higher negative MD was related to higher PMA, which in turn linked with higher sibling conflict. Although younger and older siblings were similar to a great extent in terms of reported relationships, there were also some distinctions. A quite interesting finding was that only younger siblings rated their mothers lower on anger dimension if their mothers show higher positive control. It seems that their perception of mother's anger/hostility towards themselves may be more strongly related to their mother's overt positive control practices such as praising and providing explanation compared to older children. Overall, findings imply that parental control and discipline practices reflects on SR and children's interpretations of parental behaviors may be a mechanism through which parental practices influence SR.

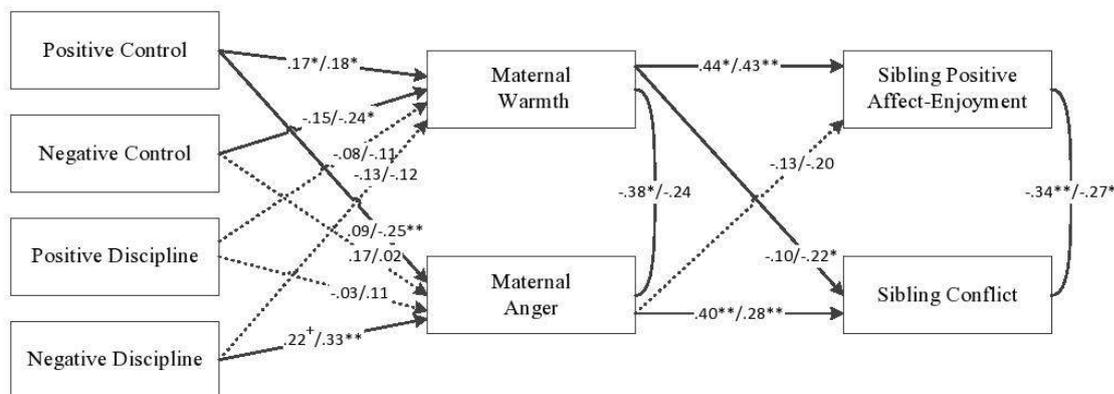


Figure 1. Multiple group comparison model between older and younger siblings.

Note. <sup>+</sup>  $p = .06$  \* $p < .05$ . \*\* $p < .01$

Figure 1. Multiple group comparison model between older and younger siblings.

## **pap201-9.2 Parenting in Times of War: A Mixed-Methods Systematic Review**

Hend Eltanamly, Patty Leijten, Geertjan Overbeek,  
*University of Amsterdam, Netherlands*

War puts families at risk for mental health problems and distorted family functioning. The effects of war on children's mental health are studied exhaustively. Much less is known about the mechanisms underlying the effects of war on children. Specifically, in addition to war-related stressors, such as exposure to violence and displacement, parents might find it difficult to regulate their own emotional states, which can reduce their ability to regulate their children's emotional states, which could manifest itself in sub-optimal parenting practices, which have been associated with adverse child outcomes. This study will inform science by increasing our understanding of the parenting cognitions and practices which are affected most strongly by war-exposure, and how these impact children's mental health. It feeds practice by informing clinicians and intervention workers of risk and protective areas worthy of focus

**Aim:** This systematic review and meta-analysis therefore aims to improve our understanding of how parenting practices are affected by war, and how changes in parenting practices in turn shape children's mental health. Namely, what are (1) the parenting challenges faced by war-exposed families (e.g., are parents more withdrawn, overprotective, and/or re-enacting due to their own trauma?); (2) the strengths parents in these families show (e.g., increased family cohesion); and (3) the parent-child interaction patterns that seem most harmful or protective for children's mental health.

**Methods:** We identified quantitative and qualitative studies on parenting and children's mental health in war-exposed families through nine electronic databases (e.g., PsycINFO and MEDLINE). A total of 3,623 records were identified, are currently reviewed, and will be included in a cross-synthesis of quantitative and qualitative research findings.

**Preliminary results:** Based on screening around 83% of the 3623 records, around 20 studies meet inclusion criteria. Most studies are conducted in Israel, Palestine, and Croatia, on families with school-aged children.

## **pap201-9.3 Maternal Irritability and Harsh Parenting**

Thartori Eriona, Pastorelli Concetta, Zuffianò Antonio, Lunetti Carolina, Favini Ainzara, Di Giunta Laura, Bacchini Dario, Lansford Jennifer E., Antonio Zuffiano  
*Liverpool Hope University, United Kingdom*

According to Belsky's (1984) process model of parenting parent personality represents one of the most important factor influencing parenting behavior and child development. Among personality characteristics, irritability (i.e., the tendency to react impulsively and aggressively at the slightest provocation or disagreement; Caprara et al., 1985) consistently predicted aggressive behaviors across experimental and correlational studies (see e.g., Caprara, Gargaro et al., 1987). However, only a few studies (Greenwald et al., 1997; Shay & Knuston, 2008) have examined if parental irritability disrupts parental discipline and predicts the use of excessive punitive-harsh parenting. The present study was aimed to fill this gap by examining the longitudinal associations between mother's irritability and harsh parenting in 204 Italian families. Referencing latent state-trait theory (LST; Steyer, Ferring, & Schmitt, 1992; Geiser et al., 2014), first we decomposed the variance of irritability scale in trait and state component and, next, we assessed the unique role of irritability in predicting later harsh parenting above and beyond the effects of the fluctuating, state components. Participants were 204 mothers and their children drawn from Naples and Rome and assessed over a 4-year period. Mothers averaged 40.30 years (SD = 5.33) in wave 1 and 44.01 years (SD = 5.43) in wave 4. Their children (50% girls) were 9.45 years (SD = 0.74) at wave 1 and 13.18 years (SD = 0.66) at wave 4. Results of LST analysis confirmed that mother trait irritability component predicted later harsh parenting, above and beyond the effects of the occasion specific situational influences. These longitudinal findings corroborated the role of parental irritability trait in the escalation of coercive and punitive practice toward the child. We elaborated on the practical implications thereof.

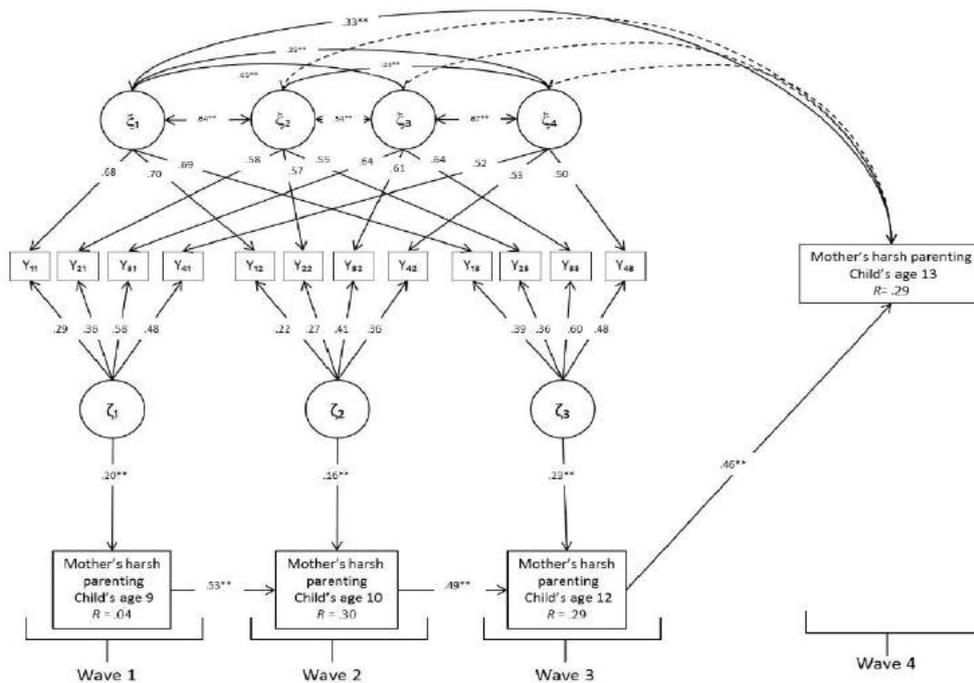


FIGURE 4. Results Conditional Latent State-trait model.

Note. All the reported parameters are standardized. \*\* $p < .01$ . For ease of interpretation, the effects of covariates (i.e., child gender and maternal education) are not depicted on the Figure

Figure 1: Maternal Irritability and Harsh Parenting\_Results Conditional latent state trait model

#### pap201-9.4 Paternal Involvement in Childrearing in the Cultural Contexts of Turkey and Germany

Elif Durgel

Yasar University, Turkey

Developmental studies on parenting mostly focus the role of mothers in children's development. There is little known on paternal involvement and most of the literature is based on the USA. This study aimed to examine how fathers are involved in childrearing across two cultural context: Turkey, which is generally defined as a collectivistic culture, and Germany as an individualistic one, in order to examine the relationship between socioeconomic and cultural factors and paternal involvement.

Participants were 216 Turkish and 94 German fathers of preschoolers. Turkish fathers were significantly less educated and working for longer hours than the Germans. Paternal involvement was assessed in three dimensions according to Lamb's model (Lamb et al., 1987): Accessibility, engagement, and responsibility. Turkish fathers reported themselves to be more accessible to their children than the Germans. In terms of engagement, two groups of fathers did not differ on how much they are involved in outdoor activities, primary care, physical harsh play, and social play. The only significant difference was in the dimension of affection; Turkish fathers reported to display emotional closeness more than did the Germans. In terms of paternal responsibilities, both groups reported that the most important role of a father is showing love to the child, followed by the financial role of the fathers. German fathers reported 'taking physical care of the child' as a responsibility of a father to be significantly more important than did the Turkish. Fathers' educational background and working hours were related with their involvement in child rearing.

Cross-cultural developmental studies generally focus on differences between cultural groups. Our study showed that fathers in Turkish and German cultures display a rather similar pattern of involvement with small differences in line with cultural expectations. The main correlates of paternal involvement seems to be socioeconomic factors.

## **pap201-9.6 Joint effects of parenting stress and parenting styles on children's problem behavior**

Gintas Silinskas, Noona Kiuru, Kaisa Aunola, Riitta-Leena Metsäpelto, Marja-Kristiina Lerkkanen, Anna-Maija Poikkeus, Jari-Erik Nurmi

*University of Jyväskylä, Finland*

**Aim:** We investigated the joint effects of parenting stress and parenting styles on children's externalizing and internalizing problem behavior during the critical transition from primary school to lower secondary school. The transition from primary to lower secondary school brings much stress to children, as children are exposed to the new environments and the transition often coincides with the start of children's puberty. This can relate to increase in children's problem behavior, increase in parenting stress, and changes in patterns of parenting style.

**Methods:** Data of 992 children (Mage = 12.71; 538 boys, 454 girls) and their mothers during transition from primary school (Grade 6) to lower secondary school (Grade 7) were analyzed. At both time-points, mothers answered identical questionnaires concerning their parenting stress and parenting styles; and children evaluated their own externalizing and internalizing problem behavior.

**Results:** The results showed that the contribution of parenting stress on children's problem behavior was dependent on the level of maternal affection and behavioral control: Parenting stress was found to be related to the increase in children's internalizing problems during the transition from primary school to secondary school, but only if combined with a high level of maternal affection. Similarly, parenting stress was found to be related with boys' externalizing problems but only if combined with a high level of affection or with a high level of behavioral control. Children's level of problem behavior did not predict mothers' subsequent parenting stress, when the earlier level of parenting stress was controlled for.

**Conclusions:** The main results of this longitudinal study across transition from primary school to lower secondary school show that it is not parenting stress or dimensions of the parenting styles as such, but rather the combination of the two (parenting stress and parenting styles) that relate to children's externalizing and internalizing problem behavior.

**pap201-10.1 Psychometric Characteristics and Factor structure of CADS in Female Adolescents**

Amir Mohammad Shahsavarani, K Sattari, mostafa mohammadi, H Shahrani, M Hakimi Kalkhoran  
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Children and Adolescents Depression Scale (CADS) is a self-report scale designed for diagnosis and assessment of the degree and intensity of MDD in children and adolescents. The aim of this study was to assess the psychometric and factorial structure of CADS as well as major depressive disorder (MDD) status among adolescent girls. 417 female adolescent students from different areas of Tehran completed the scale (14-19 years). Scale reliability was assessed through internal reliability (Cronbach's alpha and half-splitting), inter-item correlation and test-retest methods and all revealed a desirable level of reliability of CADS. Factor analysis was done via two major methods: Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). EFA via Principal Components Factor Analysis, Parallel Analysis and Minimum Average Partial (MAP) Test showed a one-factor model in the CADS, which assesses depression. Afterwards, CFA supported a one-factor model of depression. Analyses of the CADS results indicated that 32.9% of the subjects were with no signs of depression, while 67.1% of them have depressive signs and symptoms to severe MDD. According to these findings, it seems that CADS could be used as a preferable scale to assess and screen depressive signs as well as depressive disorders both in research and in clinical settings. In addition, regarding the high rate of incidence of depressive signs and symptoms among female adolescent students, the necessity of systematic cognitive-behavioral interventions is obvious.

**pap201-10.2 Personality traits influence how peers respond towards depressed adolescents.**

Yolanda van Beek, Marry Schreur  
*Utrecht University, Nicaragua*

**Aim:** Negative social consequences related to depression in adolescence are well documented. Previous studies indicate that negative social responses can precede, co-occur and follow depressive episodes, indicating that more stable characteristics of depressed (to-be) adolescents may influence such responses. Maybe personality traits, as expressed through social behavior, play a role? The present study examines the mediating and moderating role of observed personality traits in the nonverbal responses towards (mildly) depressed adolescents.

**Methods:** Non-depressed adolescents were observed during two short semi-structured interactions, one with a (mildly) depressed peer and one with a non-depressed peer, matched for age and gender. A total of 195 adolescents participated, 102 girls (52%) and 93 boys (48%), who interacted in 166 conversations. Adolescents were between 12 and 18 years old ( $M = 14.76$ ,  $SD = 1.20$ ). Multilevel mediation and moderation analyses were used to analyze the data.

**Results:** As expected, the depressed group received more negative peer responses. Observed neuroticism predicted negative responses, whereas expressivity and dominance predicted positive responses. However, the more negative response towards depressed persons was not mediated by observed personality traits.

Personality traits did moderate the relationships between interacting with a depressed versus nondepressed peer and negative social responses. For girls, findings were as expected; neuroticism exacerbated the negative responses, while expressivity protected against negative responses towards depressed adolescents. For boys, results were less clear, as agreeableness, but also neuroticism, were found to lessen the lack of attention towards depressed adolescents, while expressivity and dominance exacerbated the lack of attention.

**Conclusions:** The importance of personality in influencing how adolescents respond to depressed adolescents, through exacerbating or protecting from the negative responses, was clearly demonstrated for girls, and merits further research for boys.

### **pap201-10.3 The transition from child to adult care for youth suffering from depression**

Leante van Harten, Fieke Pannebakker, Athanasios Maras, Therese van Amelsvoort, AnneLoes van Staa  
*TNO, Netherlands*

Depression is one of the most common mental disorders, and the manifestation is often in adolescence (Kessler, 2005). In the Netherlands there is a strict distinction between child mental health services (18-) and adult mental health services (18 and older). Many young people with a depression have to navigate the transition; not only do they face all the developmental challenges of emerging adulthood, but they also have to deal with different services.

Substantial differences exist between the services for people with a depression: for example, there is a great reluctance to prescribe antidepressants to children, whereas medication is widely used for adults (Thapar, 2012). In addition, in psychotherapy the environment (parents, school) play a substantial role in child services, but treatment is very focused on the individual in adult services (McLaren, 2013).

There is a great need to improve the transition. Both child and adult mental health professionals express a need for a better cooperation between the two (Gerritsen et al., in press.), and studies both in the U.K. and in the Netherlands indicate that almost 60% of the children facing the transition do not continue in care (GGZ NL, 2015) – most likely leading to poor clinical outcomes (Singh et al., 2010).

The current project aims to improve the transition for young people suffering from a depression, by developing a transition protocol. The transition protocol is intended for both professionals and patients themselves and will be evidence and practice based. Young people, their significant others and professions are involved in developing the protocol. It will contain three parts: individual transition plan, coordination between professionals and parental involvement.

The protocol will be pilot tested and subsequently adjusted.

We will present the first version of the protocol at the ECDP as well as explain the process and methodology of the development.

### **pap201-10.4 Implementation of SMILES Program on the Children of Depressive Parents in Pakistan**

Mussarat Jabeen Khan, Syeda Shahida Batool  
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Simplifying Mental Illness plus Life Enhancement Skills (SMILES; Pitman & Matthey, 2004) is an intervention plan for the children of mentally ill parents to enhance their capabilities, resilience, self expression, and creativity, to lower down their feelings of loneliness and to boost up their self-worth. The present research was carried out to establish the validity of translated and adapted version of SMILES Program (Khan & Batool, 2014) on children of depressive parents. Sample consisted of 50 parents and 50 children of age range from 8 to 12 years. Children were divided into two groups (25 children were placed in experimental group and 25 in control group). Siddiqui Shah Depression Scale (Siddiqui & Shah, 1997) was administered on parents. Child Problem Checklist (Tariq & Hanif, 2007), Knowledge Questions, and Life Skills Questions were administered on all the children in experimental and control groups in pre-assessment. Afterward, SMILES Program was administered on children in experimental group. In post-assessment, scores of all children were again measured with the same instruments which were used in pre-assessment. SMILES Results showed that parental depression significantly predicted behavioral problems among children of depressive parents as indicated by simple linear regression analysis ( $R^2 = .11$ ). Multivariate Analysis of Variance (MANOVA) was used to test the research hypotheses. Results showed that there were significant differences on externalizing problems, internalizing problems and somatic complaints among children of depressive mothers and depressive fathers, high and low educated parents, nuclear and joint family systems, upper, middle and lower socioeconomic class families and boys and girls. Results of Repeated Measure MANOVA indicated that experimental group had less externalizing problems, less internalizing problems, less somatic complaints, more knowledge regarding parental depression and more life skills in post-assessment than children in control group.

Keywords: Externalizing problems, internalizing problems, somatic complaints, knowledge, life skills

## **pap201-10.6 Executive Dysfunctions as Risk Factors for Depression in Adolescence.**

Anna Jankowska, Wioletta Radziwiłłowicz, Paweł Jurek  
*Univeristy of Gdańsk, Poland*

Executive dysfunctions (ED), especially deficits in inhibition and mental flexibility, result in difficulties in mood regulation (Kilford et al., 2014) and, therefore, may increase the risk for depression. The aim of this study was to explore differences in ED between adolescents with and without unipolar depression and investigate if ED can predict the current level of depressive symptoms (DS). Additionally, moderating and mediating role of coping strategies and locus of control (LOC) between ED and DS was analysed.

A battery of neuropsychological tests (BRIEF-SR, WCST, CTT, COWAT, Digit Span, MFF), Children's Depression Inventory, Locus of Control Scale and MINI-COPE were used to assess 20 adolescents with unipolar depression (AD) (ages between 14 and 16; 30% boys) and 20 healthy controls (HC) (same range of age; 40% boys). Regression and mediation analysis was computed using PROCESS (Hayes, 2013).

As predicted, significant ED emerged in AD, especially in shift and emotional control, and AD used significantly more often emotion-focused coping strategies and had more externalized locus of control than HC. Shift ( $\beta = .32, p < .015$ ), LOC ( $\beta = .39, p < .002$ ) and emotion-focused coping ( $\beta = .37, p < .003$ ) predicted DS ( $F = 19.64, p < .001$ ) explaining 59% of the variance. However, neither LOC nor emotion-focused coping mediated the relationship between shift and DS. Emotional control ( $\beta = .25, p < .066$ ) also predicted DS ( $F = 17.47, p < .001$ ) explaining 56% of variance, and emotion-focused coping ( $\beta = .38, p < .004$ ), but not LOC, mediated between emotional control and DS.

Findings revealed that ED predicted the current level of depressive symptoms and are an important factor possibly impairing self-regulation and effective coping with emotional stress leading to higher risk of DS. Other exploratory analyses are discussed.

## **pap201.10.7 Values and parent-child relations: Families with learning disabled and typically developing children**

Suzan Cen, Gul Pembe Yuceol, Berna Aytac  
*Hacettepe University, Turkey*

Background: Cultural values are important contextual source for parenting (Bornstein, 2012), as they shape parents' views of the development of their children (Schwarz, Schafermeier & Trommsdorf, 2009). However, cultural studies generally have been conducted with typically developing children and their parents. Aim: The aim of current study is to examine the association between parents' internalized cultural values and parent-child relationships, and comparing these relation among families with learning disabled children and typically developing children.

Method: The sample comprised a total of 112 children with learning disability and 138 typically developing children and their mothers. Mothers completed Portrait Values Questionnaire and Parent-Child Relationship Scale; while Two Field Map was administered to children for assessing perceived closeness from mother. Pearson correlation and t-test analysis were conducted. Results: Significant intergroup differences and similarities were found. Preliminary analysis concluded that families of LD children were more disadvantaged in terms of socio-economic status, but duration of marriage positively associated with the parent-child positivity and perceived closeness from mother in both groups. Also, both parent perceived positivity and child perceived closeness from mother was higher in typically developing children. Last, parents' internalized cultural self-transcendence values is higher in typically developing group and their mothers reported positivity was positively correlated with self-transcendence values. Conclusion: The findings highlight the relevance of using cultural values to explore cultural distinctions in the operation of parent-child relation among families with learning disabled children and typically developing children. Limitations and future directions will also be considered.

Keywords: parents' values, parent-child relationship; perceived closeness from mother; learning disability; typically developing children.

**pap201-11.1 The Influence of Classroom Disruption on the Severe Level of School Bullying**

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School bullying in Japan is a serious problem that has driven children to take their own lives. To understand and to address this serious problem, this study will focus on classroom disruptions and bullying. The overall purpose of this study is to examine the relationship between classroom disruptions and school bullying (i.e. physical and verbal forms of bullying, and exclusion, sexual harassment). A total of 5,944 students from elementary and junior high schools were given a survey about bullying. The surveys were then accumulated and analyzed. The analyzed data was then categorized into three main groups: High Classroom Disruption, Moderate Classroom Disruption, and Low Classroom Disruption.

As a result, total of 45.5% of students were victim of one or more types bullying. Furthermore, classroom disruptions were strongly tied to the victimization of school bullying strongly. For instance, in the case where students report a high classroom disruption, a higher percentage of students report victimization of physical bullying. This example also applies to all of the other forms of bullying. In conclusion, the level of classroom disruption shows a significant impact on the frequency of school bullying. In order to decline bullying in school, classroom disruption must be attended immediately and to diminished. However, such a responsibility should not fall on the homeroom teachers alone, but to also include social workers and other specialists within the school.

**Table 1** The rate of victimization of school bullying according to the levels of classroom disruption.

The types of school bullying	Type of School*	The levels of classroom disruption		
		Low	Middle	High
Exclusion	ES	25.3%	27.3%	33.1%
	JS	13.3%	14.5%	22.4%
Extortion	ES	16.5%	21.1%	31.2%
	JS	8.0%	10.7%	15.3%
Indirectly verbal form of bullying	ES	21.0%	25.3%	31.1%
	JS	16.7%	22.4%	31.5%
Physical form of bullying	ES	14.2%	19.3%	30.8%
	JS	6.0%	7.6%	13.9%
Directly verbal form of bullying	ES	21.2%	26.2%	31.6%
	JS	9.3%	14.3%	19.7%
Cyber bullying	ES	1.1%	1.4%	2.7%
	JS	2.6%	5.2%	7.0%
Softly physical form bullying pretend to play	ES	19.2%	22.3%	25.1%
	JS	8.6%	12.8%	18.9%
Sexual harassment	ES	3.5%	3.8%	8.2%
	JS	2.0%	2.2%	4.2%

\* ES: elementary school, JS: junior high school

*Table 1: The rate of victimization of school bullying according to the levels of classroom disruption.*

**pap201-11.2 Bully-victimization of preschool children with developmental difficulties – A Norwegian population-based study**

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**Aim:** Former research show that children with developmental difficulties (DD) are vulnerable to bully-victimization, but few studies have addressed bullying for preschool children with DD. The main aim of this study is to explore if preschool children with DD are at increased risk of being exposed to bully-victimization compared to typically developing children (TD).

**Method:** The sample is drawn from the Norwegian Mother and Child Cohort study (MoBa). MoBa has collected population-based data on more than 100 000 children’s development from pregnancy through five years of age, including information on bully-victimization. Multivariate logistic regression is used to estimate the impact

of different groups of DD on bully-victimization reported by the mother. The results are adjusted for the families' socioeconomic status and the child's gender, body mass index and prematurity.

Preliminary results: Results show that children with DD were at increased risk of bully-victimization at the age of 5 years compared with TD children. The strongest predictor of reported bully-victimization was for children with autism, recording an odds ratio of 8.9 (95% CI 6,0 – 13.2) and the lowest for hearing and sight impairment, recording an odds ratio of 1.4 (95% CI 1.0-1,8).

Discussion: Earlier research has mostly addressed bully-victimization for homogenous groups of DD in school aged children. We address DD as a heterogeneous group in preschool children. Results show a significant difference between different forms of DD and the risk of being exposed to bully-victimization. It seems that children with social-cognitive impairments, emotional difficulties and behavioral difficulties are at considerable greater risk of being victimized, compared to other groups of DD and TD children. Consequently, bully-victimization should be addressed already in preschool, and intervention should especially target children with DD.

### **pap201-11.3 Bullying and mental health: Chinese, Maltese and Australian students' perspectives**

Mirella Wyra, Helen Askill-Williams, Grace Skrzypiec  
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The World Health Organisation reports that around 20% of the world's children and adolescents are estimated to have mental difficulties, with about half beginning before the age of 14. In a study of 123,227 students aged 11, 13 and 15 years across 28 countries (in eastern and western Europe, Scandinavia, North America, Israel and Russia), Due et al. (2005) found significant associations between being a victim of bullying and psychological symptoms, such as feeling nervous, feeling low, loneliness and helplessness. Meanwhile, a study of over 26,000 Finnish adolescents found that involvement in bullying was associated with a range of mental health problems such as anxiety, depression and psychosomatic symptoms (Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000). Schools are key sites for peer-to-peer bullying.

The aim of this paper is to investigate students' perceptions of their life at school, with a focus on relationships between students' reports about being a bully or victim, and their mental health. Questionnaires were delivered to almost 5000 students, in grades 6 to 10, in Australia, China and Malta. The questionnaires included items about frequency of bullying, coping strategies, friendships, and mental health status.

Factor analyses indicated that the questionnaires possessed good construct validity and reliability.

Correspondence Analysis and Profile Analysis using SPSS showed consistent relationships between being a victim of bullying and mental health difficulties, with particular concern for students who were both victims and bullies.

Students' self-reports about their experiences of bullying and their own perceived mental health status provide important information about students' life at school. Although current bullying-prevention programs tend to be delivered at the whole class, or whole school, level, the different student profiles emerging in this study, such as friendship patterns and coping styles, suggest the need for targeted interventions according to whether a student is a bully, victim or bully-victim.

### **pap201-11.4 Bullying and Victimization in Twins: Effects of Classroom Sharing and other Factors**

Sabine Veldkamp, Elsje van Bergen, Eveline de Zeeuw, Toos van Beijsterveldt, Dorret Boomsma, Meike Bartels  
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Peer bullying and victimization are a widespread phenomenon among school-age children and can have detrimental effects on the development of children. To examine whether having a close companion during childhood increases or decreases risk of victimization and bullying, this study compared twins to singleton children. A large group of twins (n = 9,909) were included who were compared to their related non-twin siblings (n = 1,534) aged 7–12 from the Netherlands Twin Register, thus creating optimal matching between twins and non-twins. Bullying and victimization were each based on a four-item scale filled out by their teachers. Prevalence rates for either bullying or victimization did not differ between twins and singletons. In total, in the past couple of months, 36% of children bullied peers moderately to severely, and 35% suffered moderately to severely from victimization. Boys were more likely to bully and were more prone to becoming a

victim than girls. The effect of classroom sharing was also significant, indicating that twins attending the same class were less often a victim than those in separate classes (see Figure 1). Follow-up analyses showed that this effect was driven by female twin pairs. In sum, the most notable finding is that female twin pairs placed together in the same classroom did not bully more often, but were victimized less often, thus pointing to a protective effect of having a close companion in the classroom.

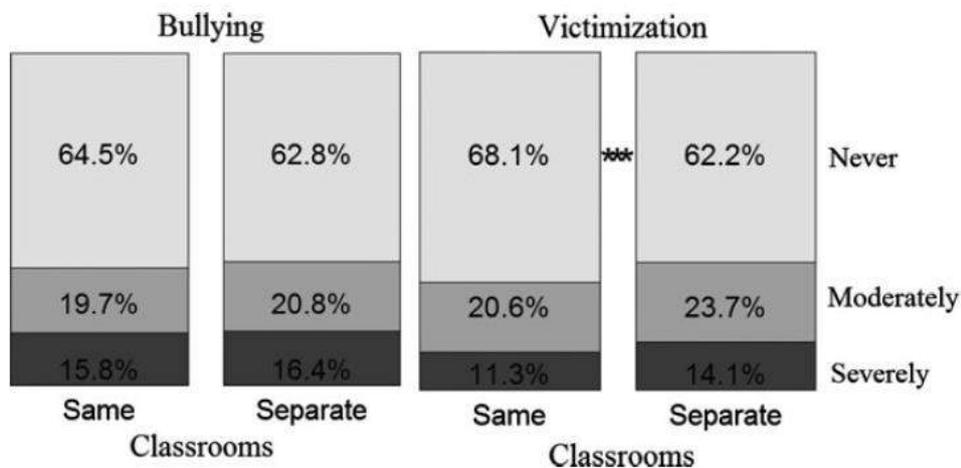


Figure 1: Prevalence rates of bullying and victimization for twins attending same and different classes. Twins in the same classroom do not bully more often (left panel), but are bullied less often than those in separate classrooms (right panel). Follow-up analyses

#### pap201-11.5 "Are they kicking me out?" Integrating SIP and morality to understand bullying

Marina Camodeca, Angela Mazzone  
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According to the Social Information Processing model (SIP; Crick & Dodge, 1994), social behavior depends on a sequence of six steps in which individuals 1) encode and 2) interpret the information, 3) select goals, 4) generate responses, 5) choose and, finally, 6) enact the behavior. Further developments of the SIP model suggest the importance of morality in processing the distinct steps. However, research is scarce in this domain. The present work aims at integrating the SIP model and the Social Cognitive Theory of Moral Agency (Bandura, 1990). In particular, we aim at testing whether interpreting ambiguous situations of exclusion as hostile, selecting revenge goals, and generating aggressive responses were associated with moral disengagement and with bullying and outsider behavior. Besides, we aim at investigating whether moral disengagement mediated the link between SIP steps and bullying and outsider behavior.

Participants were 184 preadolescents (92 girls; mean age = 11.24). Three SIP steps (i.e., second, third, and fourth) and moral disengagement were assessed by self-reports, whereas bullying and outsider behavior were measured by peer nominations.

Results indicated that revenge goals and aggressive responses were directly associated with moral disengagement ( $B = .28$ ;  $p < .001$  and  $B = .38$ ;  $p < .001$ , respectively) and indirectly associated with bullying ( $B = .15$ ; CI: .06-.30 and  $B = .20$ ; CI: .07-.38, respectively) and outsider behavior ( $B = .13$ ; CI: .04-.27 and  $B = .19$ ; CI: .07-.38, respectively), through moral disengagement.

By integrating two theoretical frameworks, the present findings shed light on the link between moral disengagement and social information processing, indicating that the way in which preadolescents select their social goals and take decisions is associated with their morality. Furthermore, findings showed that moral disengagement is a good candidate to explain the relation between social cognitive processes and bullying and outsider behavior.

## **pap201-11.6 Bullying and social emotions in deaf and hard of hearing adolescents**

Evelien Broekhof, Carolien Rieffe

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**Aim:** Adolescents who are deaf or hard of hearing (DHH) generally have less access to the social world due to fewer means to communicate with hearing others. This might result in a difficulty to understand social emotions, such as shame and guilt. Additionally, the frequently noted problems in emotion regulation in adolescents who are DHH, could be a result of higher levels of anger and fear in this population. In hearing adolescents, guilt-proneness, shame-proneness and elevated levels of anger are associated with more bullying, while shame-proneness and elevated fear are associated with more victimization. If these relationships also apply for adolescents who are DHH, this could put them at risk for being engaged in bullying either as a bully or a victim. In the present study we investigated the longitudinal relationship of shame, guilt, anger and fear with bullying and victimization in DHH children in comparison to their hearing peers.

**Methods:** A sample of 337 adolescents (121 DHH, 216 hearing, Mean age = 11.7 years) between 9 - 15 year old filled out self-report questionnaires at two measurement occasions with a 9-month interval.

**Results:** Results indicated that adolescents who are DHH reported more victimization but less bullying than their hearing peers. In addition, they reported less shame- and guilt-proneness, but they did not differ in their level of anger and fear compared to hearing adolescents. More shame and anger, but less guilt predicted increased bullying. Conversely, more bullying predicted increased anger and decreased guilt. Furthermore, high levels of shame, anger and fear predicted increasing victimization, and vice versa.

**Conclusions:** The results stress the important role of emotional functioning in the maintenance of bullying and victimization in both hearing children and children who are DHH.

## pap201-12 Effortful Control and Moral Development

### pap201-12.1 Effortful Control in Russian preschool children: links with personality, well-being and parenting

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**Aim.** This study examined Effortful Control in Russian preschool children and investigated its links with personality, well-being and parenting.

**Methods.** A community sample of 365 Russian children from the urban and rural areas of Siberia (46% female, mean age 5.1; SD = 1.3) was assessed using parent and teacher reports. Effortful Control was measured by the Very Short Form of the Children's Behavior Questionnaire (CBQ-VSF, Putnam & Rothbart, 2006); personality was measured by the Inventory of Child Individual Differences – Short version (ICID-S; Slobodskaya & Zupančič, 2010); well-being was measured by the Strengths and Difficulties Questionnaire (SDQ, Goodman, 2001); parenting was measured by the Alabama Parenting Questionnaire – Preschool Revision (APQ- PR, Clerkin et al., 2007); parental stress was assessed using the Self Reporting Questionnaire (SRQ, WHO, 1994).

**Results.** The CFA supported the four- factor structure of Effortful control including Attentional Control (AC), Inhibitory Control (IC), Low Intensity Pleasure (LIP) and Perceptual Sensitivity (PS) subscales. Effortful Control measures were positively related to Conscientiousness, Agreeableness, and, to a lesser extent, to Openness domains. Negative Affect was negatively related to Effortful control and three subscales, AC, IC and LIP, while Positive emotions trait was positively correlated with Effortful Control. For both parent and teacher reports, Effortful Control and its subscales were negatively correlated with problem behaviors; correlations with behavioral problems were more pronounced than those with emotional problems. Among Effortful Control subscales, IC was most strongly related to behavioral problems. Effortful Control and its subscales were positively associated with Positive Parenting and negatively related to Corporal Punishment; Inconsistent Parenting and parental stress were negatively correlated with IC.

**Conclusions.** This study confirmed the association of Effortful Control with personality traits of Conscientiousness and Agreeableness and parenting practices and showed that Effortful Control has an important role in Russian child well-being.

### pap201-12.2 Shyness and early school adjustment: The role of inhibitory control

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**AIM:** Children's inhibitory control (IC) refers to the ability to inhibit a dominant response while achieving some goals. IC has previously been considered as a protective factor for children's social and scholastic adjustment. However, a handful of recent studies suggest that IC may serve a different function for shy children, who generally tend to suppress their social approach tendencies because of feelings of worry and fear in social interactions (Booker, Kiel, & Buss, 2016; Eggum-Wilkens, Reichenberg, Eisenberg, & Spinrad, 2015). The main aim of the present study was to examine the moderating role of IC in the links between shyness and preschoolers' social and school functioning.

**METHODS:** Participants were N=112 Italian preschool children (M = 56.85 months, SD = 10.14) enrolled in 5 classrooms (with two teachers in each class). Parents assessed children's shyness and inhibitory control using the CBQ-SF ( $\alpha$ s = .82, .69, respectively). The first teacher in each class evaluated children's prosociality and popularity ( $\alpha$ s = .83, .81, respectively), and the second teachers completed assessments of children's school functioning (e.g., school liking, cooperative participation,  $\alpha$  = .75).

**RESULTS:** Regression analyses revealed significant interaction effects between shyness and inhibitory control (moderator) in the prediction of prosociality, popularity, and school functioning (Figure 1). At higher levels of inhibitory control children's shyness was negatively related to prosociality ( $b = -.10$ ,  $p < .05$ ) and popularity ( $b = -.15$ ,  $p < .01$ ). Also, at lower levels of inhibitory control, shyness was positively related to school functioning ( $b = .07$ ,  $p < .05$ ).

**CONCLUSIONS:** Overall, inhibitory control seems to play a different role for shy children's social and scholastic adjustment. It is possible that the combination of shyness and inhibitory control may contribute to over-control, inducing shy children to further reduce their social and school engagement (White, McDermott, Degnan, Henderson, & Fox, 2011).

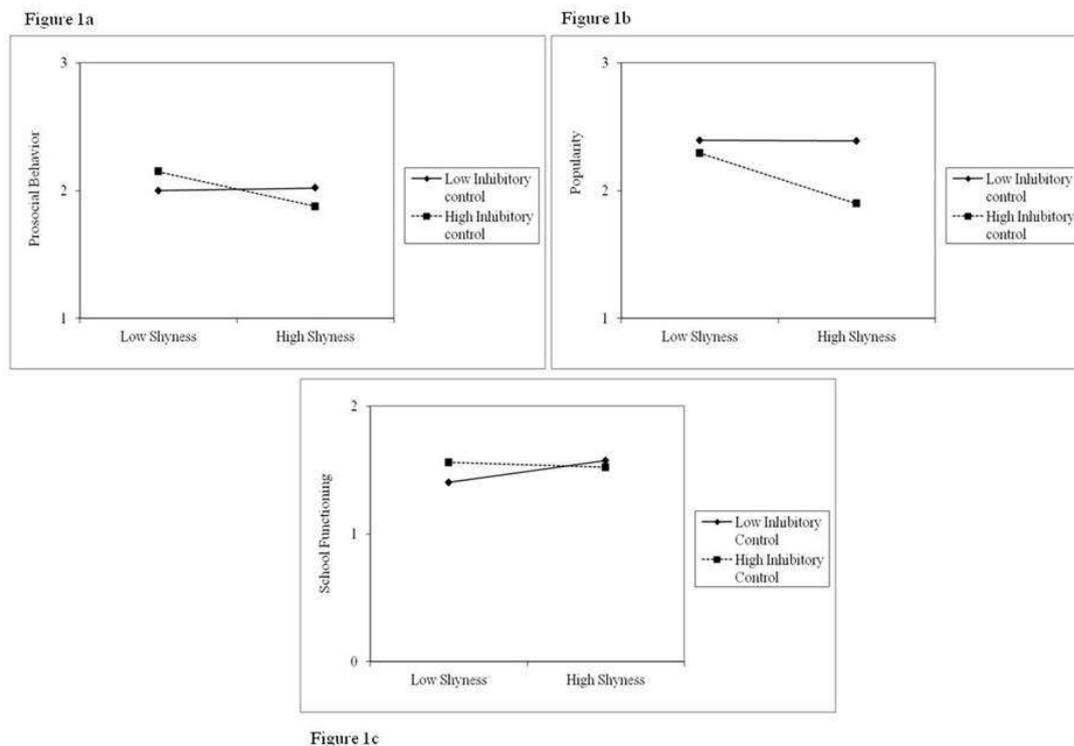


Figure 1. The moderating role of inhibitory control in the link between shyness and early social and school adjustment

### pap201-12.3 Three moral dilemmas to reconcile theories on moral development

Nereida Bueno-Guerra, María Teresa Martínez-Navarrete, David Leiva, Montserrat Colell, Josep Call  
 University of Barcelona & Max-Planck Institute for Evolutionary Anthropology, Spain

The theories of moral development do not find consensus on how children make moral norms prevail over self-interests and conventional norms. Research is divided into what emerges earlier (empathy vs. sense of equity) and into how children deal with interests and norms (classical: hierarchical progression vs. social domains: individual development). Is it possible to reconcile these postures? The interdependence hypothesis explains that humans became cooperative by evolving concern about others (first step) and a progressive sense of belonging dependent on the acquisition of complex cognitive abilities (second step). We presented three dilemmas (empathy-equality; self-interest-moral; conventional-moral) to 5- and 8-year-olds. Reconciliation should show that regardless of whether empathy or equality emerged first, both age groups will prioritize empathy (first step). Besides, same-age individuals should solve and justify the dilemmas with some variation but on average behavioral predictions could be made within and between age-groups (second step). We presented dilemmas through laminated sheets. Dilemma 1: children decided whether distributing resources to balance outcomes (equality) or to satiate a starving animal (empathy). Dilemma 2: children chose between many coins (self-interest) or good-doers (moral). Dilemma 3: children chose between obeying an immoral command (conventional) or disobeying (moral). Children pointed at their preferred action and justified their choices. We categorized responses and justifications into: self-interest, conventional, post-conventional, empathy. Both age groups significantly prioritized empathy (5 years:  $n=84$ ;  $Z=6.759$ ,  $p<.001$ ; and 8 years:  $n=85$ ;  $Z=7.585$ ,  $p<.001$ ). Same-age individuals responded and justified differently in each dilemma but there were significant differences between age-groups: 8-year-olds significantly preferred moral in dilemma 2 ( $n=170$ ;  $\chi^2=24.38$ ,  $df=1$ ,  $p<.001$ ;  $V=.379$ ) and disobeying in dilemma 3 ( $n=167$ ;  $\chi^2=52.570$ ,  $df=1$ ,  $p<.001$ ,  $V=.561$ ). Finally, responses in dilemma 2 predicted responses in dilemma 3. These data shows that reconciliation between traditionally opposing theoretical postures is possible under the umbrella of the interdependence hypothesis.

## pap201-12.4 The development of intention-based moral judgment

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Background: When making moral judgments, adults tend to focus on people's intentions. In contrast, young children's judgments are often influenced more by the outcomes of actions. However, there remains considerable debate about the development of this fundamental aspect of morality, caused largely by researchers' often contradictory findings.

Aim: To investigate possible reasons for these contradictory findings by examining factors that might influence children's and adults' use of intention and outcome information in their moral judgments.

Methods: Three experiments were conducted in which children aged 4-8 years and adults (N = 342) were told stories from two studies (Helwig, Zelazo, & Wilson, 2001; Zelazo, Helwig, & Lau, 1996). Three factors were manipulated: the phrasing of the acceptability (goodness) judgment question; the salience of intention information; and the inclusion of carefulness (lack of negligence) information.

Results: In the control condition the Helwig et al.'s and Zelazo et al.'s findings were closely replicated: children's and adults' acceptability judgments, and young children's punishment judgments, were primarily outcome-based. When the acceptability question was rephrased, 4-5-year-olds' judgments were approximately equally influenced by intention and outcome, and from 5-6 years they were primarily intention-based. Rephrasing the question and increasing intention salience led even the youngest children to make primarily intention-based judgments; and when these same changes were made with the addition of carefulness information, from 5-6 years punishment judgments were similar to adults'.

Conclusions: These findings challenge and help to explain those of much previous research, according to which children's judgments are primarily outcome-based. However, younger participants continued to judge according to outcome more than older participants. This might indicate that young children are more influenced by outcomes than are adults, but other possible explanations will be discussed.

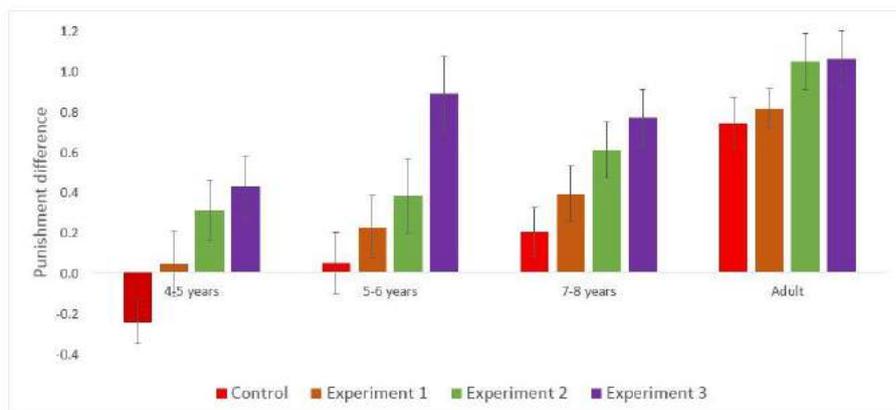


Figure 1. Mean (+SE) differences in punishment judgments of accidental harms (positive intention, negative outcome) and attempted harms (negative intention, positive outcome) by age group and experiment. Positive scores indicate that accidental harms are

## pap201-12.5 Understanding of moral emotions and social exclusion in preschoolers and 3rd graders

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Understanding moral emotions is important for children's social development. Moral emotions, such as guilt or pride, are types of signs displaying to others that the person conforms to a norm. Do children use these signs when making judgements about peer exclusion? This study aims to investigate whether children use information about moral emotions while determining peer exclusion. Japanese preschoolers and third-graders participated in two studies. Two types of immoral actions were used in all three studies: pushing a child off a swing and stealing another child's doughnuts. In Study 1, three immoral action scenarios were used: feeling happy after acting immorally to satisfy one's desire, feeling sad after acting immorally to satisfy one's desire

(this sad feeling was assumed to be guilt), and feeling happy after remaining patient and not acting immorally (this happy feeling was assumed to be pride). Participants were asked to judge the extent to which the character, who was feeling happy or sad, would be socially excluded. In Study 2, participants listened to two types of stories: (1) main characters A and B, who become happy and sad respectively, after performing an immoral action, and (2) main characters C and D, who become happy and sad respectively, after remaining patient and not acting immorally. Participants were asked to determine which character they would include in their peer groups, and to reason with them. The participants reported that characters would be socially excluded based on their moral emotions. The characters who did not feel guilt or pride were excluded to a greater extent than those who did feel guilt or pride. Moreover, preschoolers found it difficult to explain their reasoning. The gap between using moral emotions for peer-exclusion judgment and reasoning of moral emotions was discussed.

### **pap201-12.6 Development of prejudice in childhood and its relation to theory of mind**

Ángela Victoria Hoyo, Charo Rueda, Marcos Dono, Rosa M<sup>a</sup> Rodríguez-Bailón  
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The expression of prejudice shows a peak in middle childhood (5–7 years), followed by a slight decrease until late childhood (8–10 years). Changes in the expression of prejudice are modulated by cognitive and social factors. In adults, the empathy component of theory of mind (ToM) has been linked to prejudice. A relationship between trust and prejudice has also been found. In the current study, we developed a version of the trust game to assess implicit prejudice in children. Participants have a number of tokens at the start of each trial and must choose between keeping 5 for themselves or duplicate the number of tokens (20) but then let another player decide on ways (cooperative or not) to distribute them. Participants were made to believe they played with both an in-group Caucasian and with an out-group Romani child in different turns. The second player's behavior was manipulated as to induce distrust (punishment) and recovery of trust (forgiveness). The aim of the study was to examine the patterns of trust movements as a function of ethnicity of the partner and participants' age, and whether they relate to children's explicit prejudice and ToM skills. Participants were 63 children (5-6 years old: n=31, mean 65.4 months, SD=3.4 months, 18 girls; 8-9 years old: n=32, mean=104.6 months, SD=3.7 months, 18 girls). Results showed that across age participants trusted more the in-group than out-group players, although patterns of punishment and forgiveness differed according to age. Moreover, we found a negative correlation between explicit prejudice and forgiveness in 8-9 year-olds, as well as a positive correlation between affective ToM and forgiveness in the youngest group of participants. The results support the usefulness of the trust game as an implicit measure of prejudice and highlight the contribution of affective ToM to the modulation of prejudice.

**pap201-13.1 The effectiveness of behavioral interventions on children's executive function skills. A meta-analysis**

Reka Kassai, Zsolia Takacs  
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Executive function skills in the preschool age predicts school readiness and adjustment (Blair Razza, 2007). Narrative literature reviews have argued for the potential benefits of different kinds of interventions on executive functions (Diamond Lee, 2011 Diamond Ling, 2015) but there has been no quantitative synthesis of the evidence so far.

Therefore, the aim of the present meta-analysis was to evaluate and compare the effectiveness of different kinds of behavioral interventions on the executive functions of young children by synthesizing all the available evidence in the field. Based on the results of 81 studies with thousands of typically and atypically developing children between the age of 4 and 12 we found a significant moderate overall effect of the interventions ( $g+ = 0.31$ ). Comparing the different interventions for different samples, those where the participants practiced a game that explicitly targeted one or more executive function skills were more effective for typically developing children ( $g+ = 0.38$ ) than for clinical samples ( $g+ = 0.25$ ). In contrast, implicit trainings like sport activities, mindfulness meditation or other cognitive strategy teaching approaches (e.g. self-instruction and neuro-/biofeedback) were found more beneficial for clinical samples ( $g+ = 0.78$ ) than for typically developing children ( $g+ = 0.12$ ).

These meta-analytic results provide evidence that children's executive functions can be promoted by behavioral interventions but different approaches might be more suitable for different groups of children. These findings are especially relevant for children who are at risk for underdeveloped executive function skills because of some psychiatric problems (e.g. ADHD, ASD) or low SES. The feasibility of the different approaches in the school settings will be discussed in order to narrow the gap that is detectable early on between children who are and are not at risk.

**pap201-13.2 Collaborative Consultation in Early Childhood Intervention**

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Collaborative consultation (CC) approach to intervention, consists of Early Childhood Intervention (ECI) professionals' (consultants), family members', and classroom teachers' (consultees) working together as equal partners through joint planning, observation, action/practice (modelling), reflection, and feedback, to address areas of concern. This approach requires an extraordinary effort from the ECI professionals, whose role has been progressing from providing direct therapy and instruction (i.e., one to one) to indirect services in the form of collaborative partnerships with parents and teachers. Understanding how the process of CC in ECI develops is essential to understand and meet professionals' needs.

Given the lack of validated measures of CC in ECI, as part of a broader project, in this study we present the development process and psychometric properties of the Professionals' Perceptions on Collaborative Consultation in Early Childhood Intervention Scale (ProPerCECIS).

Seventy-eight local intervention teams (LITs), 54% of the Portuguese National System of Early Childhood Intervention, participated in this study. The questionnaire section referring to this study was completed by 427 professionals, who reported to provide early intervention services at home and at the children's integration places, during LITs meetings.

Following a descriptive analysis of the 17 items of the ProPerCECIS, the construct validity was tested with a holdout method. The full sample was randomized into two sub-samples (Sample A: N=170; Sample B: N=257). An Exploratory Factor Analysis (EFA) was conducted in Sample A. The final solution comprised 14 items organized in three factors (Intervention, Context, and Planning). A confirmatory factor analysis supported the three-factor structure found in the EFA (Figure 1), having revealed a good model fit ( $\chi^2=150.86$ ,  $p<.001$ ;  $\chi^2/df=2.07$ ; CFI=.93; RMSEA=.07). Finally, measurement invariance across professional groups was tested through a multiple group analysis, having established partial metric invariance.

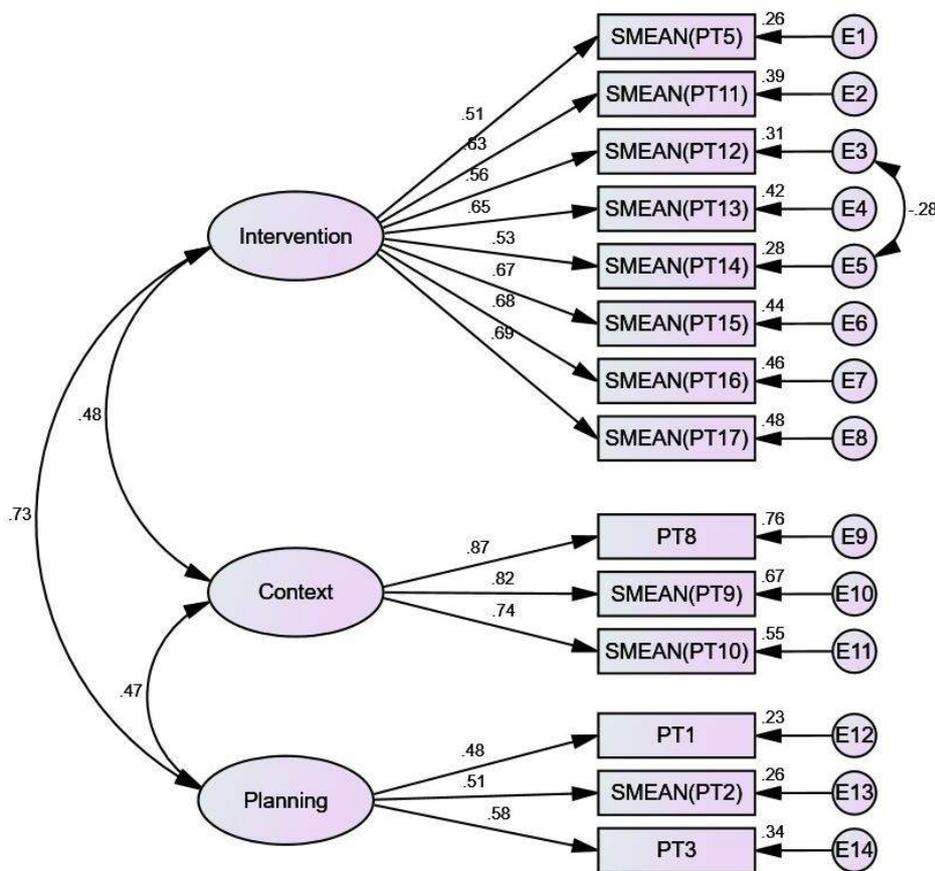


Table 1

**pap201-13.3 An intervention to construct an explanation of illness with children**

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 Università degli Studi di Perugia, Italy

**Aim:** to illustrate a social constructivist methodology employed in the creation of a children’s book intended at explaining Juvenile Idiopathic Arthritis (JIA) to newly diagnosed young patients.

**Method:** An intervention based on the active involvement of children and adolescents with a medical condition was developed and was made of different phases: 1. the initial creation of a comic- based interactive workbook; 2. the implementation of a workshop with children already affected by JIA; 3. the final collection and organisation of children’s narratives into a final children’s book; 4. the revision of the children’s materials with a group of expert and stakeholders.

**Results:** Each phase of the process led to a meaningful contribution of the final book. The employed social constructivist approach combined with an open and welcoming environment for children facilitated children’s expression of feelings and their ability to listen to their peers. Paediatric consultants gave scientific comments and made the final product medically solid and up-to-date with the latest therapeutic recommendations. The final book is currently employed as a communication tools in children’s hospital all over Italy.

**Discussion:** This intervention shows how an original method to provide writing recommendations and information to children with JIA. Children’s narratives provided insights and information that were sometimes new to medical practitioners and that would probably be otherwise neglected.

**Conclusions:** Written material addressed to children needs to be developed with a systematic methodology which takes a proper account of children’s voices. The intervention explained here is based on a combination of narrative thought and social constructivism that has shown to be effective in helping children understand JIA and may therefore be extended to future interventions held in different contexts.



*Arthritis is like having chains on your knees.*

#### **pap201-13.4 A randomised-controlled trial of a culturally adapted brief parenting programme**

Louise Keown, Matthew Sanders, Nike Franke, Matthew Shepherd  
*University of Auckland, New Zealand*

This study examined the efficacy of a culturally adapted version of Triple P Positive Parenting Program Discussion Groups. The sample comprised New Zealand parents of young children (age 3-7 years) of Māori descent, who were experiencing concerns with child behaviour-related problems.

Parents were randomly allocated to either an intervention group (n =41) or waitlist control group (n =29). To assess programme outcomes, both groups completed questionnaires about child behaviour, parenting, parenting confidence, parental adjustment and partner relationship functioning, at three time points (pre, post, and 6-month follow-up)

Parents participated in two parenting discussion groups run over two weeks where they learnt a variety of positive parenting techniques. New resource material, which identified Māori values and aligned them with parenting principles from the programme, was created for the cultural adaptation of the Triple P discussion groups.

Significant short and long-term intervention effects were found for reductions in child behaviour problems and inter-parental disagreements about child rearing. At 6-month follow-up significant condition effects were evident for decreases in overreactive parenting practices and for increased parenting self-efficacy (see Table 1). These results provide stronger evidence for the long-term effectiveness of a brief parenting intervention on child and parenting outcomes, compared with prior studies without a control group at follow-up. Parents were highly satisfied with the quality of the programme.

The process of culturally adapting an existing evidence-based parenting intervention for Māori parents was effective in producing a brief, high quality, culturally acceptable and effective parenting intervention. As participants included a wide range of parents of children with various levels of severity of child problems, (mild -to -severe) the programme seems a valuable “light touch” intervention that can be widely deployed as a universal early prevention intervention to reduce child behaviour problems and family conflict, and promote parenting confidence and self-regulation in children.

Table 1  
Short-Term and 6-Month Follow-Up Intervention Effects for the Dependent Variables

Measure	Intervention (n = 41)			WLC (n = 29)			Post-intervention treatment effect		Follow-up treatment effect		11-13 time effect	
	Pre	Post	Follow-up	Pre	Post	Follow-up	p	d (CI)	p	d (CI)	i	i
	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)						
<b>ECBI</b>												
Intensity	123.76 (37.84)	95.47 (30.24)	100.02 (27.84)	115.64 (37.80)	110.43 (30.98)	112.82 (31.91)	.018	0.60 (0.12-1.08)	.025	0.53 (0.06-1.01)	0.62	0.09
Problem	12.59 (8.91)	5.74 (5.81)	4.59 (5.31)	11.34 (8.98)	9.88 (8.24)	9.43 (7.00)	.003	0.63 (0.15-1.11)	<.001	0.71 (0.22-1.19)	0.88	0.17
<b>PS</b>												
Laxness	3.51 (1.34)	2.90 (0.97)	2.64 (1.02)	2.94 (1.11)	2.66 (0.77)	2.57 (0.69)	.823	0.26 (-0.21-0.73)	.533	0.40 (-0.08-0.87)	0.64	0.32
Overreactivity	3.10 (0.93)	2.63 (0.90)	2.45 (0.80)	3.08 (1.11)	2.91 (0.91)	2.89 (0.73)	.119	0.30 (-0.17-0.78)	.013	0.46 (-0.02-0.94)	0.70	0.17
Verbosity	4.21 (0.81)	3.67 (0.78)	3.61 (0.91)	4.10 (0.89)	3.69 (0.70)	3.51 (0.78)	.847	0.05 (-0.42-0.52)	.818	0.01 (-0.46-0.48)	0.73	0.65
<b>PTC</b>												
Setting self-efficacy	78.92 (14.76)	83.88 (15.57)	89.97 (9.04)	78.87 (15.75)	86.24 (10.12)	84.91 (12.71)	.442	-0.16 (-0.63-0.31)	.044	0.33 (-0.15-0.80)	0.73	0.37
Behavioural self-efficacy	68.78 (23.88)	80.12 (19.08)	85.37 (15.27)	69.34 (24.26)	80.26 (17.06)	78.05 (17.89)	.997	0.01 (-0.46-0.48)	.044	0.32 (-0.15-0.79)	0.68	0.35
<b>PPC<sup>a</sup></b>												
Extent	35.95 (15.12)	25.85 (11.96)	28.22 (13.96)	40.47 (18.51)	45.23 (21.00)	41.85 (21.66)	.001	0.88 (0.22-1.53)	.039	0.54 (-0.10-1.18)	0.49	-0.07
Problem	7.05 (3.23)	4.18 (3.08)	4.45 (2.57)	8.12 (3.79)	9.44 (5.07)	8.06 (4.63)	<.001	1.18 (0.50-1.86)	.007	0.72 (0.07-1.37)	0.78	0.02
<b>DASS</b>												
Depression	8.59 (11.91)	4.06 (5.59)	7.00 (10.29)	9.66 (10.42)	4.85 (4.82)	6.64 (5.43)	.572	-0.02 (-0.49-0.45)	.757	-0.12 (-0.60-0.35)	0.13	0.28
Anxiety	8.41 (9.38)	3.18 (5.18)	6.59 (8.54)	7.10 (6.82)	4.08 (3.76)	6.09 (6.38)	.309	0.26 (-0.21-0.73)	.959	0.10 (-0.38-0.57)	0.19	0.14
Stress	12.54 (11.92)	6.29 (6.22)	9.59 (10.28)	15.24 (11.20)	8.14 (5.79)	10.18 (7.40)	.290	-0.07 (-0.54-0.40)	.966	-0.18 (-0.65-0.29)	0.24	0.44
<b>RQI<sup>b</sup></b>												
Total	38.16 (5.77)	39.10 (6.00)	39.18 (6.81)	35.92 (5.91)	31.80 (9.89)	33.75 (9.46)	.017	0.85 (0.19-1.51)	.112	0.54 (-0.11-1.18)	0.17	0.35

Note: DASS = Depression Anxiety Stress Scales; ECBI = Eyberg Child Behaviour Inventory; PPC = Parent Problem Checklist; PS = Parenting Scale; PTC = Parenting Task Checklist; RQI = Relationship Quality Index.

<sup>a</sup> Intervention n = 22, waitlist control n = 16

Table 1: Short-Term and 6-Month Follow-Up Intervention Effects for the Dependent Variables

## pap201-13.6 Drinking motives as mediators between personality traits and problematic alcohol use

Tianna Loose, Didier Acier, Ghassan El Baalbaki  
Université de Nantes, France

**Introduction:** In order to positively impact drinking behaviours among French young people, it is beneficial to understand the intrication of various determinants of drinking behaviours. Bivariate relationships between personality traits and alcohol consumption were a popular research topic of the past. Since, studies have suggested that personality traits only had associations with drinking behaviours because traits lead the development of different drinking motives. We aim to investigate if such mediational relationships hold true among French young people.

**Methods:** Participants (N=690; Mage=20.8, SD=2.8) were administered the Alcohol Use Disorders Identification Test, the Modified Drinking Motives Questionnaire-Revised, and the Big 5 Inventory-French. Five multiple parallel mediator models were elaborated in order to appreciate which drinking motives mediated the relationship between each trait and alcohol consumption once having controlled for age and sex.

**Results:** Enhancement, social and conformity motives positively mediated the relationship between extraversion and alcohol use. The indirect effect between agreeableness or conscientiousness and alcohol use was mediated by decreased coping-depression, enhancement and social motives. Interestingly, neuroticism alone did not predict alcohol consumption, but a case of competitive mediation was observed. Neuroticism led to heightened coping-depression motives, which led to increased alcohol use, but also to increased conformity motives, which led to depleted alcohol consumption.

**Conclusions:** Our study suggests that most Big 5 personality traits have a relationship with alcohol consumption because they develop into drinking motives. Prospective studies could focus on techniques targeting motives rather than traits. The interrelationships of determinants could be further understood by the identification of other intervening mediators.

### Keynote 3, Thursday August 31, 12:00 – 12:45

#### key03 Trust and Self-Control in Relationships

Catrin Finkenauer

*Utrecht University, Netherlands*

Trust is crucial to getting through the myriad interdependent interactions adults and children face every day, from playing to parenting, from communicating to lovemaking. Self-control, the capacity to control impulses, delay gratification, and modulate emotions, plays an integral role in many aspects of relationships. Given its relational importance, I propose that self-control is key to unravelling how trust develops in relationships. Despite its great relational importance, most research has focused on the link between actors' self-control and actors' outcomes. Consequently, we know little about dyadic processes of self-control and its relational effects: Is self-control perceived by partners? If yes, how does it affect the relationship and trust? Is self-control important for trust in parent-child relationships? Can self-control play a role in trust repair? In this presentation, I will begin to answer these questions. I will present longitudinal and experimental research that examines the relational role of self-control in relationship maintenance and deterioration. The research was conducted among adults and families. The data I will present highlight the importance of self-control for both partners in the relationship: the partner who exerts self-control as well as the partner who perceives this self-control in the other. I will discuss the implications of these findings for research on relationships and therapeutic interventions (e.g., domestic violence).

## Symposium sessions 202, Thursday August 31, 13:45 – 15:15 hrs.

### isym202-1 Advances in the study of adolescent identity formation

Wim Meeus, Chair

*Utrecht University and Tilburg University, Netherlands*

Luc Goossens, Discussant

*Leuven University, Belgium*

The symposium aims to chart innovative research in the field of adolescent identity development. So, it brings together four presentations that offer novel or integrative approaches: neurocognitive research, narrative and questionnaire research, social network analysis, and a comparison of longitudinal research with Marcia's model and dual cycle models. The first presentation will include one of the first neurocognitive studies in identity formation ever completed, and show how development in certain brain regions is predictive of identity development. The second presentation will discuss how questionnaire research with dual cycle models of identity formation and narrative identity research can complement each other. The third presentation will use social network analysis to show the impact of ethnic identity on friendship formation as well as growing similarity of ethnic identity in adolescent friendships. The fourth presentation will discuss longitudinal studies into identity formation and argue that Identity Status Interview studies fail to show a clear developmental path, whereas recent dual cycle models do.

#### **isym202-1.1 Neurobiological Underpinnings of Identity Formation in Adolescence: A Multi-Method Multi-Sample Longitudinal Approach**

Andrik Becht, Marieke Bos, Stefanie Nelemans, Sabine Peters, Wilma Vollebergh, Susan Branje, Wim Meeus, Eveline Crone

*Utrecht University, Netherlands*

**Aim:** Adolescence is a key period for the development of a clear identity (Erikson, 1968). Researchers have argued that establishing a clear identity requires at least two processes: Information seeking behavior to explore identity alternatives (Berzonsky, 1989), and goal-directed behavior, for example to pursue long-term academic goals (Burrow & Hill, 2011). Parallel to adolescents' search for identity, massive changes in brain structure and morphology in brain regions occur that are crucially involved in information seeking behavior and goal-directed behavior (Mills & Tamnes, 2014). For instance, structural changes in the prefrontal cortex (PFC) have been linked to information seeking behavior. Moreover, subcortical brain regions, especially the Nucleus accumbens (NAcc) have been related to goal-orientation and motivated behavior. However, it remains unknown how neurological processes accompanying changes in information seeking and motivation predict identity over time. Therefore, the aim of this multi-method multi sample longitudinal study was to investigate how behavioral changes in goal-directed behavior (Study 1 and Study 2) and structural changes in PFC and NAcc gray matter volume (Study 2) predicted identity formation. **Method:** 497 adolescents (Study 1; Mage 13.03 at T1) and 138 adolescents (Study 2; Mage 14.69 at T1) were followed across three biannual waves. Identity was assessed at wave four.

**Results:** Latent growth curve models revealed that across Study 1 and Study 2 more self-reported goal-directed behavior across three waves predicted stronger identity commitments, less reconsideration of commitments and more in-depth exploration of commitments at wave four. Study 2 revealed that higher NAcc volume predicted stronger identity commitments and less reconsideration of commitments. Moreover, higher initial PFC volume as well as less strongly decreasing PFC volume predicted more in-depth exploration. **Conclusion:** Our findings supported the importance of goal-directed behavior in identity formation over time across two studies. Moreover, we identified neurobiological markers predicting adolescents' identity formation.

### **isym202-1.2 Linking Self-Event Connections in Narratives to Commitment and Exploration in Early Adolescents**

Theo Klimstra, Lotte van Doeselaar, Sophie Raaijmakers  
*Tilburg University, Netherlands*

**Aim:** Forming a stable self-defined identity is a key developmental task initiated in early adolescence. Two dominant approaches to identity formation are distinguished: The narrative approach (i.e., based on open-ended turning point stories) and models related to Marcia's (1966) identity status paradigm. Few previous studies linked the two, and these studies did not consider contemporary fine-grained dimensional approaches. Luyckx' (2008) five-dimension model provides such a fine-grained approach, emphasizing that having commitments (i.e., commitment making) is not the same as identifying with these (i.e., identification with commitment). Furthermore, it is emphasized that individuals can explore to compare different options (i.e., exploration in breadth), to reflect on their current commitments (i.e., exploration in depth), or by ruminating (i.e., ruminative exploration). In our study, we will examine how two contemporary approaches to identity formation (i.e., self-event connections in narratives and Luyckx' five-dimension model) based on very different methodology (i.e., open-ended versus fixed responses) are related.

**Method:** We use data from project-IK, a large-scale longitudinal project ( $n = 1,918$ ) on adolescent identity development and personality pathology in The Netherlands. Participants (Mage = 14.8 years, 53% girls) filled out the 25-item Dimensions of Identity Development Scale (Luyckx et al., 2008) and 1,570 of them completed a written narrative. Narratives are currently being coded for self-event connections.

**Results/Conclusions:** We will test whether identity formation dimensions predict adolescents' ability to make certain self-event connections (i.e., an event illustrating an aspect of the self, or causing a change in the self). Based on previous research relating narrative processing to commitment and exploration, we expect moderate positive associations between the sophistication of self-event connections and positive identity formation (i.e., higher levels on the commitment dimensions, exploration in depth, and exploration in breadth). Our discussion will focus on how narrative and status approaches converge with, and add to, each other.

### **isym202-1.3 Ethnic-Racial Identity and the Social-Emotional Context of School**

Deborah Rivas-Drake  
*University of Michigan, United States*

**Aim:** Ethnic-racial identity (ERI) is an important developmental concern with implications for psychological and academic adjustment. In this talk, I consider the role of the socio-emotional context of schooling--which includes the nature and quality of relationships with adults and peers--in the development of ERI. As an initial step toward understanding this issue, we examined the role of friends in diverse youths' ERI development. Specifically, we examined the extent to which youth formed friendships with peers based on similarity in ERI (selection) and/or whether youths' ERI became more similar to that of their friends over time (socialization).

**Method:** Data were drawn from a recently completed study of academic, social, and emotional development among students attending a Midwestern U.S. school in 6th ( $n = 171$ ) or 7th ( $n = 169$ ) grades (48% = girls). The analytic sample comprises students who are Asian American and Pacific Islander (8%), African American (28%), Latino (13%), Native American (1%), White (31%), Other (4%), and Multiracial (13%). We assessed ERI exploration and resolution across three time-points.

**Results:** A series of stochastic actor-based models permitted us to examine the extent of homophily on ERI exploration and resolution among friends, while controlling for friend selection on other important characteristics (e.g., ethnicity/race) and possible peer influence on ERI. Results provide support for peer socialization of, but not selection based on, ERI exploration and resolution ( $b = 4.78$ ,  $se = 1.67$ ,  $p < .001$  and  $b = 4.60$ ,  $se = 1.54$ ,  $p < .001$ , respectively; see Table 1).

**Conclusions:** Our longitudinal social network analytic approach (i.e., SABM), which is novel to the study of ERI, enabled a relatively more rigorous examination of whether selection or socialization processes best explained potential homophily in friends' ERI. Future directions regarding the role of adults in shaping the peer social-emotional context of school will be considered.

## isym202-1.4 The Continuum of Identity Status in Marcia's Model and Dual Cycle Models

Wim Meeus

*Utrecht University and Tilburg University, Netherlands*

**Aim:** The developmental nature of the identity status model has been a topic of debate since the early eighties of the last century. The debate concentrates on the developmental continuum of identity status: how does this continuum look like, does it offer a theory of identity development, and does identity change unfold systematically along this continuum? The present presentation will re-address the developmental continuum of identity status and the dynamics of identity formation. Recent research into identity development makes it possible to offer a more detailed evaluation of these issues.

**Methods:** To answer the research question I re-analyzed the longitudinal results from studies with Marcia's model as presented in the meta-analysis by Kroger et al. (2010), as well as longitudinal findings from dual cycle models of identity formation.

**Results:** The re-analysis of the meta-analysis by Kroger et al. clarifies that no identity status continuum can be found in longitudinal studies with Marcia's model. The re-analysis of the dual-cycle model study by Meeus et al. (2010) reveals two continua of identity status change. Both continua suggest that the process of identity development moves from identity formation to identity maintenance.

**Conclusions:** Marcia's identity status model is not useful to study identity development. In contradistinction, dual-cycle models show identity maturation in adolescence as well as the dynamics leading to maturation.

## sym202-2 The effect of parenting programs on parenting behavior and cognition

Children's behavior has been regarded as related to parenting in the social learning model. In particular, theory describes negative cycles of interaction in which negative behavior may be more likely to emerge or persist when parents use inconsistent, unresponsive and over-reactive discipline that reinforces children's problematic behavior. Consistently with the social learning model, many parent-oriented interventions have been designed to improve children's behavior. Studies and meta-analytic reviews documenting the effectiveness of parenting programs on children's behavioral issues are numerous. However, studies testing the effects of these programs on parents themselves are scarce. Yet changes in parents' cognitions and behaviors are potential mediators of the effectiveness of parenting programs on EB reduction.

This symposium will contribute to the current knowledge on the process to which parenting programs lead to behavioral improvement in children. The contributions will highlight different potential mediators (e.g. parental mind-mindedness, narrative change). The discussion will focus on the necessity to study mediation processes to fully understand what is at stake in parenting programs.

### sym202-2.1 Parents' narrative change in a parenting program effective on externalizing behavior reduction

Isabelle Roskam, Elise Brassart, Laurie Loop, Bénédicte Mouton, Marie-Anne Schelstraete  
*Université catholique de Louvain, Belgium*

Changes in parents' cognitions and behaviors are potential mediators of the effectiveness of parenting programs on EB reduction. This presentation will contribute to the current knowledge on the process to which parenting programs lead to EB reduction by exploring how changes in parents' narratives happen in a parenting group program and are linked to EB reduction. The Incredible Years Basic program (Webster-Stratton, 2012) was implemented. Several RCT conducted in different countries (Menting, de Castro, & Matthys, 2013), including Portugal (Webster-Stratton, Gaspar, & Seabra-Santos, 2012), show the efficacy of the program in parenting skills and well-being and in child behavior problems (Azevedo, Seabra-Santos, Gaspar, & Homem, 2015). We focused specifically on narrative change over the 14 sessions of the program. The instrument used for the assessment of change through the program sessions was the Grid Therapeutic Process Analysis – GAPT (Sequeira, 2012). The 5 GAPT dimensions correspond to axes considered important in the narrative organization and respective transformation in therapeutic context. Children's behavior problems and its impact in child's daily life were assessed with the Strengths and Difficulties Questionnaire; Goodman, 2001), completed by parents before and after the intervention. 10 subjects participated in the group: 7 mothers and 3 fathers. Families who reported more reductions in child's behavior problems, are also those where there were more marked changes in the narratives. The parents' group interactions had an important role in narrative transformation, especially contributing to the amplification of new meanings and interactions in micro and macro contexts. Despite the limitations of this study, including those referred to be based on the analysis of a single group, its contributions to the study of the effectiveness of parenting interventions in terms of processes, specifically the changes in the narratives, should encourage us to continue this line of research.

### sym202-2.2 Do parenting programs have specific or widespread impact on parenting covariates?

Maria Filomena Gaspar, Diana Costa, Joana Sequeira  
*University of Coimbra, Portugal*

This research aimed at determining to what extent manipulating a specific parenting variable, self-efficacy beliefs or verbal responsiveness, causes specific change in this variable alone, or conversely to what extent it causes widespread change that affects other parenting covariates—in particular behavioral and emotional responsiveness, positive affect irritability, support, and control. Two micro-trials were used to achieve this goal. The 45 parents participating were randomly assigned to an 8-week waiting list followed by an 8-week intervention condition focusing on self-efficacy manipulation, or to an 8-week intervention condition focusing on verbal responsiveness manipulation. It can be concluded from the results that the two specific parenting variables under consideration had widespread effects on the six parenting behaviors, with the exception of control in the self-efficacy beliefs condition. The results are discussed for both empirical and clinical purposes.

In particular widespread effect in parenting variables may be considered as processes underlying positive change in children's behavior irrespective of the content of the delivery programs.

### **sym202-2.3 Mind-Mindedness Oriented Treatment for Child Attachment Problems in Adoptive Families**

Moniek Zeegers, C Colonnese, G.J.J.M. Stams

*University of Amsterdam, Netherlands*

Child attachment interventions often aim to improve the parent-child bond through the enhancement of parental sensitivity, the most known parental facilitator of attachment security. However, the last two decades another parental ability has shown to predict child attachment: parental mind-mindedness. This refers to parents' active tendency to treat their child as an autonomous individual, a 'mental agent'. The current study examined the effectiveness of a mind-mindedness-oriented intervention (named Basic Trust) within a population that is at risk for attachment issues: adoptive families. Participants were 35 adoptive parents with children between 3 and 12 years old who showed externalizing and/or internalizing problems. Families were referred to a Basic Trust counselor for treatment. The intervention consisted of on average 10 sessions in which parents learned to become more aware of the mental states underlying the child's behaviors. With the help of recorded play interactions and an intensive stepwise program they furthermore trained to verbalize the child's cognitions, affects, desires, intentions in a responsive but neutral manner. At pre-, posttest and follow-up (six months), parents completed questionnaires on child behavior problems, attachment behaviors, and parental stress. Parental sensitivity and mind-mindedness were measured during home visits through behavioral observations and an open describe-your-child interview. Preliminary results on 13 families yield an incline in sensitivity and mind-mindedness from pre to post test for mothers and fathers. Mothers' sensitivity also increased from posttest to follow-up. Child internalizing and externalizing problems significantly decreased after the training. Results for the entire sample will be presented at the conference. The preliminary results yield implications for the integration of parents' mind-mindedness in interventions that target child attachment or behavior problems.

### **sym202-2.4 Does a promotion/prevention framed parenting intervention lead to maintenance of initial effects?**

Jolien van Aar, Patty Leijten, Bram Orobio De Castro, Geertjan Overbeek

*University of Amsterdam, Netherlands*

Parenting interventions aim for sustained change in parent-child interaction patterns to prevent child behavior problems. Yet, rates of initial changes in parenting and child behavior have not consistently translated into longer term changes in parenting and child behavior. Rothman (2002) proposed that the goals that parents have in mind (promotion or prevention-oriented), affect their ability to initiate and maintain a specific behavior. More specific, a promotion-orientation (on goals that could be approached) would help to initiate positive parenting while a prevention-orientation (on anti-goals that could be avoided) would help to maintain positive parenting. Using promotion- and prevention-framed messages, the present study aimed to test whether parent's goal-orientation is related to initiation and maintenance of positive parenting behavior to reduce child disruptive behavior. Parents (N=240) were randomized to receive a two-week parent training framed as 1) promotion or 2) prevention. Immediately after the training, half of the parents switched to the other condition so that they received either 3) prevention switched to promotion, or 4) promotion switched to prevention framed messages. Parents and children from these four groups were compared to 5) parents who received a neutrally framed training, and 6) parents who did not receive any training on their parenting behavior and child behavior problems. The preliminary findings will be discussed and will provide insight in the underlying processes by which parenting interventions could lead to sustained benefits for parents and children.

## sym202-3 Peers in the School Context: A Resource for Adjustment and the Reduction of Social Exclusion among Ethnic Majority and Minority Youth?

Jana Vietze, Chair

*University of Potsdam, Germany*

Marta Miklikowska, Chair

*Örebro University, Sweden*

Peter Titzman, Discussant

*Leibniz University Hanover, Germany*

In multicultural European societies and increasingly diverse classrooms, social inclusion is a key for fostering successful intergroup interactions and individual well-being for ethnic majority and minority youth. The present symposium aims to integrate findings from culturally diverse schools in Germany, Sweden, Finland, and Italy from an educational and psychological perspective. It brings together longitudinal and cross-sectional empirical findings from questionnaire studies as well as intervention programs that are aimed to reduce prejudice and exclusion. We examine evidence for the role of peers and cross-ethnic friendships in development of adolescents' intergroup attitudes as well as adjustment (i.e. life satisfaction, perceived discrimination and bullying, subjective school values and ethnic and national identity). We also examine the evidence for the role of peers as models for attitude change and social inclusion in school context. Findings suggest different patterns of associations between experiences of cross-ethnic friendships and adolescents' adjustment depending on youth and friends' ethnicity. Findings also indicate differences and similarities in ethnic minority and majority students' exclusion experiences. The studies will be discussed with respect to different educational contexts in European countries and how peer-to-peer learning can contribute to adolescents' adjustment, positive intergroup relations, and the reduction of exclusion in school context, in times of social change.

### sym202-3.1 Peer Ethnic, National, and Racial Socialization and Adolescents' Identity and Adjustment

Jana Vietze, Linda Juang, Maja K. Schachner

*University of Potsdam, Germany*

For ethnic minority youth, ethnic and national identity components are both associated with psychological and sociocultural adjustment. Previous research has demonstrated that peers can facilitate ethnic identity exploration through cultural socialization processes. However, little is known about the distinct influences of ethnic, national, and racial socialization by peers on adjustment. This research examines how socialization by same-ethnic and different-ethnic peers relate to adolescents' adjustment (i.e. perceived discrimination, life-satisfaction and subjective school values), mediated by ethnic and national identity. Analyses of 1054 ethnic minority secondary school students (Mage= 14,72; 48,7% female) in Germany showed that for ethnic minority adolescents, socialization by same-ethnic peers was directly as well as indirectly related to positive adjustment. In contrast, socialization by different-ethnic peers was directly and indirectly associated with negative adjustment. Racial socialization by different-ethnic peers showed the strongest link to negative adjustment. These results suggest that ethnic minority youth can benefit especially from engaging with same-ethnic peers. However, national and ethnic identity mediate the link between peer socialization and adjustment for all peer groups. The results highlight the importance of social context and ethnic and national identity for ethnic minority youth' well-being and school adjustment.

### sym202-3.2 Effects of Peers, Cross-ethnic Friendships, and Family on Development of Adolescents' Prejudice

Marta Miklikowska

*Örebro University, Sweden*

Ethnic and racial intergroup attitudes are assumed to develop due to the influence of socialization contexts. However, there is still little longitudinal evidence supporting this claim. We also know little about the relative importance of socialization contexts, the possible interplay between them as well as about the conditions and mechanisms that might underlie socialization effects. This longitudinal study of adolescents (N = 517) examined

the effects of peers and parents' anti-immigrant attitudes, cross-ethnic friendships, and socio-economic background on changes in adolescents' anti-immigrant prejudice. It also examined whether the effects of peers or parents would depend on adolescents' cross-ethnic friendships. In addition, it explored whether the effects of peers, parents, and friendships would be mediated or moderated by adolescents' empathy. Results showed significant effects of peers, parents, cross-ethnic friendships, and socioeconomic background on changes in youth attitudes. They also showed adolescents with immigrant friends to be less affected by parents and peers' prejudice than youth without immigrant friends. In addition, results showed the effects of parents, peers, and friendships to be mediated by adolescents' empathic concern. The results contribute to a better understanding of the role of social contexts, the interplay between them, and the mechanisms that underlie their effects on development of intergroup attitudes in adolescence.

### **sym202-3.3 Developing Prejudice-reduction Interventions Using Friendship Stories by Majority and Minority Peer Models**

Viivi Mäkinen, Karmela Liebkind  
*University of Helsinki, Finland*

On a global scale, societies are increasingly characterized by ethnic and cultural diversity. This diversity is reflected also in schools where the number of pupils with foreign background has grown – even in Finland, which has traditionally been a country of emigration rather than immigration. This emphasizes the need to understand how positive intergroup relations can be promoted and maintained in increasingly culturally diverse classrooms. We will present our current work on developing and accessing effective school interventions aiming to reduce prejudice among both ethnic majority and minority youth in grades 7–8 in Finnish secondary schools. The core of the interventions is based on first-person stories of intergroup friendship told by both majority and minority youth who act as a peer models for attitude change. The theoretical background of the research lies in indirect intergroup contact, more precisely in the model of extended/vicarious contact, according to which mere knowledge or observation of a close relationship between a member of one's own group and a member of an outgroup improves ethnic attitudes towards the outgroup in question.

### **sym202-3.4 NoTrap! Peer-led Intervention against Bullying: Better Effects with Self-nominated Peer Models?**

Valentina Zambuto, Sara Pabian, Annalaura Nocentini, Benedetta Emanuela Palladino, Ersilia Menesini  
*University of Florence, Italy*

NoTrap! is an evidence-based prevention program against (cyber)bullying (Palladino et al., 2016). The program adopts a peer education model, where peer educators act as role models to modify undesirable group norms and undertake activities to improve their classmates' social skills, such as empathy towards victims of (cyber)bullying. Previous research has shown that peer educators nominated by classmates are more involved in bullying perpetration and score higher on popularity, compared to volunteer peer educators who report higher levels of victimization. Thus, the present study explored whether the type of peer educator (nominated vs volunteer) can influence the effectiveness of the program in terms of an increase in defending behaviour among the majority and minority youths. Research has also shown that affective empathy predicts defending behaviour, which is also influenced by classroom norms. Therefore, the present study investigated the influence of peer educators (nominated vs volunteer) on the relationship between empathy and defending behaviour among the majority and minority youths. Middle and high school students from 47 classrooms (N = 1003; 7th to 10th grade; 77% belonging to the Italian ethnic majority) were assessed before and after the NoTrap! intervention (2015/2016). The classrooms were assigned at random to one of the two conditions (nominated vs volunteer peer educators). Results showed that an increase in affective empathy among students of the same classroom predicted an increase in defending behaviour, but only in classrooms with volunteer peer educators. Results also varied for the majority and minority youths. The findings facilitate our understanding of the mediators and moderators of prevention programs against (cyber)bullying.

## sym202-4 Developing Gratitude in Children and Adolescents

Lia Freitas, Chair

*Universidade Federal do Rio Grande do Sul, Brazil*

Jonathan Tudge, Chair

*University of North Carolina at Greensboro, United States*

In this symposium our goal is to treat gratitude as a virtue, describe its development in different cultural contexts, point to its inverse relation with a hedonistic type of materialism, and discuss how it can be fostered in school via literature.

The first (Tudge & Freitas) presentation is conceptual, providing a framework in which the development of gratitude as a virtue can be studied. This is important, given that the majority of psychological research in gratitude is not developmental, treats it as a positive emotion, and does not distinguish gratitude from appreciation.

The second (Mendonça et al.) builds directly on the first, examining the development of gratitude as a virtue in different cultural contexts. Comparing data from one WEIRD (Western, Educated, Industrialized, Rich, and Democratic) society—the United States—and several societies from the “majority world”—Brazil, China, Russia, and Turkey—they show very interesting variations across both age and society.

The third (Kiang et al.) presentation draws on data from the same study, but examines (although just in the U.S. context) some of the correlates of gratitude. Specifically, they show that children who show greater levels of gratitude are less likely to have hedonistic wishes and are more socially conscious.

The fourth (Morgan & Gulliford) focuses on the varied ways in which gratitude is conceptualized by children, adolescents, and adults. They draw on their quantitative and qualitative data from the UK to illustrate how the picture of gratitude differs as a function of age, and will discuss how gratitude and other virtues can be promoted via educational interventions.

The final presentation (Carr) focuses on the important role teachers (and parents) can play to develop and cultivate gratitude as a virtue through the medium of literature. He also shows, via examples from literature, how this can be accomplished.

### sym202-4.1 A Conceptual Framework for Studying the Development of Gratitude as a Virtue

Jonathan Tudge, Lia Freitas

*The University of North Carolina at Greensboro, United States*

For centuries philosophers and writers have extolled the virtue of gratitude—for example, as the “greatest [and] also parent of all other virtues” (Cicero) and the “moral memory of mankind” (Simmel)—and castigated ingratitude—for example, “Ingratitude, thou marble-hearted fiend” and “How sharper than a serpent’s tooth it is to have a thankless child” (Shakespeare, *King Lear*). Contemporary psychologists, however, have largely treated gratitude as a positive emotion, conflated it with appreciation, and have uncoupled methods for studying it from its conceptual underpinning (Emmons & Crumpler, 2000; Wood et al., 2010; Gulliford et al., 2013).

In this presentation we will therefore provide a clear definition of gratitude as a virtue, and draw upon neo-Aristotelian virtue ethics (Annas, 2011), Piaget’s (1932, 1981) analysis of the development from heteronomous to autonomous morality, Urie Bronfenbrenner’s (2001) bioecological theory (particularly his Process-Person-Context-Time model), and Kağıtçıbaşı’s (2007) view of the cultural nature of self, to show how the development of gratitude as a virtue can be studied. Building on Aristotle’s view of how virtues are developed, we will show how gratitude can be fostered in children and adolescents in the course of their typically occurring interactions (i.e., proximal processes) with parents and teachers. As Bronfenbrenner explained, these proximal processes are mutually influenced by both characteristics of the persons involved in those interactions and by the context, over time.

As Bronfenbrenner’s theory does not pay adequate attention to the cultural context, we will use Kağıtçıbaşı’s (2007) perspective to show how cultural groups in different parts of the world might be expected to encourage the development of gratitude to different extents and in different ways.

## sym202-4.2 Gratitude in the Minority versus the Majority World: Variations in Four Societies

Sara Mendonça, Ayse Payir, Yue Liang, Irina Mokra, Fernanda Palhares, Selin Zeytinoglu, Lia O'Brien  
University of North Carolina at Greensboro, United States

Approximately 90% of psychological data is gathered in the United States and other WEIRD societies (Henrich et al., 2010) and scholars often make implicit generalizations based on the findings (Arnett, 2008). Therefore, testing results from the US against those found in other countries is crucial and we propose to use research on the development of gratitude to illustrate this point.

We compare variations across both age and society in gratitude expressions; verbal (e.g., “thank you”); (b) concrete (reciprocation to benefactors with things important to beneficiaries); and (c) connective (taking the benefactor’s wishes or needs into account when repaying) across four different societies (Tudge et al., 2015). Using data from 1,298 7- to 13-year-olds from the USA (n=318), Brazil (n=196), China (n=497), and Turkey (n=287), we examined whether age-related patterns of expression of different types of gratitude found in US are analogous to those in the other countries and whether youth express the different types of gratitude with equal frequency in all countries.

We found that our samples were significantly different from one another (Table 1). For example, Brazilian youth were significantly more likely ( $p < .005$ ) to express verbal gratitude than youth in the other three countries. Brazilian and American youth were significantly more likely to express concrete gratitude than were Chinese and Turkish youth. Moreover, youth in China and Turkey were significantly ( $p < .001$ ) more likely to express connective gratitude than in Brazil or the US.

Results suggest data collected within the United States should not be generalized. Differences were found both in the pattern of age-related use of different types of gratitude and in the frequency of expression of each type across contexts. In our presentation, we will also discuss the implications of the wide cross-sample variation in the expression of connective gratitude.

Characteristic	Age 7	Age 8	Age 9	Age 10	Age 11	Age 12	Age 13	7-13	<i>p</i>
<b>US</b>									
Verbal	.25	.15	.28	.43	.08	.48	.21	.26	<i>ns</i>
Concrete	.45	.48	.37	.22	.17	.16	.21	.33	< .001
Connective	.18	.19	.28	.38	.42	.26	.35	.28	= .029
<i>n</i>	44	67	81	37	24	31	34	318	
<b>Brazil</b>									
Verbal	.16	.35	.43	.56	.50	.56	.44	.44	< .001
Concrete	.44	.22	.33	.15	.29	.17	.12	.23	= .014
Connective	.24	.43	.38	.44	.25	.28	.48	.35	<i>ns</i>
<i>n</i>	25	23	21	35	29	38	25	196	
<b>Turkey</b>									
Verbal	.43	.34	.18	.33	.31	.24	.20	.29	<i>ns</i>
Concrete	.24	.29	.09	.12	.06	.03	0	.15	< .001
Connective	.30	.43	.66	.44	.60	.48	.90	.51	= .008
<i>n</i>	37	65	68	43	35	29	10	287	
<b>China</b>									
Verbal	.56	.22	.12	.24	.21	.29	.22	.26	<i>ns</i>
Concrete	.02	.19	.17	.23	.16	.12	.14	.15	<i>ns</i>
Connective	.42	.61	.78	.57	.66	.79	.73	.67	< .001
<i>n</i>	48	64	60	82	58	106	79	497	
<i>N</i>									1,298

\* Proportions do not add to 1 as some responses could not be coded into these three types and some children expressed more than one type of gratitude.

Verbal gratitude: sample differences ( $F [3,1286] = 9.71, p < .001, \eta^2 = .022$ ).  
Concrete gratitude: sample differences ( $F [3,1286] = 3.48, p = .015, \eta^2 = .008$ ).  
Connective gratitude: sample differences ( $F [3,1286] = 0.91, ns$ ).

Table 1: Proportions\* of Children, by Society and Age, Expressing Verbal, Concrete, and Connective Gratitude

## sym202-4.3 Exploring the Role of Gratitude Development on Children’s Dollars and Desires

Lisa Kiang, Sara Mendonça, Yue Liang, Ayse Payir, Lia O'Brien  
Wake Forest University, United States

When someone receives a freely-given benefit, gift, or favor from another, positive feelings of gratitude can arise about not only what was gained, but also about the benefactor (Freitas et al., 2011). Gratitude is

therefore a moral virtue that promotes social connectedness as beneficiaries recognize moral debts and “pay it forward” by becoming benefactors themselves. In contrast, materialism emphasizes wants beyond needs and fosters competition by encouraging possession of more and better material goods than others (Kasser, 2002). Despite their conceptual overlap, little work has examined the interplay between a sense of gratitude to benefactors and attitudes toward spending and the materialistic “stuff” that individuals might have received as precursors to gratitude.

Drawing on data from 247 ethnically diverse U.S. children (58% male; 42% Latino, 34% Black, 10% White, 14% “Other”; ages = 7-14 years,  $M = 9.85$ ;  $SD = 2.10$ ), we examined whether children’s levels of gratitude are related to the types of wishes that children express and the way they allocate resources from an imaginary windfall. Results suggest that children preferred saving much of their resources, but also allocated their windfall towards charity, buying, and giving gifts. Higher materialism was associated with greater resources put toward saving and less for charity. Greater gratitude was related to greater charity.

Children’s wishes are still being coded, but we expect that children with hedonistic, material wishes (e.g., money, big house, cool stuff), as opposed to social-oriented wishes will report higher materialism and lower gratitude. Youth with hedonistic wishes might also prefer spending in less prosocial (e.g., gifts, charity) and more self-centered ways (e.g., buy, save). Exploring links between gratitude, spending behaviors, and materialism has vast implications for positive development, sustainability, and children’s self-regulation and well-being. Such consequences will be discussed, as will possible demographic variation by age, gender, and ethnicity.

	(1)	(2)	(3)	(4)	(5)	(6)	<i>M (SD)</i>
(1) Buy	--						3.64 (.85)
(2) Save	-.40***	--					2.33 (2.09)
(3) Gifts	-.10	-.47***	--				2.02 (1.83)
(4) Charity	-.28***	-.44***	-.14*	--			3.55 (2.75)
(5) Materialism	.10	.15*	-.02	-.28***	--		2.60 (2.14)
(6) Gratitude	-.05	-.02	-.01	.14*	-.02	--	4.53 (.61)
(7) Age	-.03	.05	-.11+	.09	-.02	.22***	9.85 (1.10)

Table 1: Bivariate Correlations and Means (SDs) of Primary Study Variables

#### sym202-4.4 Assessing age-related differences in how gratitude is understood and experienced

Blaire Morgan, Liz Gulliford

The University of Birmingham, United Kingdom

Our empirical work on the topic of gratitude has demonstrated how conceptualisations about what gratitude is, including when is experienced, play a vital role in the measurement of this construct (Morgan, Gulliford, & Kristjánsson, 2017). Importantly, however, there are multiple possible conceptions of gratitude (Gulliford, Morgan, & Kristjánsson, 2013) and these conceptions might differ across the lifespan. Indeed, experiencing episodes of gratitude will inevitably shape understandings of the construct and ideas about when gratitude should, or should not, be experienced.

Our work in the UK has explored conceptualisations of gratitude across the lifespan. Adolescent and adult conceptualisations of gratitude were assessed with a series of vignettes, each exploring an important factor of gratitude experience that has been highlighted in previous theoretical and empirical work. Conceptualisations of gratitude with children (8 -11 years) were explored using gratitude stories and workbooks. These stories pick out the same themes explored in the vignettes for adults and adolescents whereby fictional characters are presented with various situations in which gratitude may, or may not, be experienced.

Through the description of quantitative and qualitative data we will illustrate how this picture of gratitude experience differs as a function of age by comparing understandings of gratitude and reported levels of gratitude across children, adolescents and adults. These results highlight, for example, younger participants report greater degrees of gratitude in response to benefits that were not of any real value to them showing a greater endorsement of the adage “it’s the thought that counts”. Adults, on the other hand, appear to be more aware of the shadow side to gratitude, acknowledging that gratitude can co-occur with negative emotions (such as indebtedness and guilt).

These findings will be discussed in relation to wider assessments of gratitude and the promotion of gratitude and other virtues through positive and educational interventions.

#### **sym202-4.5 Using Literature to Cultivate Gratitude as a Moral Virtue**

David Carr

*The University of Birmingham, United Kingdom*

This proposed contribution to the ECDP gratitude symposium is based on a chapter written by David Carr and Tom Harrison for a forthcoming work edited by Jonathan Tudge and Lia Freitas on the development and cultivation of gratitude as a moral virtue. In this presentation I will show that the use of literature – novels, plays and poems – to teach gratitude at home or in school is a worthwhile and defensible educational aim. To this end, however, I will undertake four key tasks. First, from a broadly virtue ethical perspective, I will argue not only that moral education is a legitimate function of schools and other educational agencies, but also that such education may be properly conceived as a matter of the moral psychological formation of qualities of character or virtues. Secondly, I will argue that exposure to the literary fare of human cultural inheritance may be regarded as a significant and valuable means to the development or formation of virtuous human character. Thirdly, however, I will argue that gratitude may properly be regarded as a virtue of some significance for moral education. Added together, these three claims clearly support the case for the use of literature (as well as possibly other arts) for the educational development or cultivation of gratitude as a moral virtue. Fourthly, I will use literary examples to show how literature may be used for such education and teaching.

## sym202-5 A new light on empathy in children and adolescents

Robin Banerjee, Discussant  
*School of Psychology, University of Sussex, United Kingdom*

Empathy refers to the ability to feel what others are feeling, to understand the causes of those feelings, and to react supportively. This ability plays an important role in daily social life. This symposium focuses on empathy in children and adolescents, taking into account differences between boys and girls, typical and atypical samples, and Western and non-Western samples.

Carolien Rieffe will present how children with and without autism respond empathically to pain. Using observations, she found that gender mattered, over and above autism diagnosis. Girls, with and without autism responded more empathically than boys. Moreover, when children responded empathically, girls focused more on the others' emotion (e.g., "did it hurt?"), whereas boys focused more on problem solving (e.g., "you should be more careful").

Helen Drew will address the importance of empathic prosocial motivation in a challenging time: when children move from primary to secondary school. Using a longitudinal design, her data shows that high levels of empathic prosocial motivation predict subsequent increases in positive friendship quality.

Sheida Novin's presentation supports Drew's finding that empathic prosocial motivation is related to positive friendship quality, but so are the other components of empathic motivation (affective and cognitive empathic motivation). Using a cross-sectional design, her data suggests that a prerequisite to empathize with others, one should be aware of and appreciate one's own and others' emotions.

Naqi Dahamat Azam's presentation questions the generalizability of empathic components (affective/cognitive) across cultures. He found that in Malaysia, empathic motivation was structured around others' emotions: whether the other person feels sad, anger, or has a positive emotion. Moreover, this empathic structure had meaningful associations with proactive and reactive aggression.

Taken together, this symposium sheds new insights into the expression, importance, and measurement of empathy in children and adolescents.

### sym202-5.1 Empathy in adolescent girls and boys with autism

Carolien Rieffe, Anne Bülow, Danique Willems, Tamara Lorenz, Laura Hull, Lex Stockmann  
*Developmental Psychology, Leiden University, Netherlands*

**Aim:** There is an increasing interest in the phenotype of autism in girls. Autism may be more difficult to detect in girls due to their better social skills compared to boys. Another issue that might disguise autism in girls is that girls (without autism) react differently to another person in distress than boys. Whereas girls more often offer emotional support, boys more often tend to solve the problem (Banerjee, Rieffe, Meerum Terwogt, Gerlein, & Voutsina, 2006). In this study we wanted to examine if this pattern also applies to girls and boys with autism.

**Method:** We presented girls and boys (mean age 13 years old, range 110-161 months) with and without autism with an in-vivo empathy task. The experimenter pretended to hurt herself and we coded the extent to which the participants paid attention to the event/experimenter when she was showing a pain reaction. In addition, we coded the extent to which participants reacted to the experimenter's pain (emotion-focused), or tried to offer a solution for the problem (problem-focused).

**Results:** Most girls with and without autism reacted empathically, and almost all reactions were emotion-focused. Yet, half of the boys in both groups did not react at all. Many boys avoided eye contact with the experimenter. Of the boys that did react to the event, many gave a problem-focused reaction. The remaining boys gave emotion-focused reactions, but less often than girls.

**Conclusion:** The outcomes showed that empathic reactions to a pain episode differ quantitatively and qualitatively between girls and boys in line with the literature, which also extends to adolescents with autism.

**Highlight text:** These outcomes shed more light on the different phenotype of girls with autism. Girls with and without autism show similar levels of empathy, which are higher than those observed in boys with and without autism.

## **sym202-5.2 Longitudinal associations between interpersonal relationships, empathy and wellbeing in**

Helen Drew, Robin Banerjee

*School of Psychology, University of Sussex, United Kingdom*

**Aim:** The transition from primary to secondary school can be a challenge, with a documented increase in mental health problems in the early secondary school years. Children in the care system who have experienced maltreatment are likely to be particularly vulnerable during this time. This longitudinal study was designed to improve our understanding of how everyday social activities, relationship quality, and psychological factors including prosocial empathy may predict changes in wellbeing and mental health problems across these transition years, for both young people in foster care and a comparison group not in public care.

**Method:** 105 looked-after children in foster care in England and a comparison sample of 484 children (aged 10-13 years) completed measures of social activities, relationship support and quality with peers and adults, prosocial empathy, self-esteem and self-efficacy, and mental health problems and well-being. The measures were completed at two time points and SEM techniques were used in the analyses.

**Results:** Models of concurrent associations between variables at the first time point reveal associations between interpersonal relationships and children's reported well-being and mental health difficulties, mediated by psychological factors. Data collection from the second time point will be completed this summer, but initial longitudinal analyses with the comparison sample show that high levels of empathic prosocial motivation predict subsequent increases in positive friendship quality. Commonalities and differences in patterns of association for children in care and the comparison sample will be discussed.

**Conclusions:** Our findings reveal that qualities of children's social relationships, empathy, and well-being are connected during the transition to secondary school. Implications for identifying children at risk of mental health difficulties, particularly in the already vulnerable population of maltreated children, are discussed.

**Highlight text:** Longitudinal associations between social relationships, prosocial empathy, wellbeing and mental health in early adolescents in foster care and a comparison sample.

## **sym202-5.3 Emotion appreciation and empathy for positive friendships in adolescents**

Sheida Novin, Carolien Rieffe

*Developmental Psychology, Leiden University, Netherlands*

**Aim:** Friendships play a crucial role in adolescents' lives. Friends do not only provide the opportunity to engage in pleasant activities, but also provide a sense of belongingness and support at a time that independence from parents is increasing. To form and maintain friendships, a certain degree of emotional competence is needed. Prior work shows that being able to empathize with others contributes to establishing intimate, positive relationships. In the current study we tested the prediction that in order for empathy to enhance positive friendships, one should appreciate the own and others' emotions and their antecedents.

**Method:** Four hundred fifty-seven adolescents ( $M_{age} = 13.71$ ,  $SD = 0.52$ ) completed the Emotion Awareness Questionnaire-R (the two scales Awareness of Own Emotions and the Awareness of Others' Emotions were used in this study), the Empathy Questionnaire for Children and Adolescents (including the scales Affective Empathy, Cognitive Empathy, and Prosocial Empathy), and the Best Friend Index (the scale Positive Friendship was used in this study). All measures had good internal consistency. Mediation analyses using the PROCESS model (Hayes, 2013) were used to test our predictions.

**Results:** Higher levels of empathy (on an affective, cognitive, and prosocial level) were related to higher positive friendship quality. Moreover, as predicted, appreciation of both the own and others' emotions were indirectly related to higher positive friendship via higher levels of empathy. Additionally, appreciation of others' emotions was directly related to higher positive friendship quality.

**Conclusion:** Our results suggest that appreciating emotions, thus valuing emotions as an importance source of information, is a prerequisite to empathize with others, which in turn, plays an important role in adolescents' positive friendship quality.

**Highlight text:** Awareness and appreciation of the own and others' emotions as a prerequisite for the relationship between empathy and positive friendship quality.

#### **sym202-5.4 Empathy and aggression in Malaysian adolescents**

Naqi Dahamat Azam, Sheida Novin, Carolien Rieffe  
*Developmental Psychology, Leiden University, Netherlands*

**Aim:** Studies with Western samples show that more aggression in adolescents is related to less empathic concern for others. Yet, these associations have not yet been examined in non-Western countries such as Malaysia. Therefore, the aim of the current study is two-fold. First, we tested the factor structure of the Empathy Questionnaire for Children and Adolescents (Em-Que) in Malaysia (Study 1). Second, we examined the relationships between affective/cognitive empathy and reactive/proactive aggression (Study 2).

**Method:** Data was collected from two samples of school adolescents in Peninsular Malaysia (n= 993, 12 – 15 years old), using self-report questionnaires for empathy and aggression. Both questionnaires were translated into Malay language, and the aggression questionnaire was validated in Malaysian adolescents. A Principal Component Analysis (PCA) was used to examine the factor structure of the empathy questionnaire in Malay, and Pearson correlations were used to further analyse the data.

**Results:** Study 1 showed that the factor structure of the empathy questionnaire in our Malaysian sample differed from the original structure as tested in Western samples. In Malaysia, the empathic responses centered on three emotional traits separately. This applied to sadness, anger, and positive emotions. Study 2 showed that fewer empathic responses towards anger were related to more proactive aggression, whereas fewer empathic responses towards positive emotions were related to more reactive and proactive aggression. Empathic responses towards sadness were unrelated to aggression.

**Conclusion:** This study suggests cultural differences in how adolescents' empathic responses are structured in self-reports. These new empathy factors are related to aggression consistent with the emotion literature. This study emphasises the necessity for cross-cultural researchers to examine the content validity of instruments in culturally diverse samples.

**Highlight:** The non-Western (Malaysian) views of empathic responses in young adolescents are different from the Western perspectives (e.g. affective and cognitive empathy).

## sym202-6 A psychosocial perspective on the development of internalizing symptoms across adolescence

Stefanie A. Nelemans, Chair  
*Utrecht University, Netherlands*

This symposium brings together five speakers from four European countries to present their state-of-the-art longitudinal research on aspects of individual functioning and social relationships as predictors and consequences of internalizing symptom development across adolescence. The first two speakers distinguish youth anxiety trajectories using Growth Mixture Modeling and examine how these trajectories are characterized by individual vulnerability and social contextual stressors. The first study examines general anxiety trajectories across the middle school transition and associations with anxious solitude and exposure to contextual stressors in 631 youth from the USA. The second study examines trajectories of different types of anxiety and associations with gender and temperamental factors in 884 Spanish young adolescents. Results from both studies consistently suggest large individual differences in the development of anxiety symptoms, with at-risk trajectories being predicted by several aspects of individual vulnerability and social contextual stressors. The other three speakers provide a more in-depth understanding of predictors and consequences of adolescent internalizing symptom development by analyzing direction of effects using Cross-Lagged Panel Models. The third study examines violence as potential consequence of adolescent depressive symptoms through peer victimization in 682 Dutch adolescents from 13 to 18 years. Results suggest that experiences of bullying victimizations mediate the longitudinal associations between depressive symptoms and violent behaviors in adolescence. The fourth study examines associations between loneliness and friendship quality over time within 442 Flemish young adolescent best-friend dyads. Results suggest that both lonely adolescents' and their best-friends perceive lower friendship quality, but that associations appear to be more short-term than long-term. Finally, the fifth study examines reciprocal associations between maternal and adolescent perceived Expressed Emotion and adolescent internalizing symptoms in 497 Dutch adolescents from 13 to 18 years. Results support a psychopathological effects model with adolescent internalizing symptoms predicting both maternal and adolescent perceived Expressed Emotion.

### sym202-6.1 Anxiety trajectories across the middle school transition: Individual vulnerability and contextual stressors

Stefanie A. Nelemans, William W. Hale III, Susan Branje, Wim Meeus, Karen Rudolph  
*Utrecht University, Netherlands*

This study examined the impact of the middle school transition on general anxiety trajectories from mid-childhood to mid-adolescence, as well as how youths' individual vulnerability and exposure to contextual stressors were associated with anxiety trajectories. Participants were 631 youth from the USA (47% boys, Mage = 7.96 years at W1), followed for 7 successive years from 2nd – 8th grade. Teachers reported on youths' individual vulnerability to anxiety (anxious solitude) in 2nd grade; youth reported on their anxiety symptoms in 2nd – 8th grade and aspects of their social contexts particularly relevant to the school transition (i.e., school hassles, peer victimization, parent-child relationship quality, and friendship quality) in 6th – 8th grade. Results from Growth Mixture Modeling revealed two subgroups that showed either strongly increasing (5%) or decreasing (14%) levels of anxiety across the transition and two subgroups with fairly stable levels of either high (11%) or low (70%) anxiety over time (see Figure 1). Youth in the latter two subgroups could be distinguished based on their individual vulnerability to anxiety; youth with stable high anxiety were characterized by higher levels of teacher-reported anxious solitude in mid-childhood (2nd grade) than youth with stable low anxiety, OR = 1.80,  $p < .01$ . Furthermore, youth with increasing levels of anxiety after the middle school transition reported significantly more contextual stressors and less contextual support than youth with decreasing levels of anxiety after this transition. In sum, findings suggest that the middle school transition has the potential to alter developmental trajectories of anxiety for some youth, for better or for worse, and may thus rather be a "turning point" rather than a universal time of stress.

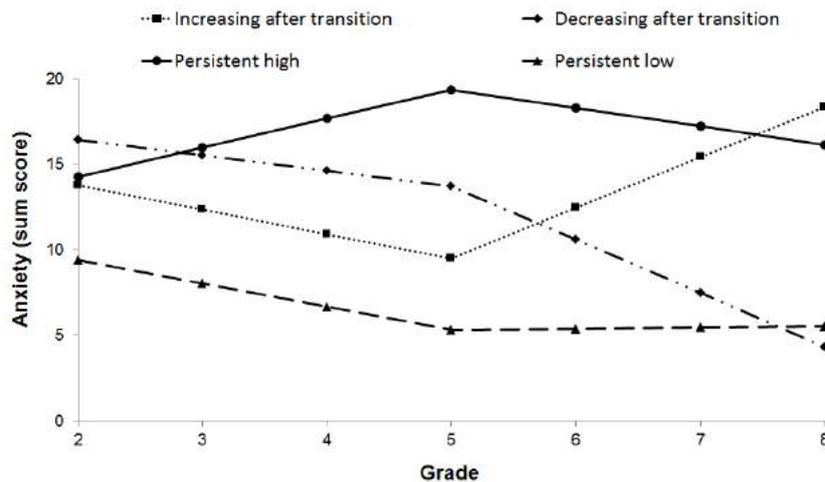


Figure 1: Graphical representation of the impact of the middle school transition (in between 5th and 6th grade) on youth anxiety trajectories for the four classes in the final GMM model.

### sym202-6.2 Anxiety course from early to middle adolescence: Influences of individual risk factors

Alejandro de la Torre-Luque, Aina Fiol-Veny, Xavier Bornas, Maria Balle, Stefanie A. Nelemans  
 University of the Balearic Islands, Spain

The transition from early to middle adolescence constitutes a sensitive period for the expression of definite mental symptomatology. In this regard, anxiety symptoms may emerge in this period or reach a peak of elevated and distressing manifestation (e.g., social phobia symptomatology). Many factors significantly influence the course of anxiety over this period and may put individuals at risk for full-blown anxiety disorders. Among these factors, gender and temperament stand out (fearful temperament, FT, as a part of reactive temperament; and attentional control, as the component of effortful control most linked with anxiety). This study aimed to (a) depict how anxiety evolved over the transition from early to middle adolescence, (b) find out the presence of varying trajectories of anxiety symptoms across this period; (c) analyze the influence of gender and temperamental risk factors on the trajectory of anxiety, so as to identify adolescents at risk for an anxiety disorder. A sample of 884 adolescents (44.40% boys; mean initial age = 13.01, SD = 0.56) were followed across an 18-month period, being assessed every six months. Anxiety, three constructs related to FT (sensitivity to punishment, negative affectivity and shyness) and attentional control (AC) were measured. Growth mixture modelling was used to examine the latent general and individual-specific course of anxious symptomatology. Results showed a decreasing, curvilinear course of the disorder-specific anxiety symptoms across assessments. Moreover, varying trajectories were identified for all criteria (from three to five classes or trajectories). Finally, classes covering at-risk adolescents were identified for social phobia and panic, with heightened levels of symptoms across assessments, being the high FT, low AC and gender, their significant predictors. To conclude, anxiety symptomatology tends to decrease from early to middle adolescence, but temperament and gender modulate this tendency.

### sym202-6.3 Victimization mediates the longitudinal association between depression and violence in adolescence

Rongqin Yu, Susan Branje, Wim Meeus, Hans Koot, Pol van Lier, Seena Fazel  
 University of Oxford, United Kingdom

Objective: Despite empirical evidence of a positive link between depressive symptoms and violent behaviours, the pathways underlying this developmental association remain unknown. We tested whether bullying victimizations mediated the link between depressive symptoms and violent behaviours using a six-year longitudinal study of a community sample of adolescents. Methods: The sample includes 682 Dutch adolescents (54% boys) from an ongoing longitudinal study RADAR (Research on Adolescent Development and

Relationships). From age 13 to 18 years, adolescents annually reported their depressive symptoms, victimization experiences, and violent behaviours. We conducted longitudinal mediation analyses to test pathways to violence in adolescents with depressive symptoms. Results: Our analyses revealed that adolescents' depressive symptoms significantly predicted victimization experiences one year later. Higher victimizations predicted increased risk of violent behaviours one year after. In addition, there were indirect effects from depressive symptoms to violent behaviours two years later through victimization experiences one year later. These associations were similar across six years and between genders. Conclusions: The findings documented that experiences of bullying victimizations mediate the longitudinal associations between depressive symptoms and violent behaviours in adolescence. Links between depressive symptoms and violent behaviors are potentially important to understand adolescent development. Reduction of victimization is likely to be an important target for the prevention of violent behaviors in adolescents with depressive symptoms.

#### **sym202-6.4 Loneliness and friendship quality in adolescent friendship dyads**

Annette Spithoven, Margot Bastin, Patricia Bijttebier, Luc Goossens  
*KU Leuven, Belgium*

Best friendship quality is seen as the most important indicator of loneliness during adolescence (Qualter et al., 2015; Vanhalst et al., 2014). It remains unclear whether lonely individuals are actually involved in low-quality best friendships or whether they just perceive their best friendships as of lower quality. Therefore, we aimed to examine how loneliness and friendship quality are related to each other over time within best friend dyads. If loneliness is related to being involved in low-quality best friendships, reports of the best friend on friendship quality are expected to be related to the other member's loneliness and friendship quality reports. Method. The sample consisted of 884 adolescents (46.94% boys,  $M = 13.80$ ,  $SD = 1.44$ ), making up 442 dyads, with a reciprocal best friend on at least one measurement occasion. A longitudinal actor-partner interdependence model was estimated using a multi-group approach (e.g., Popp et al., 2008). Results. As no significant differences between dissolved, nascent, and stable friendships were found, the various groups were constrained to be equal ( $\chi^2(4) = 5.14$ ,  $p = .273$ ,  $RMSEA = .03$ ,  $TLI = .99$ ). Loneliness and friendship quality was positively related to own reports of the same construct one year later. Reports of the dyad members on loneliness and friendship quality were unrelated over time. However, within time, loneliness and friendship quality as reported by one dyad member was related to higher loneliness and friendship quality as reported by the best friend. Discussion. The findings suggest that best friends agree to some extent with the lonely individual that their friendship is of low quality, but that lonely individuals perceive their friendship quality as even worse. Yet, these seem to be short-term, rather than long-term, effects.

#### **sym202-6.5 Mother and adolescent Expressed Emotion and adolescent internalizing and externalizing symptom development**

William W. Hale III, Elisabetta Crocetti, Stefanie A. Nelemans, Susan Branje, Pol van Lier, Hans Koot, Wim Meeus  
*Utrecht University, Netherlands*

In Expressed Emotion (EE) theory, it is held that high EE household environments enhance adolescent psychopathological distress. However, no longitudinal study has been conducted to examine if either the mother's EE and the adolescent's perception of EE predicts adolescent internalizing and externalizing symptom dimensions (an EE effect model) or vice-versa (psychopathological effect model) together in one model. To unravel the reciprocal influences of maternal and adolescent perceived EE to adolescent internalizing and externalizing symptom dimensions we tested two (i.e., one for internalizing and one for externalizing) cross-lagged panel models. This six-year longitudinal study was comprised of 497 Dutch (283 boys and 214 girls) adolescents and their mothers. At the first measurement wave, adolescents were 13 years old, on average, and followed them to 18 years of age. It was found that both internalizing and externalizing symptom dimensions predicted the adolescent's perception of maternal EE as well as the mother's own rated EE criticism over time. Presently, in EE theory and many family treatments, it is common to only focus on an EE effects model (the EE provider [i.e., the mother] affecting the EE receiver [i.e., the child]). A psychopathological effects model, in which the child's psychopathological symptoms elicit EE from the mother, receives little attention in therapies

designed to reduce EE. It is quite conceivable that both a psychopathological effects model (found in this study) as well as an EE effect model (found in previous studies) help to explain the relationship between maternal EE and the course of adolescent internalizing and externalizing symptoms. Specifically, in Cognitive Therapy, a major focus of the therapy is on the interactions the client has with others. It is possible that EE psychotherapy could be refined to incorporate these divergent perceptions on the part of the mother as well as the part of the adolescent.

## sym202-7 From Programs to Systems: The Challenge of Implementing Evidence Based Prevention Programs

Dagmar Strohmeier, Chair  
*University of Applied Sciences Upper Austria, Austria*

The implementation of evidence based prevention programs in schools is a challenging task. In recent years, a growing body of implementation research indicates that an active, long-term, multilevel implementation approach is far more effective than passive forms of dissemination (Ogden and Fixsen, 2014). In line with a socio-ecological understanding of development (Bronfenbrenner, 1979), a better understanding of the support systems available in schools is necessary to develop and use them to implement evidence-based programs. The present symposium compares three support systems that were systematically developed and used to implement evidence based programs in five different national contexts (Austria, Cyprus, Romania, Turkey and US): (1) External trainers delivered a ViSC-REBE program in order to tackle student's distress intolerance (study 1). (2) Teachers delivered a fully manualized anti-bullying program in their classes to reduce bullying and victimization (study 2 and 3). (3) Police officers were present in schools to increase students' safety (study 4) or delivered a fully manualized life-skills program in classes to prevent the onset of substance use and addiction (study 5).

Taken together the five studies demonstrate that whole-system involvement is important for sustainable prevention and intervention. The studies also demonstrate that high quality cross national dissemination studies are necessary, because whole school programs are implemented in a particular national school system that vary considerably between countries. Thus, the effectiveness of an existing evidence-based program cannot be taken for granted because new support structures need to be developed and established.

### sym202-7.1 REBE-VISC Targeting Students' Distress Intolerance

Simona Trip, Carmen Bora, Sebastian Sipos-Gug, Ioana Sîrbu, Petra Gradinger, Takuya Yanagida, Dagmar Strohmeier  
*University of Oradea, Romania*

Researchers encouraged the study of the effectiveness of anti-bullying programs that foster socio-emotional development of children (Espelage et al., 2013).

As a part of emotion regulation, distress tolerance is conceptualized as perceived capacity and behavioral act of withstanding negative emotional and other aversive experiences (Leyro, Zvolensky & Bernstein, 2010). In Rational Emotive Behavioral Therapy (REBT) distress tolerance or low frustration tolerance (LFT) is defined as the belief that reality must be as we want it to be – easy, pleasurable and comfortable, if not, we cannot stand it. Rational Emotive Behavioral Education (REBE) is based on REBT theory and aims to teach students to recognize their dysfunctional anger, to dispute and find rational alternatives to LFT beliefs (Trip & Bora, 2010). The ViSC program is based on social learning theory and aims to reduce bullying by fostering empathy and perspective taking, by enhancing responsibility and by broadening the behavioral repertoire (Strohmeier et al., 2012).

The present study investigates the effectiveness of the REBE-ViSC Program (9 REBE and 10 ViSC units) over one school year in reducing LFT. Participants were sixth grade students enrolled in 11 different schools, randomly chosen and distributed in 3 groups: a control group (3 schools, 315 students), the REBE-ViSC experimental group (5 schools, 385 students) and the ViSC-REBE experimental group (3 schools, 270 students).

A 64 items self-report measurement was used to measure LFT (Trip & Bora, 2011). Hierarchical growth models controlling for the nested data structure were applied.

Both intervention groups showed a stronger decrease over time in LFT entitlement and in LFT learning than the control group while controlling for sex. The REBE-ViSC condition was efficient in reducing LFT to teachers' behaviors and students' behaviors. The ViSC-REBE intervention reduced discomfort intolerance. No effect was found on LFT to school rules and emotions' intolerance.

## **sym202-7.2 Evidence Based Bullying Prevention: Implementation of the ViSC Program in Turkey**

Aysun Dogan, Eda Keser, Zeynep Sen, Takuya Yanagida, Petra Gradinger, Dagmar Strohmeier  
*Ege University, Turkey*

Bullying is a form of aggressive behavior performed repeatedly and over time by one or more students against another student, and is characterized by an inequality and power imbalance (Olweus, 1993). Bullying among students has emerged as a major concern for school and health professionals worldwide; thus, evidence based prevention programs to tackle and prevent bullying have been developed around the world. Research findings show that these intervention programs were successful in substantially reducing bullying and victimization (Ttofi & Farrington, 2011).

The ViSC program is the first evidence based whole school anti-bullying program that was small-scale implemented and evaluated in Turkey. A quasi-experimental three wave longitudinal control group design comprising six schools and 26 classes was realized to examine program effectiveness regarding different forms of perpetration and aggression. The effectiveness of two types of interventions - school and class level intervention vs. school level intervention was investigated. In total, 642 grade 5 students (227 in school and class level intervention, 201 in school level intervention, 214 in control group, 49.1% girls, Mage = 10.06) participated. Multilevel growth models were applied (time points at level 1, individuals at level 2, and classes at level 3). The analyses revealed baseline effects indicating that the two intervention groups had lower levels of perpetration and victimization at pre-test. Overall, perpetration and victimization increased more in the two intervention groups compared with the control group at time 2, but also steeper decreased at time 3 indicating a sensitizing effect of the program. No differences between the two intervention groups were found. Results are important for both intervention research and social policy in Turkey. However, further research is needed to investigate the underlying mechanisms of the intervention effects.

## **sym202-7.3 Cross-National Evaluation of the ViSC Anti-Bullying Program: The Effects on Teachers**

Olga Solomontos-Kountouri, Burger Christoph, Aysun Dogan, Dagmar Strohmeier  
*Theology School, Church of Cyprus, Cyprus*

The present study presents the evaluation of the ViSC Social Competence Program regarding the acquired knowledges and competences of school teachers from three different countries. ViSC is an evidence-based bullying prevention program that has been developed, implemented and evaluated initially in Austria and then in Cyprus and in Turkey. It utilizes a cascaded train-the-trainer model where experienced educators (i.e., ViSC multipliers) complete a specialized training module (i.e., ViSC training course) and then perform in-school teacher trainings in the participating schools. The trained teachers then in return train and interact with students in their schools. School teachers are also trained to handle bullying cases. The program implementation takes one school year and its effects regarding students have been thoroughly evaluated. The present study presents large-scale evaluation results regarding the ViSC program's effect on teachers' use of intervention strategies as measured by the Handling Bullying Questionnaire in three culturally diverse countries: Austria (T1: N=333, 74% female), Cyprus (T1: N=212, 77% female) and Turkey (T1: N=217, 75% female). A longitudinal three wave (pre, post, follow-up) intervention-control group design was used. Results showed that the ViSC program successfully increases teachers' knowledges, their overall likelihood to intervene and their likelihood to work supportively with victims. There are both similar and different positive effects in the three countries. Results indicate that continuous effort in teacher training is necessary to produce sustainable results. The positive effects of an anti-bullying program on school teachers are essential in the attempt of bullying reduction in schools.

#### **sym202-7.4 Police in Schools: The Effects of School Resource Officers on Student Safety**

Sheri Bauman, Takuya Yanagida, Jamie Utt, Sowmya Ghosh, Sulkowski Michael, Diana Meter, Dominique Wilson

*University of Arizona, United States*

**Aim:** The goal of this study was to investigate whether students in schools with School Resource Officers (SROs) felt safer than students in schools without SROs. In addition, we examined racial differences in student feelings of safety.

**Methods:** A total of 45 randomly selected secondary schools in one state in the US participated in the study. Each school randomly selected 30 students per grade to complete questionnaires at two time points. In sum, 5,350 students (3,757 in SRO group with 50.0% girls, 1,593 in control group with 48.6% girls) participated in at least one occasion of measurement. Race distribution was: 2.9% American Indian/Alaskan Native, 4.0% Asian, 4.8% Black/African American, 35.7% Hispanic/Latino, 1.3% Native Hawaiian/Pacific Islander, 37.1% White, and 14.3% Biracial. A multiple-group Latent Change Score (LCS) model was conducted to extract plausible values, which were subsequently used as dependent variable in a multilevel analysis.

**Results:** On average, student perceptions of school safety decreased from Time 1 (Fall) to Time 2 (Spring). Overall, there was no effect of the presence of an SRO on student perceptions of school safety. When including race, however, results showed that the effect of the presence of an SRO depended on the race of the student. SROs had a positive effect on perception of school safety for White students, whereas SROs had a negative effect on perception of school safety for students of Color. Additional analysis revealed that Black/African American students in particular felt less safe in the presence of an SRO.

**Conclusions:** Results cast doubt on the reasons for placing police in schools, which is to make schools safer. Importantly, with the differential racial effects, we question whether the presence of police in schools reinforces the historic and current over-policing and harm experienced at the hands of police by Black people in US society.

#### **sym202-7.5 Prevention Police Officers in Austrian Schools: Effectiveness of a Life-Skills Program**

Dagmar Strohmeier, Petra Gradinger, Takuya Yanagida

*University of Applied Sciences Upper Austria, Austria*

The WHO core life skills (WHO, 1994) are important health resources to prevent the early onset of alcohol and tobacco use during adolescence and addiction later in life. Based on a risk-protection model, prevention programs that differed regarding their implementation models were delivered in schools showing small to medium effect sizes (Lemstra et al, 2010).

The main goal of the present study is to investigate the effectiveness of a school-based life-skills program delivered by prevention police officers over a period of two consecutive years. All secondary schools located in one Austrian federal state were invited to participate in a two-year prevention program called “clever and cool”. This fully manualized primary prevention program consists of teacher trainings and parent meetings on school level and of 11 modules that are delivered by police prevention officers in grade 7 and 8 classes. For the present study, 13 intervention and 5 control schools participated in a three wave quasi-experimental longitudinal study. Data were collected before program implementation (N=583 at pre-test), after one year (N=591 at mid-point) and after two years of implementation (N=552 at post-test). Data on substance use, knowledge about substances and various life-skills were collected from students via online-questionnaires. Teachers and prevention officers filled in questionnaires at post-test. Descriptive analyses revealed that the program was implemented with high fidelity. Multilevel growth models (time points at level 1, individuals at level 2, and classes at level 3) revealed that knowledge about substances increased more in the intervention group compared with the control group, however no effects regarding substance onset and life-skills were found. Results are discussed regarding the role of prevention police officers in schools. Moreover, strategies how teachers and prevention police officers could better work together in the future are outlined.

## sym202-8 Reading Development in Primary School: The Role of Home Literacy Environment and Children's own Print Exposure

In this symposium, we aim to take a closer look at print exposure, home literacy environment, and reading development of primary school children. Multiple informants (children, parents as well as teachers) and perspectives (e.g., Biological Psychology, Developmental Psychology, Education) are used across studies to shed light on the importance of reading for 7-to-15-year old children. Existing research on the relation between print exposure, home literacy environment, and reading development is relatively scarce for older primary school children, whereas all our studies suggest that it remains important to read for pleasure once children have learned to read independently. First, Elsje van Bergen (VU University Amsterdam, the Netherlands, and University of Oxford, UK) will talk about data from 7.5-year-old twins and their siblings suggesting that reading ability predicts print exposure. Second, Inouk Boerma (VU University Amsterdam and iPabo University of Applied Sciences, the Netherlands) will present a path model in which 8-to-11-year-old children's home literacy environment are shown to predict their print exposure and reading comprehension. Third, Minna Torppa (University of Jyväskylä, Finland) will show results of a longitudinal study on the co-development of children's reading fluency, reading comprehension, and print exposure from age 5 to age 15. Fourth, Suzanne Mol (Leiden University, the Netherlands) will discuss a study in which maternal beliefs about the benefits of reading for children's active citizenship skills mediate the relationship between educational expectations and the quality of the home literacy environment of 7-to-13-year-olds. As our discussant, Roel van Steensel (Erasmus University Rotterdam and VU University Amsterdam, the Netherlands), who is an expert on children's home literacy environment and reading development, will integrate the findings from this symposium and discuss with the audience some much-needed next steps for reading promotion programs that improve children's reading development in primary school and beyond.

### sym202-8.1 Unravelling the Link between Reading Ability and Print Exposure

Elsje van Bergen, Maggie Snowling, Eveline de Zeeuw, Toos van Beijsterveldt, Conor Dolan, Dorret Boomsma  
*VU University Amsterdam, Netherlands*

**Purpose:** What is the relation between how much children read for pleasure and how well they read? And why are they related at all? Do children who read a great deal become better readers, do good readers spend more and more time on reading, or is a third underlying variable at play?

**Method:** Partial data were available for a large sample of twin children (N = 11,408) and 389 siblings, all enrolled in the Netherlands Twin Register. Children were assessed around 7.5 years of age. Mothers completed questionnaires on children's reading ability and time spent on reading activities. In addition, information on reading ability was available through teacher ratings and performance on national reading tests. For siblings only test results were available.

**Results:** Reading ability did not differ between twin and non-twin children, supporting that twin findings can be generalized to the population. For the twin sample, a measurement model was specified with two latent variables, Reading Ability and Print Exposure, which correlated .41. Heritability analyses showed that Reading Ability was highly heritable, while for Print Exposure genetic and environmental influences were equally important. We employed the fact that the two differed in genetic architecture and fitted direction of causality models (see Duffy & Martin, 1994). These models supported a causative relationship running from Reading Ability to Print Exposure.

**Conclusion:** How much and how well children read are moderately correlated. Individual differences in print exposure show stronger environmental influences than individual differences in reading ability. Importantly, it seems that children's reading ability influences how much they choose to read, rather than vice versa.

## sym202-8.2 The Relation Between Third- And Fourth-Graders' Home Literacy Environment and Reading Comprehension

Inouk Boerma, Suzanne Mol, Jelle Jolles

VU University Amsterdam, iPabo University of Applied Sciences, Netherlands

**Aim:** In this correlational study, the relation between third- and fourth-graders' home literacy environment (HLE) and reading comprehension is examined. Most studies on children's HLE have focused on young children, and have generally shown positive relations with children's early literacy skills (e.g., Burgess et al., 2002). For children in the higher grades of primary school, this relation seems to be indirect, running via higher-order language and cognitive skills (e.g., Sénéchal et al., 2006). In this study, children's expressive verbal ability and mentalizing skills are examined as mediators of the relation between HLE and reading comprehension. In addition, children's own print exposure is included in the model.

**Method:** Our sample consisted of 117 third and fourth graders (58 girls; mean age 9.45 years). Their HLE was established by means of a parental questionnaire. The children participated in two individual test sessions in which their print exposure, mentalizing, and verbal expressive ability were measured. The schools provided us with standard reading test scores as an indication of their reading comprehension.

**Results:** We performed path analyses using AMOS to examine the direct and indirect relations between HLE and reading comprehension. The results showed that children's HLE both directly predicted their reading comprehension, and indirectly via mentalizing and print exposure, but not via expressive verbal ability (see Figure 1).

**Conclusions:** Our findings show that both direct and indirect relations can be found between HLE and reading comprehension. In addition to print exposure, mentalizing abilities seem to play an important role in children's reading comprehension. Finally, this study shows that HLE still contributes to reading comprehension for children in the higher grades of primary school. Parents should (continue to) provide a rich literacy climate to their children, even when their children are capable of reading themselves.

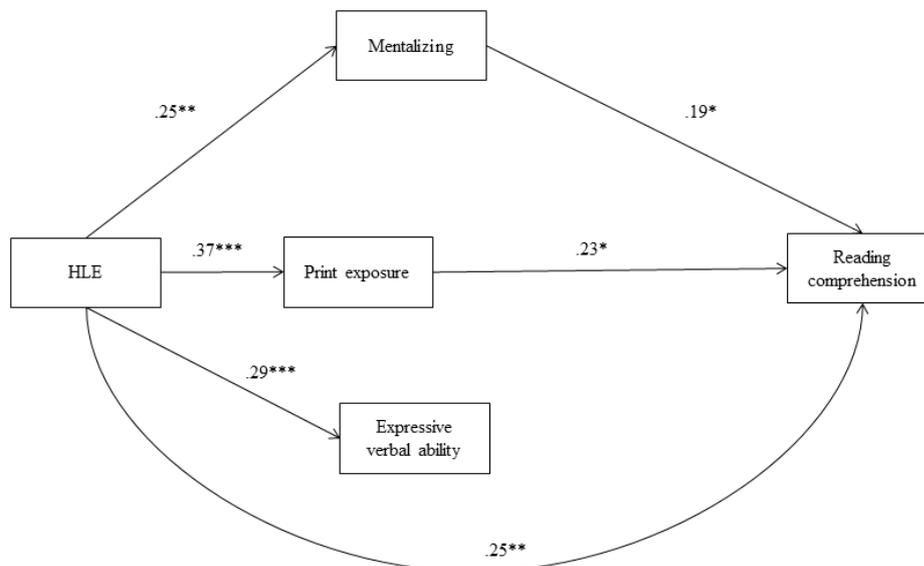


Figure 1: Final model, including the standardized estimates of the variables predicting children's reading comprehension. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p \leq .001$ . Sex, age, and school are included as covariates.

### sym202-8.3 Why are Practice and Performance Related? Reading Development from 5 to 15years

Minna Torppa, Kati Vasalampi, [Elsje van Bergen](#)  
VU University Amsterdam, The Netherlands

**Aim:** Does reading a lot lead to better reading skill or does reading a lot follow from high initial reading skills?

We report a longitudinal follow-up of how much children choose to read and how well they decode and comprehend texts. This is the first study that examines the co-development of reading amount (also called 'print exposure') with both fluency and comprehension throughout childhood using autocorrelations.

**Methods:** Two-hundred children were followed from age 5 to 15. Reading amount was assessed at ages 5, 7, 8, 9, and 13. Emerging literacy skills were tested at age 5 and reading at ages 7, 8, 9, 14, and 15 (the latter with PISA).

**Results:** Path analyses showed that children's reading practices and skills reciprocally influence each other. During the early school years, the effects run from reading fluency to comprehension and amount. Reading fluency, comprehension, and amount were all important predictors of age 15 PISA reading comprehension.

**Conclusions:** Because early reading fluency was found to show a knock-on effect on later reading comprehension and amount, we expect that intervening decoding difficulties can have a positive impact also on reading comprehension and amount.

### sym202-8.4 Home Literacy and Beliefs about Reading for Active Citizenship in Primary School

[Suzanne Mol](#), Inouk Boerma, Jelle Jolles,  
Leiden University, Netherlands

**Aim:** Reading cannot only affect children's cognitive development, but also the social and moral competences that are needed to become active citizens. This study examined maternal beliefs about reading for active citizenship in relation to the mothers' educational expectations for their children on the one hand and the home literacy environment (HLE) on the other hand. We expected maternal beliefs to mediate the previously shown relation between educational expectations and HLE.

**Methods:** In this correlational study, participants were 389 mothers of children in the upper grades of the Dutch primary school system (aged 7 to 13 years; mean = 10 years). Our measure of beliefs about reading for active citizenship showed good internal consistency ( $\alpha = .86$ ). The HLE-scale comprised mothers' estimation of the number of books at home and a print exposure checklist (ART;  $\alpha = .76$ ). The PROCESS macro (Hayes, 2013) was used to test our mediational model.

**Results:** Mothers with positive beliefs about reading for active citizenship were more likely to expect their child to graduate from university and offered their children a higher-quality HLE than mothers with negative beliefs. Furthermore, the relation between educational expectations and HLE was mediated by mothers' reading beliefs, after their highest level of education and family demographics were controlled for (see Figure 1).

**Conclusions:** Our findings imply that educating mothers to approach reading as a means to develop their children's active citizenship competences may positively affect the quality of their HLE. Moving away from the exclusive focus on ways to improve children's school success by highlighting the effects of reading on children's development as active citizens may trigger the interest of parents who do not like to read themselves or who do not expect their children to perform well in school or academia.

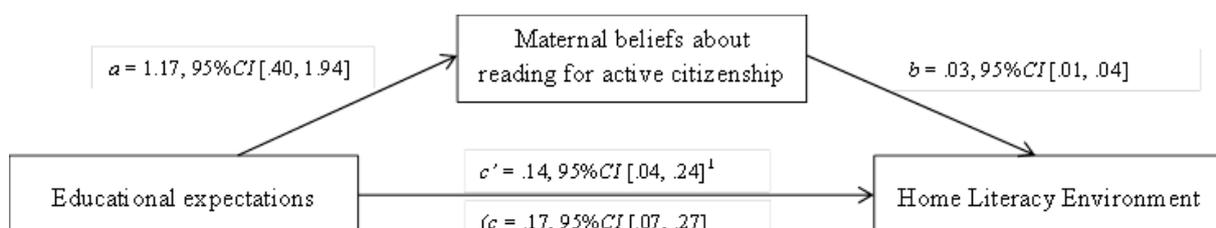


Figure 2: Mediational model in which Maternal Beliefs about Reading for Active Citizenship Partially Mediate the Relation between Educational Expectations and the Home Literacy Environment ( $N = 283$ )

## sym202-9 Mental state understanding in typical and atypical development: social, parental and individual influencing factors

Daniela Bulgarelli, Chair

*Università degli Studi di Torino, Italy*

Anne Henning, Chair

*SRH Hochschule für Gesundheit Gera, Germany*

Paola Molina, Chair

*Università degli Studi di Torino, Italy*

We often refer to mental states such as intentions, desires, and beliefs to explain and predict our own behavior and that of others. Mental state understanding and social cognition develop throughout infancy and childhood, and a deeper understanding of influencing developmental factors may be obtained by studying individual differences in typical and atypical populations. In the proposed symposium, this topic is addressed by five research teams from three European countries.

Three studies assess the role of social, parental and individual variables on children's social cognition development: Bulgarelli & Molina deepens our understanding of the effects of type of early care, maternal education, parents' country of birth, and child's language on the social cognition of typically-developing Italian preschoolers. Rosso investigated whether the intergenerational transmission of the ability to mentalize, which was found in a previous study with reference to the reflective functioning, could be generalized to Theory of Mind (ToM) tasks. Viana et al. addressed the question whether ToM plays a role for children's interaction style when faced with a socio-cognitive conflict in a collaborative problem-solving task involving spatial transformation.

The other two studies investigated mentalizing abilities in typically developing children and in children with anxiety and emotional disorders: White et al. investigated the relationship between social exclusion and monitoring others' mental states in typically developing preschoolers and in young children with and without anxiety disorders. Finally, Klein et al. investigated the association of mentalizing capacities with emotional symptoms and disorders in German preschoolers.

### sym202-9.1 Social cognition in preschoolers: effects of early experience and individual differences

Daniela Bulgarelli, Paola Molina

*Università degli Studi di Torino, Italy*

**Aim.** Social cognition is the way in which people process, remember and use information in social contexts to explain and predict their own behaviour and that of others. Children's social cognition may be influenced by multiple factors, both external and internal to the child. In the current study, two aspects of social cognition were examined: Theory of Mind (ToM) and Emotion Understanding (EU). The aim of this study was to analyse the effects of type of early care (0-3 years of age), maternal education, parents' country of birth, and child's language on the social cognition of Italian preschoolers. To our knowledge, the joint effect of these variables on social cognition has not previously been investigated in the literature.

**Method.** 118 children between 3 and 6 years have been involved in the study. The measures used to collect social cognition and linguistic data were not parent- or teacher-reports, but based on direct assessment of the children through two standardized tests, the Test of Emotion Comprehension and the ToM Storybooks.

**Results.** Relationships among the variables showed a complex pattern. Overall, maternal education and linguistic competence showed a systematic effect on social cognition; the linguistic competence mediated the effect of maternal education. In children who had experienced centre-based care in the first three years of life, the effect of maternal education disappeared. The children with native and foreign parents did not significantly differ on the social cognition tasks.

**Conclusions.** Type of care, in interaction with maternal education and children's linguistic competence, affected social cognition and early centre-based care seemed to play a protective role for those children with lower-educated mothers. The protective role of centre-based care was less clear when considering the effect of parental country of birth and further research is needed.

## **sym202-9.2 Intergenerational transmission of the Theory of Mind**

Anna Maria Rosso

*University of Genoa, Italy*

The aim of the present study was to investigate whether the intergenerational transmission of the ability to mentalize, which was found in a previous study with reference to the reflective functioning, could be generalized to Theory of Mind (ToM) tasks.

The Reading the Mind in the Eyes (RME) task was administered to 126 children and their mothers. Only 51 fathers agreed to participate in the research and filled in the RME task. The Peabody Picture Vocabulary Test (PPVT) and Raven's Coloured Progressive Matrices (RCPM) were also administered to the children in order to control the effect respectively of the receptive language skills and the non-verbal problem solving intelligence. Results showed no significant association between the children's and the parents' performance on RME task, also after controlling for maternal education as well as for PPVT and RCPM scores ( $r = -.190$ ;  $r = .112$  respectively for mother and father). Rather, children's scores on RME task were associated with scores on PPVT ( $r = .292$ ;  $p = .001$ ), RCPM ( $r = .396$ ;  $p < .0001$ ) and mothers' education ( $r = .340$ ;  $p < .0001$ ).

The current study did not support intergenerational transmission of the ToM, a component of mentalization, whereas children's performance on a ToM task resulted significantly associated with maternal level of education, children's receptive language skills and non-verbal problem solving intelligence. To overcome the limitations of the present study, future researches investigating the intergenerational transmission of ToM should take into account the effect of mothers' and fathers' verbal and non-verbal intelligence.

## **sym202-9.3 Does ToM matter for children's interaction in a collaborative problem-solving task?**

Karine Porpino, Imac Zambrana, Evalill Karevold, Francisco Pons

*University of Oslo, Norway*

Research on Theory of Mind (ToM) has produced substantial knowledge on the nature and origins of children's ability to understand mental states in the self and others. The findings, however, remain unclear with regard to the impact of ToM on children's social interaction in problem-solving task. Even though solving a problem collaboratively seems to intrinsically demand ToM abilities, still it needs to be investigated. The current study therefore addresses the question on whether ToM plays a role for children's interaction style when faced with a socio-cognitive conflict in a collaborative problem-solving task involving spatial transformation. The sample includes 64 boys and girls between the ages of 5-9 years, who were tested for their ToM and for their interaction style while resolving a spatial task. The results showed that children with lower ToM abilities tended to more frequently reject the other's perspective in comparison with children with higher ToM who more often tended to acknowledge or negotiate with the partner. This suggests that ToM can be linked to the way children take into account the other's viewpoint in a collaborative problem-solving. The findings are discussed in terms of the relation between having a conceptual understanding of the mind and the practical implications of this knowledge for creating a constructive socio-cognitive conflict where children are open to other's knowledge and disagreements when resolving a collaborative spatial transformation problem.

## **sym202-9.4 Mentalizing after exclusion: differences between children with and without anxiety disorders**

Lars Otto White, Annette Klein, Jonathan Hill, Harriet Over, Kai von Klitzing, Peter Fonagy, Michael Crowley

*University of Leipzig, Germany*

Social exclusion leads us to more closely monitor others' mental states to avoid further exclusion and identify opportunities for reconnection with others (Molden & Maner, 2013). Social exclusion may therefore offer a unique opportunity to study how usage of mental state understanding changes with context and disposition. These lines of inquiry were extended to typically developing preschoolers (Study 1) and young children with and without anxiety disorders (Study 2) using the virtual ballgame "Cyberball" to induce exclusion. Study 1: 34 typically developing 5-year-olds were linked with two peers over the Internet, who either randomly exposed them to exclusion for no apparent reason (regular exclusion) or due to an alleged computer malfunction (accidental exclusion). Study 2: 20 clinically referred 4 to 8-year-olds with anxiety disorder

(indexed by the Preschool Age Psychiatric Assessment; Egger & Angold, 2004) and 15 age- and gender-matched controls completed story-beginnings before and after regular exclusion in Cyberball. Before and after Cyberball, children in both studies completed story-beginnings about peer-scenarios. From transcripts of children's stories references to mental states of story-characters (mental state language; MSL) and portrayals of prosociality/affiliation between story-characters were coded blind to condition.

Study 1: regularly vs. accidentally excluded children used more mental state language (MSL) to describe story characters,  $F(1, 34) = 9.52, p < .001, \eta^2 = .219$  and portrayed more affiliation/prosociality between characters,  $F(1, 34) = 15.07, p < .001, \eta^2 = .307$ . For Study 2, the post-exclusion increase in MSL after exclusion in Study 1 was replicated among non-anxious controls, while anxious children exhibited a decline in MSL following exclusion,  $F(1, 33) = 8.52, p < .006, \eta^2 = .205$ .

Exclusion compels young children to socially monitor others' perspectives and represent affiliation. Anxiety disorder may impair social monitoring after exclusion, impeding anxious children's efforts to re-affiliate.

### **sym202-9.5 Mentalizing in preschoolers: Different measures and associations with emotional symptoms and disorders**

Annette Klein, Lars Otto White  
*University of Leipzig, Germany*

In preschool age fundamental advances in mentalizing the social-cognitive capacity to construe oneself and others in terms of intentional mental states take place. There exist different approaches to assess mentalizing, for example ToM tasks and story stem methods. However, except for pioneering research (Hill, et al., 2008), a paucity of studies have analyzed associations between different measures. Moreover, studies investigating potential deficits in social-cognitive capacities in children with emotional symptoms/disorders are still scarce. The objective of this study was first to examine the association of different measures of mentalizing Theory of Mind battery and intentionality derived from story stems in a community sample oversampled for emotional symptoms. Second, we aimed to investigate the association of mentalizing capacities with emotional symptoms and disorders.

The sample of the present study consists of 70 children (48% girls) in preschool age ( $MAge=5;3$ ). About half of the children had emotional symptoms, the other half had no symptoms. To assess symptoms and disorders, parents completed the Strengths and Difficulties Questionnaire (SDQ) and were interviewed using the semi-structured clinical interview Preschool Age Psychiatric Assessment (PAPA). Children performed the Theory of Mind Scale (ToM, Wellman & Liu, 2004) consisting of five tasks and the MacArthur story stem battery (Bretherton & Oppenheim, 2003), a highly structured story completion task. Based on the coding manual by Hill et al. (2009), we coded the extent to which children portrayed characters as intentional agents in their narratives (intentionality). Moreover, further cognitive capacities (language comprehension and IQ) were assessed.

Preliminary analyses showed that children with anxiety and depressive comorbidity had a deficit in ToM compared to children without disorder. Coding of the story stems is still ongoing. Detailed analyses of the association between different mentalizing measures and their relation with emotional symptoms and disorders will be presented.

## Paper sessions 202, Thursday August 31, 13:45 – 15:15 hrs.

### pap202-10 Attachment Processes

#### **pap202-10.1 Childhood Behavioural Inhibition and Attachment: Predicting Intolerance of Uncertainty in Young Adulthood**

Magdalena Zdebik, Jean-François Bureau, Ellen Moss  
*University of Montreal, CHU Sainte-Justine Hospital Research Center, Canada*

**Aim:** Identifying childhood risk factors is a crucial step in the creation of effective methods to prevent the development of anxiety in adulthood. The cognitive schema of Intolerance of Uncertainty (IU), a tendency to react negatively to uncertain situations is an important component contributing to anxiety disorders. Yet, little is known about its etiology. Understanding IU's development is important since daily life is full of uncertain situations, and being unable to cope with uncertainty or ambiguity places an individual at great risk for constant worry and anxiety. Furthermore, IU has more recently been identified as a transdiagnostic cognitive component related to diverse mental health problems, including depression, and shown to be a good target for clinical intervention. Two proposed risk factors for the development of IU are an insecure parent-child attachment and temperament, particularly behavioral inhibition (BI), a tendency to react negatively to the unfamiliar. However, no prospective empirical study has yet investigated these links. **Methods:** In the current study, attachment to caregiver and BI of sixty children were assessed at age 6, using observational measures. Mother's anxiety symptoms were assessed when participants were 14-years-old. IU was self-reported by participants when they were 21-years-old, as was neuroticism. **Results:** Two types of insecure attachment (ambivalent and disorganized controlling) and BI were positively related to IU over a 15-year span, even after controlling for participants' neuroticism and maternal anxiety. Attachment and BI had no significant interacting effect on the development of IU. Maternal anxiety was positively related to child BI and insecure attachment, but not IU. **Conclusions:** This is the first empirical confirmation of a link between the development of IU in young adulthood and childhood ambivalent and disorganized-controlling attachment and BI. These results have etiological as well as preventative implications for anxiety disorders and for all disorders related to IU.

#### **pap202-10.2 Transition to “fathering”: Dyadic adjustment and father attachment before and after birth**

Mónica Pires, Cristiana Fernandes  
*Universidade Autónoma de Lisboa/Autonomous University - Lisbon, Portugal*

Pregnancy, although physically conditioned to women, does not exclude paternal involvement. Studies suggest that attachment begins during pregnancy, increases after birth and it's associated to a decrease in the quality of the couples' relationship. Childbirth it's considered a milestone in couples' life, and a transition to parenthood not often addressed in the father's perspective. The present study to verify the relation between dyadic adjustment and prenatal attachment (study 1) and the effect of childbirth in the dyadic adjustment and the postnatal attachment (study2).

In the 3rd trimester of partner's pregnancy, 130 men, completed Antenatal Emotional Attachment Scale and Dyadic Adjustment Scale (DAS). A repeated measures design (+ Postnatal Attachment Scale) was developed with a sub-sample of 22 fathers from initial study, 2 months after the child was born.

Results found in the 1st study are in line with previous findings: Younger and first time fathers tend to be more attached to the unborn baby and to present lower scores of couples' dyadic cohesion. In the 2nd study paternal prenatal attachment and couples' cohesion are strong predictors of paternal postnatal attachment. Even though fathers' attachment decreases after the baby is born, contrasting to previous studies, dyadic adjustment increases. Cohesion, consensus and marital satisfaction appear as relevant to fathers' evaluation of relationship quality. So, for recent fathers the transition to parenthood may act as a relevant factor to bring couples together, in the important task of nurture and caring for the newborn. We conclude that the dyadic adjustment exerts an influence on paternal attachment. Results stress the need for further research on the fathers' role, its evolution, and the relevant impact of couples' relationship adjustment for fathers' attachment, involvement and overall family functioning.

### **pap202-10.3 Testing an attachment based intervention with adoptive mother-child dyads: a RCT Study.**

Lavinia Barone, [Antonio Dellagiulia](#), Francesca Lionetti, Furio Lambruschi, Cinzia Alagna, Elisa Berti, Cecilia Mecenate, Laura Rigobello  
*Salesian University, Italy*

The newly adapted Video Feedback Intervention to Promote Positive Parenting and Sensitive Discipline for adoptive families - VIPP-FC/A (Juffer et al., 2008; Juffer et al., 2017) is a promising proposal belonging to the VIPP interventions family (Steele & Steele, 2017). Its main focus is on the maternal sensitive discipline implementation as instrumental way for addressing the expected outcome of improving children's social-emotional development.

Aim of the study was to test the efficacy of the VIPP-FC/A program in promoting Emotional Availability in adoptive mother-child dyads.

Eighty adoptive mothers (Mage = 42.73, SD = 3.79) with their children (age range 17.45 – 75 months; 47% female), in their family for no more than one year before the first research contact, took part to the study and were randomly assigned either to a group that attended the VIPP-FC/A (n = 42) or to a control group which received a dummy intervention (n = 38). The Emotional Availability scales 4th Edition (EAS - Biringen, 2008) were used to code mother-child dyadic outcomes at pre-T1 and at post-intervention-T2; A six months follow up-T3 was also assessed after the intervention completion.

Mixed ANOVA conducted with Time as within factor and Intervention as between factor, showed a significant Time x Intervention interaction ( $F(1, 75) = 13.62, p < .001$ , partial  $\eta^2 = .16$  and  $F(1, 75) = 11.62, p < .001$ , partial  $\eta^2 = .13$  respectively) for either global dyadic EA outcomes and for respectively maternal and children's EA, thus corroborating the expected outcome of the effectiveness of this intervention in adoptive mothers and children. Further data on T3 are currently under collection and will be available by the Conference date.

Results are discussed within the frame of the added value of this intervention effectiveness study for analysing effective factors able to foster adoptive children's healthy social-emotional development, thus preventing later at risk behaviors.

### **pap202-10.4 Childhood Attachment to Pets: Links between attachment, compassion and humane behaviour**

[Roxanne Hawkins](#), Joanne Williams  
*The University of Edinburgh, United Kingdom*

Aim: Attachment to pets is a fundamental mechanism underpinning child-animal interactions and relationships. Strong attachment to pets is related to higher quality of life and humane treatment of animals, but weak attachment to pets is associated with psychopathology and animal cruelty and neglect. The aim of this study was to investigate the role of attachment in positive and negative child-pet relationships and to examine socio-demographic differences in childhood attachment to pets.

Method: An age-appropriate questionnaire-based survey, comprising of a variety of measures relating to child-animal relationships including the Short Attachment to Pets (SAPS) for children measure, was administered to primary school children during class time by school teachers. A total of 1,217 (51% boys, 49% girls) children in two year groups (average age 8 and 10 years) from 24 schools across Scotland participated.

Results: The majority of children scored highly on attachment to pets. Linear regression showed that high attachment scores significantly predicted more reported humane behaviour towards animals ( $p = .000$ ) and more positive attitudes towards animals ( $p = .000$ ). Strong attachment to pets was significantly predicted by higher compassion towards animals ( $p = .000$ ), emotional attachment behaviour ( $p = .000$ ) and caring behaviour ( $p = .000$ ). Low attachment to pets was significantly predicted by higher acceptance of animal cruelty ( $p = .000$ ). Children with pets, particularly those with pet dogs and those with a pet of their own, displayed stronger attachment to pets. No age differences in attachment to pets was found. There were also no differences between urban and rural children.

Conclusions: Children are highly emotionally attached to their pets. Pet attachment predicts positive behaviour towards animals, while low attachment to pets was more related to acceptance of cruelty. Further research on attachment to pets and the role it plays in children's social development is required.

## pap202-10.5 Transition of attachment hierarchy from early to late adolescence

Tomo Umemura, Petr Macek, Lenka Lacinova

Masaryk University, Institute for Research on Children, Youth, and Family, Czech Republic

The primary attachment figure shifts from parents to romantic partners in the course of development. The present study will use longitudinal data to examine how this developmental shift occurs during adolescence employing both person-centered and variable-centered approaches with two statistical analyses: latent transition analysis and latent growth curve modeling

### Methods

Participants are 210 Czech adolescents (mean age=14.02, SD=2.05; females=54%) in four different cohorts: 6th graders (n=43), 8th graders (n=71), 10th graders (n=57), and 12th graders (n=39). They respond to our questionnaires approximately every month since October 2016 until September 2018. Using the Important People Interview (Rosenthal & Kobak, 2010), we ask adolescents to rank order their attachment figures in 3 circumstances (1=general closeness, 2=separation distress, and 3=emergency situation).

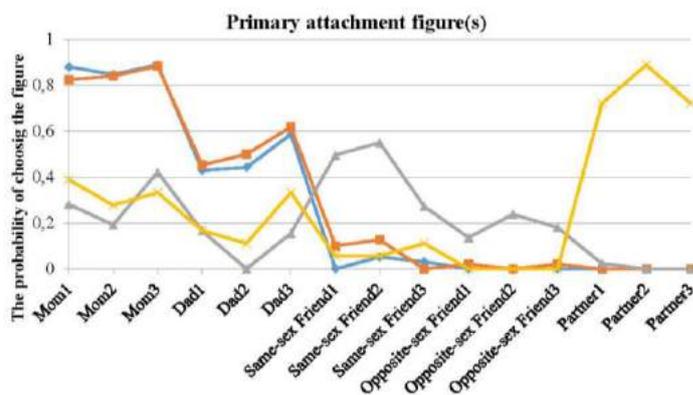
### Results/Discussion

This abstract only reports preliminary results using our cross-sectional data, but we will present longitudinal results during our conference presentation.

Latent class analyses demonstrated 4 patterns of adolescents' attachment hierarchy preferences (see Figure 1). Specifically, primary attachment figures were parents in Class1, parents but also friends as subsidiary attachment figures in Class2, friends in Class3, and romantic partners in Class4. A Chi-square analysis ( $\chi^2(9)=74.74, p<.001$ ) found that the percentage of the parents-only group (Class1) decreased from early to late adolescence. The two groups who nominated friends as primary or subsidiary attachment figures (Class2 and Class3) were the largest in middle adolescence. Finally, the romantic-partner group (Class4) increased from early to late adolescence.

In addition, we conducted nonparametric correlations (Kendall's tau\_b) between cohorts and attachment preferences for different figures. We summed scores of 3 attachment circumstances. Young cohort members were more likely to have higher attachment preferences for their parents, whereas older cohort members were more likely to have higher attachment preferences for their romantic partners and friends.

— Parents — Parents subsidiarily with friends — Friends — Romantic partners



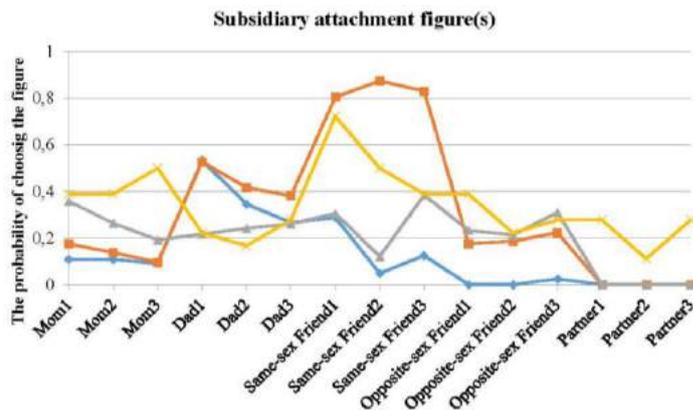


Figure 1. A latent class analysis demonstrated that four latent classes of attachment preferences in adolescents: Primary attachment figures were parents (Class1), parents subsidiarily with friends (class2), friends (class3), and romantic partners (class4)

### pap202-10.6 Attachment representations in middle childhood: results from a Polish sample

Ilona Skoczzeń, Karolina Głogowska, Anna Włodarczyk, Anna Kamza  
 Cardinal Stefan Wyszyński University, Poland

The attachment theory by John Bowlby and the pioneering work of Mary Ainsworth initiated a wave of research that focused on classifying the relationship between parents and their children into secure and insecure attachment categories. Recently, researchers started to underline that the continuous approach better captures the core of attachment compared to the categorical approach. According to the continuous approach, individual differences in attachment are best represented along two fundamental dimensions, attachment anxiety and attachment avoidance (Brennan, Clark, & Shaver, 1998). Although a number of measures have been developed to assess attachment in infancy, early childhood, and late adolescence, there is a limited number of instruments directly tapping into attachment anxiety and avoidance in middle childhood. Therefore, the aim of this presentation is, first to show how attachment is represented among Polish children, and second to present the psychometric properties of the Polish version of the Experiences in Close Relationships Scale-revised child version (ECR-RC). The scale is currently one of the most frequently used 36-item self-report measures of attachment anxiety and attachment avoidance. In total, 277 children aged between 10 and 12 ( $M = 11.61$ ;  $SD = .91$ ) participated in this study. Analysis of variance ANOVA showed that attachment avoidance to mother significantly increased with age. No gender differences in attachment representations were found. The results from confirmatory factor analyses using Mplus revealed, as in the original studies (e.g. Brenning et al., 2014), a two-factor structure of the Polish ERC-RC. Further results showed an adequate internal structure and consistency. Overall, the present work offers a valid and reliable tool for assessing attachment anxiety and avoidance in Polish-speaking children. Additionally, this study provides some practical implications by pointing out the importance of considering differences in attachment representations in middle childhood that can be explained from the human developmental perspective.

**pap202-11.1 Wellbeing of European gay fathers with children born through surrogacy.**

Loes van Rijn - van Gelderen, Henny Bos, Terence Jorgensen, Kate Ellis Davies, Alice Winstanley, Susan Golombok, Bérengère Rubio, Martine Gross, Olivier Vecho, Michael Lamb

University of Amsterdam, Research Institute of Child Development and Education, Netherlands

**Aim:** In this study in the U.K., France, and the Netherlands we examined levels of parental wellbeing (parental stress, psychological adjustment, and partner relationship satisfaction) in gay-father families with infants around 4 months born through surrogacy. The gay-father families were compared with lesbian-mother families and heterosexual-parent families with infants conceived using assisted reproductive technologies. We also examined levels of parental wellbeing associated with caregiver role (primary versus secondary), taking into account the family type (gay-father families, lesbian-mother families, and heterosexual-parent families). Finally, we assessed whether associations between parental stress and psychological adjustment and partner relationship satisfaction varied across the three family types and across caregiver roles.

**Methods:** Standardized measures of parental wellbeing (parental stress, psychological adjustment, and partner relationship satisfaction) were used to collect data via a password-protected online survey. Both parents of 38 gay father families, 61 lesbian mother families, and 42 heterosexual parent families completed the questionnaires. Since the data were dyadic in nature, structural equation modeling (SEM) was used for analyzing differences in mean scores as well as differences in correlations.

**Results:** Parents' scores on the studied variables were similar regardless of family type or caregiver role (see Table 1 for the means and standard deviations), and psychological adjustment and relationship satisfaction were associated with parental stress, again regardless of family type and caregiver role (see Table 2 for Pearson r correlations). The association between parental stress and depression was weaker for the gay fathers than for the lesbian mothers and heterosexual parents.

**Conclusions:** This first study on gay fathers with infants born through surrogacy showed that the parents reported relatively low levels of parental stress, anxiety and depression, and were relatively satisfied with their intimate relationships, regardless of family type or caregiver role. Associations among the variables were not influenced by family type or caregiver role.

Table 1  
Means and Standard Deviations for Parental Stress, Parental Psychological Adjustment, and Partner Relationship Satisfaction by Family Type in Combination with Caregiver Role

	Gay-father families		Lesbian-mother families		Heterosexual-parent families	
	Primary caregiver	Secondary caregiver	Primary caregiver	Secondary caregiver	Primary caregiver	Secondary caregiver
<b>Parental Stress</b>						
M	23.21	21.57	23.02	20.89	23.07	21.57
S	8.47	8.45	6.89	5.62	4.95	5.46
<b>Parental psychological adjustment</b>						
<b>Anxiety</b>						
M	31.11	32.79	34.47	33.32	34.76	31.92
S	6.53	8.08	7.73	7.13	8.28	6.73
<b>Depression</b>						
M	3.59	4.39	4.98	4.18	5.29	3.83
S	2.55	3.30	3.26	2.51	2.87	2.74
<b>Partner relationship satisfaction</b>						
M	21.63	20.24	20.63	19.60	20.70	22.82
S	10.14	9.62	8.71	7.48	7.49	7.36

Note: Parental distress (cut-off score > 33) was measured with a subscale of the Parenting Stress Index; anxiety (cut-off score > 44) with the state-trait anxiety inventory - adult version, and depression (cut-off score > 10) with the Edinburgh postnatal depression inventory. Higher scores on these scales reflected higher level on parental distress, anxiety, and depression, respectively. Partner relationship satisfaction (cut-off score < 22) was assessed with the Relationship Inventory of Marital Status and here higher scores indicated poorer relationship quality.

Table 2  
Pearson r Correlations for Parental Distress with Anxiety, Depression, and Partner Relationship Satisfaction for all Participating Gay Fathers, Lesbian Mothers, and Heterosexual Parents

	Parental distress		
	Pearson r Correlation	p	n
Anxiety	.40	< .001	267
Depression	.41	< .001	277
Partner relationship satisfaction	-.36	< .001	271

Table 1 / Table 2

### **pap202-11.2 Does Socioeconomic Status Moderate Children's Aggression and Wellbeing: A GxE Twin Study.**

Anne Hendriks, Catrin Finkenauer, Meike Bartels  
*Vrije Universiteit Amsterdam, Netherlands*

Aggression in children has a high prevalence and comes with high costs. Converging evidence shows that socioeconomic (SES) status is associated with aggression. Wellbeing could either buffer between SES and aggression or have a direct preventive effect on aggression, regardless of SES. The present study focuses on the association between aggression and wellbeing in children. Furthermore, we investigate whether SES moderates the influence of genetic and environmental factors on aggression and wellbeing. To test the proposed relationships, we use a sample of seven-year-old twins from the Netherlands Twin Register ( $n = XXXX$ ). We measure aggression by means of maternal ratings of aggression of the Child Behavior Checklist, and wellbeing with maternal ratings on the Cantril Ladder. Using twin modeling in OpenMx, we decompose the variance in aggression and wellbeing into variance explained by genetic factors, variance explained by common environmental factors, and variance explained by unique environmental factors. Furthermore, we test whether SES moderates the extent to which genetic and environmental factors explain variance in individual differences in aggression and wellbeing. The implications of our findings for prevention and intervention strategies targeting childhood aggression will be discussed.

### **pap202-11.3 Student and teacher well-being in non-teaching times and places.**

Mirella Wyra, Helen Askill-Williams, Michael Lawson  
*Flinders University, Australia*

Background: Teachers are expected to supervise students in designated areas of the school during non-teaching times (e.g., before school, lunchtime), yet this area of their work receives limited attention in literature. In particular, little is known about the impact of events in the school yard on student and teacher wellbeing. This has been investigated in the research reported here.

Methods: Study 1: A photo-voice method was used to find out where students (12-15 years old) feel safe and unsafe at school during non-teaching times. Students took photographs of places in the school yard where they feel safe and unsafe and described what happens in those places. Study 2: A selection of photographs taken by students in Study 1 has been shown to their teachers who provided their views (questionnaire) on what happens in the places nominated by students as safe and unsafe. Study 3: In a subsequent study, teachers were asked to provide concurrent commentary while conducting their yard-duty (supervision of students during non-teaching times), which included places indicated on the photographs taken by students in the first study.

Results: Data from these three studies have been analysed (thematic analysis using NVivo 10), and show that students and teachers experienced stress, intimidation and, in some cases, abuse during non-teaching times. Students and teachers have also reported positive aspects of student-student, student-teacher and teacher-teacher interactions in the non-teaching time (e.g., building and strengthening positive relationships).

Conclusion:

The complexities of what happens during non-teaching times and places should be of interest and concern to school leadership teams and policy makers. It is argued that the positive and negative interactions observed and experienced by students and teachers affect their relationships, classroom interactions and consequently student learning. The findings show implications for teacher burnout but also potential for strengthening relationships between all stakeholders (students and teachers).

### **pap202-11.4 Children's daily well-being: the role of autonomy support and psychological control.**

Maarten Vansteenkiste, Jolene van der Kaap-Deeder, Bart Soenens, Elien Mabbe  
*Ghent University, Belgium*

Aim: This study examined the unique relations between multiple sources (i.e., mothers, teachers, and siblings) of perceived daily autonomy support and psychological control and children's basic psychological needs and well-being. Methods: During 5 consecutive days, two children from 154 families (Mage youngest child = 8.54

years; SD = .89 and Mage oldest child = 10.38 years; SD = .87) provided daily ratings of the study variables. Results: Multilevel analyses showed that each of the sources of perceived autonomy support and psychological control related uniquely to changes in daily well-being and ill-being. These associations were mediated by experienced psychological need satisfaction and frustration, respectively. Conclusions: Overall, the findings testify to the dynamic role of autonomy support in children's development. Implications for future research are discussed.

### **pap202-11.5 Home environment impacts on the students' well-being during their transition to university**

Sofya Nartova-Bochaver, Alexandra Bochaver, Natalya Dmitrieva, Sofya Reznichenko, Milana Khachaturova  
*National Research University "Higher School of Economics", Russia*

Transition to university is an important development age accompanied by changes in the youth' life style: they often separate from families and move to another city. Our survey was aimed at investigation on how students' home environment (HE) impacts on the first-year students' well-being. Based on previous studies (Clayton, 2012; Heft, 2012; Korpela, 2002; Kytta, 2004; Nartova-Bochaver et al., 2016; Xu et al., 2015;) we assumed that: the HE was a predictor of the students' well-being; this connection was moderated by the dwelling type (home or dormitory) and gender. To collect data on the HE, we used the Home Environment Functionality and the Home Environment Relevance Questionnaires (Nartova-Bochaver et al., 2016). To get information on the mental well-being, we used the Warwick-Edinburgh Mental Well-being scale (Tennant et al., 2007) and the Depression scale (Radloff, 1977). The sample comprised of 571 students from different Moscow universities (Mage=19.8, SDage=3.2, 121 male, 450 female, 272 Muscovites living with parents families, 299 have come to Moscow from different regions and live in dormitories). We found that well-being and depression scores didn't differ in students from flats and dormitories but functionality and relevance of HE were higher in Muscovites. Both functionality and relevance of HE contributed to the students' well-being and absence of depression. Well-being of Muscovites was predicted by HE stronger as compared with nonresidents. Contrary to expectations, well-being in men was connected with HE parameters stronger than in women. As the cross-sectional survey show, Muscovites males are most sensitive to the HE, whereas nonresidents female are less sensitive. Moreover, nonresidents' male and female well-being isn't connected with positive features of HE positively but is connected with absence of comfort negatively. Results pronounce the prospects of designing friendly HE as a real eco-social resource to students. Supported by Russian Science Foundation, Project 14-18-02163.

### **pap202-11.6 Psychological Well-being and Life Planning Characteristics in Youth**

Victoria Manukyan  
*Saint Petersburg State University, Russia*

Goal-setting and life planning abilities are actively developed in transition from adolescence to adulthood. Organization of life and time management skills are the most serious challenges for adolescents. At the same time, purpose in life is one of the parameters of psychological well-being. The aim of this research is to examine the interrelation between psychological well-being and style features of life planning in youth (supported by RFH, project 16-06-00307a).

The sample included 137 young adults aged 17-28, 62 males and 75 females.

For measuring psychological well-being the following methods were used: the Scales of Psychological Well-being (Ryff), The General Causality Orientation Scale (Deci & Ryan); the Integrative Anxiety Test (Bizuyk, Wasserman, Iovlev), the Scales of Satisfaction from the Express Diagnosis of the Psycho Emotional Tension (Kopina). To study life-planning characteristics a special survey was developed.

The factor analysis revealed six types of life planning (covering 72.6% of dispersion), which have various correlations with the aspects of psychological well-being. The Structure of Thought-Out Goals type (19.6%) and the Tactical Planning type (8.4%) form positive correlations with the general level of psychological well-being, autonomy orientation and a negative one – with the general level of anxiety ( $0.01 \leq p \leq 0.05$ ). The Compelled Planning type (16.2%) has inverse correlations with most of the parameters of psychological well-being and satisfaction ( $p \leq 0.01$ ). Correlations between age and the planning types were also observed ( $p \leq 0.01$ ).

Summarizing, high levels of psychological well-being correspond to well thought-out system of life goals, which is self-achieved, clear and based on developmental needs. Low levels of psychological well-being are manifested in problem-oriented life planning, reduced significance of goals, an external locus and uncertainty of goals. Life planning becomes more detailed and short-term oriented with the age. The results could be used in developing of life planning optimization programs for youth.

**pap202-12.1 Early parental loss and intimate relationships in adulthood: a nationwide cohort study**

Beverley Lim Høeg, Christoffer Johansen, Jane Christensen, Kirsten Frederiksen, Susanne Oksberg Dalton, Per Bøge, Annemarie Dencker, Pernille Envold Bidstrup  
*Danish Cancer Society Research Center, Denmark*

**Aim:** Being able to form and maintain intimate relationships is an essential part of development and the early loss of a parent may negatively affect this ability. This study investigates the association between parental loss before the age of 18 years and the formation and dissolution of marriage and cohabitation relationships in adulthood, in relation to factors that may help identify potentially vulnerable sub-groups of bereaved children, i.e. sex of the deceased parent, cause of death and child's age at the time of death.

**Methods:** Using data from national registries, we followed all children born in Denmark between 1970 and 1995 (n = 1,525,173) and used Poisson regression models to assess rate ratios by gender for relationship formation and separation according to early parental loss. We stratified the analyses by sex of the deceased parent, cause of death and child's age at the time of death, and adjusted for the confounding effects of parental income, education level and psychiatric illness.

**Results:** Early parental death was associated with a higher rate of relationship formation for young women, RR of 1.09 (95% confidence interval (CI) 1.07–1.10), but not young men, RR of 1.00 (95% CI 0.99–1.02), and higher rates of separation for both men, RR of 1.13 (95 % CI 1.11–1.15) and women, RR of 1.07 (95% CI 1.05–1.09).

The associations with separation were stronger for persons who lost a parent to suicide than to other causes.

**Conclusions:** Children and adolescents who have experienced parental death are more likely to develop relationships that do not last. As long-term relationships are associated with physical and psychological health, interventions for bereaved children and families are important, especially in the sub-group bereaved by suicide. However, the effects were relatively small, a testimony to the resilience of developmental processes.

**pap202-12.2 Adolescents not desiring a steady romantic relationship in Japan**

Yasumasa Kosaka  
*Wako University, Japan*

This presentation shows the psychological characteristics of adolescents not desiring a steady romantic relationship (Love-Unnecessary group) that were compared with those who had the steady romantic relationship (Love group), and those who desired a steady romantic relationship that they didn't have (Love-Longing group) in Japan. In Study 1, Participants were 1343 university students in Japan (Love group:485, Love-Longing group:616, Love-Unnecessary group: 242). Love-Unnecessary group scored low in identity establishment, lacked motivation, and displayed arbitrary thinking. In Study 2, 900 Japanese people (age range:18-34) who not desiring a steady romantic relationship joined in a survey inquiring about reasons to not want a steady romantic relationship, and ego development. Factor analysis of items consisting of reasons to not want a steady romantic relationship revealed 6 factors: avoiding the burdens of a steady romantic relationship; self-mistrust; desire for a full life; not knowing the meaning of romantic relationships; the influence of past romantic relationships; and optimistic expectations for a romantic relationship. Next, as a result of the principal component analysis on the reasons to not want a steady romantic relationship, love-Unnecessary group were categorized the reasons to not want a steady romantic relationship were categorized into 4 types as a two-dimensional space, with negative feelings in life and readiness of having a romantic relationship. The results indicate that optimistic expectation type was inclined to report high ego development, while self-mistrust type tend to report lower ego development.

### **pap202-12.3 Electronic Partner Monitoring: Young Adult Beliefs about Monitoring Behaviours in Romantic Relationships**

Jessica Armitage, [Areana Eivers](#), Ron Frey  
*Queensland University of Technology, Australia*

Electronic partner monitoring (EPM) - the tracking and monitoring of a partner's activity using mobile devices and social media - has emerged as a highly prevalent phenomenon in the romantic relationships of young adults. Previous research has highlighted the potentially harmful consequences of electronic monitoring. Qualitative studies suggest, however, that some young adults perceive EPM to be a healthy component of romantic relationships. The current study aimed to explore how healthy or unhealthy young adults believed different electronic monitoring behaviours to be. An online survey was completed by 244 young adults (Females = 66%) aged between 18 and 30 years ( $M = 21.48$ ,  $SD = 2.83$ ) who were currently in romantic relationships of six months' duration or longer. A new scale consisting of behaviours that use mobile phones and the social networking site Facebook to monitor romantic partners was developed. The results revealed that beliefs about the healthy-ness of monitoring behaviours were formed around three objectives of EPM: monitoring general activities (e.g. "What are you doing at the moment?") was perceived to be the healthiest, followed by monitoring technological activities (e.g. monitoring Facebook activity and phone usage), while monitoring activity specifics (e.g. "Where are you?" and "Who are you with?") was perceived to be the unhealthiest type of monitoring. These findings indicate that young adults judge the appropriateness of different types of EPM differently according to their nature and perceived goal. As developments in socially interactive technology are continuing to provide individuals with greater capacity to monitor romantic partners, research and practice should recognise that EPM may have both positive and negative consequences for relationship quality, and that young adults are actively engaged in complex decision-making about the acceptability of various forms of EPM in their relationships, rather than being passive participants/recipients.

### **pap202-12.4 Intimate Partner Violence Increases Risk for Somatic Complaints during Young Adulthood**

[Manfred van Dulmen](#), Logan Stigall, Elizabeth Baker, Haylee DeLuca  
*Kent State University, United States*

Successfully navigating romantic relationships is an important developmental task of young adulthood. A key marker of the 'dark side' of young adult romantic relationships pertains to intimate partner violence (IPV). Health consequences of IPV are well-documented. Increasingly, empirical findings indicate that experiencing IPV has not only serious implications for mental, but also physical health (e.g. Lown & Vega, 2001). What is less clear, however, is (a) to what degree these effects on health are present in the dating stages of romantic relationships (as compared to well-established romantic relationships), (b) during young adulthood as compared to later life-phases, and (c) extend to different subdomains of IPV.

Using data from 254 couples ( $N=508$ ,  $M$  age females = 19.56 years;  $M$  age males = 20.49 years; 52% at least 12 months in the relationship), we investigated whether IPV perpetration and victimization was associated with somatic symptoms. IPV perpetration and victimization (Emotional/Verbal Abuse (EVA); Physical Abuse (PA); Sexual Abuse (SA)) were assessed with the Conflict in Adolescent Dating Relationships Inventory. Somatic symptoms were assessed with the Adult Self Report (self-report). Data analyses were conducted in an Actor Partner Interdependence (APIM) framework.

PA and SA were not associated with somatic symptoms. Female EVA victimization was positively associated with female somatic complaints. However, male EVA victimization was not associated with male EVA victimization. Furthermore, follow-up analyses suggested the association between female EVA and female somatic symptoms was particularly strong when male EVA levels were low while female EVA victimization was high (Figure 1).

The findings of the current study indicate (a) the effects of IPV on somatic symptoms may be specific to EVA as compared to other types of IPV, (b) unique to females, and (c) need to be understood in the couple context.

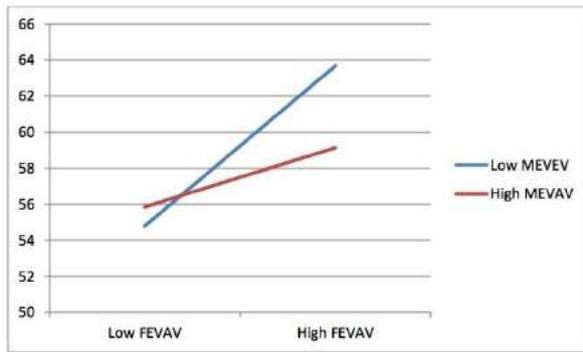


Figure 1. Interaction effect of male EVA on association between female EVA and female somatic complaints

**pap202-12.5 Intimate Partner Violence and Body Mass Index During Young Adulthood: Dyadic Investigations**

Elizabeth Baker, Tiffany Berzins, Logan Stigall, Haylee DeLuca, Manfred van Dulmen  
 Kent State University, United States

Intimate partner violence (IPV) is a widespread problem that peaks in young adulthood (Johnson et al., 2015). Not surprisingly, IPV is associated with a range of negative health outcomes (CDC, 2014). One physical health outcome that has received little attention is body mass index (BMI). BMI is important to consider because it is a risk factor for heart disease, high blood pressure, and diabetes (NIH, 2006). Since victims of IPV may use unhealthy coping strategies such as binge drinking or binge eating (CDC, 2014), IPV may be related to BMI. Indeed, some research has shown a positive association between IPV victimization and BMI (Clark et al., 2014). However, past research has not examined IPV and BMI within a dyadic context. This is problematic, as IPV does not occur in isolation. Rather, IPV is dyadic in nature with each partner mutually influencing the other (Capaldi, Shortt, & Kim, 2005). Therefore, we investigate the role of IPV in predicting BMI using a dyadic design. We used data from 1047 couples (Mage = 22.67) from the U.S. National Longitudinal Study of Adolescent to Adult Health (ADD Health). Both members of the couple provided data on IPV perpetration and victimization (composite of psychological and physical violence), and BMI. Data were analyzed using path analyses within the Actor–Partner Interdependence Model (APIM) framework, allowing us to test for dyadic effects. Both IPV perpetration and victimization were positively associated with one’s own BMI (Figure 1). However, neither IPV perpetration nor victimization were associated with one’s partner’s BMI. Results were similar for males and females. These results suggest that one’s own report of IPV perpetration and IPV victimization is a risk factor for increased BMI, and that future research should examine the mechanisms behind these associations.

Figure 1. Actor-Partner Interdependence Model of IPV Predicting BMI, controlling for age and race. Note. \*p<.05, \*\*p<.01, \*\*\*p<.001. Order of unstandardized beta coefficients: IPV perpetration, IPV victimization.

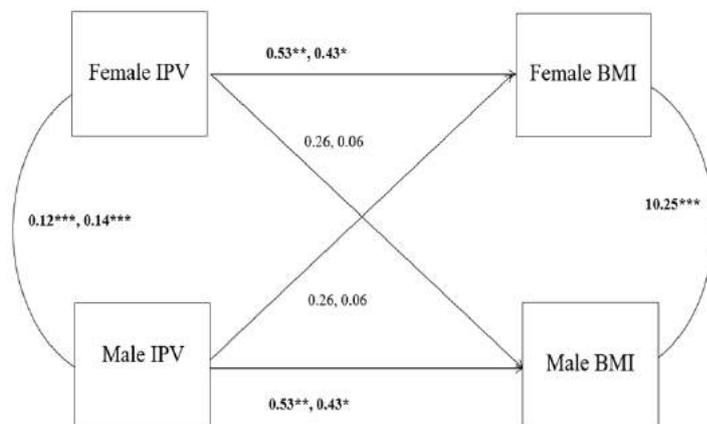


Figure 1

## **pap202-12.6 "The Date-Adolescence": an evidence-based program to prevent dating violence in Spain**

Virginia Sánchez, Noelia Muñoz-Fernández, Esther Vega, Juan Calmaestra, Antono Jesús Rodríguez, Javier Ortega-Rivera

*Department of Developmental and Educational Psychology. University of Seville, Spain*

Research on dating aggression and victimization in Spain has showed that this phenomenon is very widespread among adolescents. Even though the education policies have encouraged the development of programs for the promotion of gender equality, coeducation and the prevention of violence in middle schools, they were not necessarily based on up to date research. In fact, there is still a lack of evidence-based initiatives for the prevention of interpersonal aggression in adolescence being developed in Spain. This study presents the first results of the efficacy of the "Date-Adolescence", prevention program using a randomized control trial. 1762 adolescents were randomly allocated to the experimental (906) and control group (856). From this initial sample, only students with sentimental experience were included in the analysis: 414 adolescents in the experimental group (mean age 14.88 (sd 1.27), 57% boys; 432 adolescents in the control group (mean age, 14.92 (sd 1.34), 49% boys. Students were interviewed at pre-test and pos-test in terms of their involvement on physical, psychological, sexual and cyberdating aggression and victimization as well as their beliefs of romantic love. MANOVA showed significant differences in the beliefs of love after the intervention (it was a decrease in the acceptance of myth of love, passion, omnipotence and half orange) as well as significant reductions in physical aggression and cyberdating aggression. Controlling for age, the program presented more efficacy in younger ages than older ones. These results, albeit preliminary, indicate evidence of the program in the prevention on dating aggression and the change in attitudes and beliefs about love.

**pap202-13.1 Type of reasoning and a form of mathematics tasks**

Bozydar L.J. Kaczmarek, Marcin Stencel, Jacek Lukasiewicz  
*University of Economics and Innovation (WSEI), Poland*

**Aim:** It is commonly presumed that poor achievements in mathematics are due to an abstract nature of mathematics tasks. To make them more close to the real-life situations they are often dressed as word problems, but it leads to additional difficulties. It is therefore imperative to depict an abstract problem in a well-known social situation.

**Method:** In order to find out if couching mathematics tasks in everyday language describing well-known out-of-school situations two variations of 8 mathematics tasks were used. (1) a task in a traditional algebraic, and (2) a thematic form describing an everyday situation. The study included 152 students of a grammar school at the age of 13.

**Results:** A statistical analysis of gathered data confirmed the hypotheses that the traditional algebraic form creates difficulties, while the thematic form of the task makes possible solving the problem. Moreover, a significant correlation between the students' ability to solve the particular task in an algebraic form and her/his school marks was noted. At the same time, the poor math achievers proved to be able to solve a given problem after it had been presented to them in the thematic form despite previous difficulties.

**Conclusions:** Findings of the present study allow the conclusion that in solving thematic tasks we make inferences based on our prior knowledge about similarly structured situations. In other words, it is not concreteness of the task - as opposed to abstractness - that enables people to solve a given problem but the acquired cognitive schemas, which include a set of context-sensitive rules. It corresponds with a distinction between two systems of thinking. System one defined also as heuristic, and system two believed to be abstract. In our opinion the terms interactional (narrative, autobiographical,) and scientific (analytic, algorithmic) are more appropriate for those two types of reasoning.

**pap202-13.2 Children's Understanding Of Counting: The Role Of Cardinal Value In Detecting Pseudoerrors**

Ana Escudero Montero, M Oliva Lago Marcos, Purificación Rodríguez Marcos, Cristina Dopico Crespo, Sonia Caballero Reales  
*University of Valladolid, Spain*

A full understanding of counting is a long and a gradual process. Previous research has proved that children's difficulties in recognizing the optional nature of conventional counting rules remained even in primary school. Some authors have suggested the importance of the cardinal value in helping children realise that unconventional counting procedures (i.e., pseudoerrors) also generate correct answers. In this study, we aimed to establish whether the presence (or absence) of cardinal values in pseudoerrors affects children's judgments about the correctness of these procedures, regardless of the conventional rules they contravene.

Ninety-eight primary school children in grades 3 and 4 were individually interviewed with a computer-presented detection task which included eight different counting trials: an erroneous count, a correct conventional count and six pseudoerrors (two in which left-to right direction was broken, two temporal adjacency pseudoerrors and two spatial adjacency pseudoerrors). Participants had to judge the correctness of every trial and justify their answers. In each age group, half of the children were randomly assigned to one of the two the experimental conditions: (a) pseudoerrors with a cardinal value (the character counted and explicitly indicated "There are..." after her counting), or (b) pseudoerrors without a cardinal value (the character only counted).

Our findings show that: (a) participant's performance improved with age; (b) children more easily identified pseudoerrors as correct counts when the cardinal value was explicitly stated, regardless of the conventional rule that they broke; and (c) they penalized to a greater degree breaches of temporal adjacency than transgressions of spatial adjacency and left-to right direction. To sum up, children's understanding of conventional counting rules develops at a very slow pace. In addition, the presence of the cardinal value helps children to accept alternative procedures as valid forms of counting since it highlights the functional aspect of counting.

### **pap202-13.3 The influence of teacher's testimonies on children's conceptions of counting pseudoerrors**

Ana Escudero Montero, Purificación Rodríguez Marcos, M Oliva Lago Marcos, Cristina Dopico Crespo, Sonia Caballero Reales  
*University of Valladolid, Spain*

This study addresses the influence of schoolteachers' testimonies on the notion of counting. Previous research has shown that they inflexibly reject unconventional but valid ways of counting (i.e., pseudoerrors) during primary school years. The main purpose of the current research is to examine whether the testimonies given by schoolteachers about different counting procedures affect children's judgments about pseudoerrors. The participants were seventy Spanish children between 5 and 8 years old. Children were individually tested in a unique session. First, they had to judge the correctness of a counting procedure, made by the animated character of a computer program, and justify their answer. Right after, they watched a video of four teachers judging that same counting trial and they had to decide whether the informants were right, providing a rationale for their choice. In total, five different trials were presented in each interview: a conventional correct count, an erroneous count and three pseudoerrors. Teachers unanimously agreed in accepting pseudoerrors as valid counts and explained the reasons of their decision. We assessed the influence of the teacher's testimonies in terms of whether children changed their judgments about pseudoerrors to conform to the majority. The findings revealed that children tended to conform to the teacher's claims, regardless of the age group and the kind of pseudoerror. Although children tended to consider on their own pseudoerrors as incorrect counts because of the transgressions of conventional rules, after listening the arguments of the informants, children's acceptance of pseudoerrors considerably increased. These results suggest that teacher's testimonies have helped children to recognize the optional nature of conventional counting rules. Likewise, they stress the importance of the confidence in the testimony of others as a source of learning.

### **pap202-13.4 Where do kindergarten children's math self-concept come from?**

M. Francisca Del Rio, Katherine Strasser, Dario Cvencek, María Inés Susperreguy  
*Universidad Diego Portales, Chile*

The role of math self-concept in both math achievement and math academic choices has been well established in adult and school-age populations. This issue is especially relevant in societies with large gaps in math performance between males and females, such as Chile, which has one of the largest gender gaps in the PISA mathematics assessment. Most of the research on mathematical self-concept has been conducted in elementary or high school students. This study differs in that it explores sources of variation in kindergarten children's math self-concept. We examined the following possible sources of individual differences: children's gender and socioeconomic status, mothers' and fathers' beliefs about mathematics, and mothers' and fathers' involvement in home numeracy practices with their children.

One hundred and eighty-two kindergarteners from two socioeconomic-status groups in Chile (Mage = 5.5 years), along with their parents, completed implicit and explicit math self-concept measures. Children's mothers and fathers also completed measures of gender stereotypes about math, and home numeracy practices and beliefs. Path analyses showed good fit for implicit, but not explicit, math self-concept. Girls' implicit math self-concept was explained by their SES and both parents' math self-concept, although in opposite directions. Boys' implicit self-concept was not explained by any of the variables in the model. Significant indirect effects from parents' gender stereotypes to children's self-concept were observed for fathers of daughters (see Figure 1).

Thus, girls' and boys' math self-concept was not influenced by the same family factors. This may reflect girls' greater susceptibility to proximal influences that confirm or disconfirm wider societal stereotypes and beliefs about the role of mathematics in a girl's life in Chile. The results not only help us to better understand the development of math self-concept from an early age, but also pose several implications for interventions with young children.

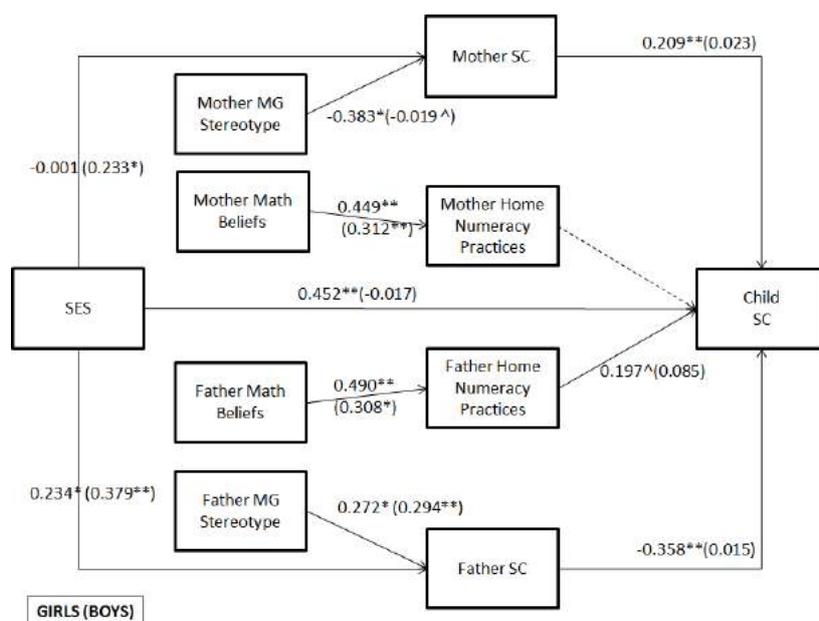


Figure 1. Final model for girls' and boys' implicit math self-concept

## pap202-13.5 Eye-tracking conceptual development: The case of tablet computers for mathematics learning

Shakila Shayan, Arthur Bakker, Marieke van der Schaaf, Dor Abrahamson  
 Utrecht University, Netherlands

As children's ecologies become increasingly replete with technological devices, we ask no longer whether they should access these artifacts but what content these artifacts should bear and in particular what activities they should enable. As educational researchers concerned with technological opportunities for conceptual growth, we are investigating the effects of children's interaction with tablet computers on their mathematics learning. Inspired by the corporeal turn in the cognitive sciences as well as sociocultural theories of skill mediation, our software applications are designed to create opportunities for children to ground mathematical concepts in sensorimotor solutions to interaction problems. Specifically, our research program has been investigating systemic factors leading to students developing task-effective bimanual coordination presumed to underlie proportional reasoning. Combining eye-tracking, action-logging, and thinking-aloud data, we study micro-processes by which sensorimotor interaction gives rise to pattern recognition, behavior modification, and generalization relevant to learning mathematical concepts. Analyses have revealed the emergence of what we call attentional anchors—perceptual structures organizing goal-oriented motor action. We have documented the spontaneous emergence of these subjective gestalts as apparently mediating our participants' effective performance of challenging coordinations. With reference to a database of over 100 students in primary and prevocational education, we show how students come to focus their attention on areas of interest in the perceptual display bearing potential mathematical relevance, as they progress from locally bound weak strategies to globally coherent powerful strategies. We present findings on the reciprocity of implicit sensorimotor schemes and articulated solution strategies as these manifest during manipulation tasks and later in solving post-intervention problem items. The discovery of attentional anchors may bear more widely for developmental psychology in the theoretical modeling of mathematics learning. We discuss the construct in light of classical (Piaget's genetic epistemology) as well as current views on cognition as enactive, extended, distributed, and dynamical-systemic.

**pap202-13.6 Correlates between time of use on new technology and children skills**

**Teresa Rossignoli, Javier González Marqués, Elena Péres Hernández**  
*Universidad Complutense de Madrid (UCM), Spain*

**Aim:** Detecting and analysing correlates between spending time on technologies by schoolers (Television, computers, touchscreens and consoles) and children skills. Developmental factors may modulate correlation pattern.

**Methods:** After exclusion criteria, 101 typical developed kids participated in this study. We divided sample in two groups ((1) 5-7 years old (2) 8-9 years old). Assessment included individual tests and questionnaires filled by tutors and children parents. Children weekly time spend on new technologies was collected through a parent's questionnaire. We examined cross-sectional correlations between time of use on new technology and cognitive/behavioural variables. We applied bivariate Pearson Correlation. Program used was IBM SPSS Statistics 22.

**Results:** Group (1): time spent on computers correlates negatively with (1) index of challenging behaviour SENA family version ( $r=-0,269$ ;  $p=0,05$ ); time spent on touchscreens correlates negatively with (1) index of emotional regulation problems SENA family version ( $r=-0,349$ ;  $p=0,01$ ), (2) index of emotional problems SENA school version ( $r=-0,262$ ;  $p=0,05$ ) and positively with (3) index attention problems SENA family version ( $r=0,307$ ;  $p=0,05$ ); time spent on consoles correlates positively with (1) index of hyperactivity-impulsivity SENA family version ( $r=0,280$ ;  $p=0,05$ ). No correlations on cognition were found. Group (2): time spent on television correlates positively with (1) index of RIST ( $r=0,361$ ;  $p=0,05$ ) and negatively with (2) index of processing speed subscale of WISC-IV ( $r=-0,327$ ;  $p=0,05$ ). No correlation on behaviour were found.

**Conclusion:** This study identifies correlates associated with new technology use over behaviour for children aged 5-7 old, and cognition for children 8-9 years old. Despite limitations of this study, distinguishing type of technology and time of use of it, it seems that technology is more likely to impact on younger children.

Correlates FIRST GROUP																							
SENA FAMILY VERSION																							
Correlates																							
		pt_index_2010	pt_index_2011	pt_index_2012	pt_index_2013	pt_index_2014	pt_index_2015	pt_index_2016	pt_index_2017	pt_index_2018	pt_index_2019	pt_index_2020	pt_index_2021	pt_index_2022	pt_index_2023	pt_index_2024	pt_index_2025	pt_index_2026	pt_index_2027	pt_index_2028	pt_index_2029	pt_index_2030	
14	Person																						
	Correlation	-.076	.079	-.204	-.154	.240	-.004	-.020	.050	-.160	-.115	-.150	-.123	-.296	.644	-.139	-.004	.039	.158	.200	.217		
	Sig. (bilateral)	.576	.692	.121	.267	.075	.976	.892	.661	.240	.207	.260	.287	.045	.745	.191	.979	.777	.246	.140	.100		
	N	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
Sum of Squares		10.739	43.894	106.274	18.819	118.989	1.760	11.143	35.073	62.107	55.304	72.283	79.334	126.289	15.411	87.825	22.214	16.518	89.304	94.984	82.835		
Mean Square		.550	739	1.913	1.240	2.156	.082	.203	.658	1.129	1.000	1.310	1.278	3.296	.296	1.503	.540	.282	1.824	1.727	1.501		
F		.56	56	56	56	56	.56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
14	Person																						
	Correlation	-.187	-.216	-.151	-.112	.063	-.145	-.147	-.165	.307	-.022	-.311	-.016	-.064	-.039	-.348	-.177	-.210	.181	.052	-.174		
	Sig. (bilateral)	.159	.103	.205	.403	.690	.270	.271	.217	.019	.887	.017	.730	.635	.774	.007	.195	.113	.175	.690	.191		
	N	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
14	Person																						
	Correlation	.054	-.124	.221	.100	.159	-.389	-.098	-.082	.032	.285	.113	.238	.183	-.147	.014	-.071	-.142	.221	.140	-.046		
	Sig. (bilateral)	.637	.300	.066	.459	.237	.000	.352	.345	.342	.039	.401	.013	.173	.285	.928	.602	.281	.086	.268	.724		
	N	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
The correlation is significant at the 0.05 level (2-tailed).																							
The correlation is significant at the 0.01 level (2-tailed).																							
SENA SCHOOL VERSION																							
Correlates																							
		pt_index_2010	pt_index_2011	pt_index_2012	pt_index_2013	pt_index_2014	pt_index_2015	pt_index_2016	pt_index_2017	pt_index_2018	pt_index_2019	pt_index_2020	pt_index_2021	pt_index_2022	pt_index_2023	pt_index_2024	pt_index_2025	pt_index_2026	pt_index_2027	pt_index_2028	pt_index_2029	pt_index_2030	
14	Person																						
	Correlation	-.168	-.262	-.114	-.051	.151	-.281	-.203	-.212	.048	-.173	.037	-.218	-.138	-.095	-.073	-.158	-.094	.195	.232	.075	.087	-.157
	Sig. (bilateral)	.141	.040	.307	.548	.283	.050	.131	.113	.725	.109	.787	.121	.307	.070	.588	.216	.127	.148	.062	.676	.620	.244
	N	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57
The correlation is significant at the 0.05 level (2-tailed).																							
The correlation is significant at the 0.01 level (2-tailed).																							
Correlates SECOND GROUP																							
INDIVIDUAL TEST																							
		RIST_14	FDY_12	FDY_16	FDY_18	FDY_24	FDY_30	FDY_36	FDY_42	FDY_48	FDY_54	FDY_60	FDY_66	WISC_BSPM	WISC_PICL	WISC_PICSD	WISC_PEDI	WISC_VP					
14	Person																						
	Correlation	-.083	.198	-.142	.220	-.171	.078	-.185	.309	.236	-.289	-.278	-.142	.117	-.207								
	Sig. (bilateral)	.322	.096	.371	.173	.292	.532	.254	.058	.063	.067	.373	.471	.038									
	N	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
The correlation is significant at the 0.05 level (2-tailed).																							
The correlation is significant at the 0.01 level (2-tailed).																							

**Table 1: Results**



## Symposium sessions 203, Thursday August 31, 16:15 – 17:45 hrs.

### sym203-1 Presidential symposium Building bridges between developmental and educational psychology

Four Presidents of the European Association for Developmental Psychology, Prof. Christiane Spiel from University of Vienna (Previous President of EADP), Prof. Frosso Motti-Stefanidi from University of Athens (Past-President of EADP), Prof. Katariina Salmela-Aro from University of Helsinki and Jyväskylä (Current President of EADP) and Prof. Ersilia Mersini from University of Florence (President-Elect of EADP) will present new findings building bridges between developmental and educational psychology. First, Prof. Spiel will introduce the Bildung-Psychology – which takes a developmental perspective on education. Second, Prof. Motti presents new findings on immigrant youth positive adaptation and presents scientific evidence to educational policy. Third, prof. Salmela-Aro introduces new approach from school burnout to school engagement. Finally, Prof. Mersini introduces how and why peer led models can be effective in the school context. All the four papers will introduce evidence-based policy implications.

#### sym203-1.1 Bildung-Psychology – a developmental perspective on education

Christiane Spiel

*Faculty of Psychology, University of Vienna, Austria, Austria*

The paper presents the thematic conceptualization of “Bildung-Psychology”. Bildung-Psychology provides an integrative and compelling framework for the field of education and learning and incorporates the lifespan perspective of developmental psychology. The German term "Bildung", which has no precise equivalent in English, encompasses the broad area of education and learning, but has however implications beyond this field in its meaning. Bildung-Psychology is systematically structured with a strong focus on lifelong learning and the process from basic principles and research to evidence-based practice and education. Bildung-Psychology anchors its issues and activities within a structural model along three dimensions: (a) the chronological lifelong educational career of an individual, (b) the activities in the discipline, and (c) the levels of these activities (microlevel, mesolevel, macrolevel). To illustrate the theoretical approach of Bildung-Psychology, examples targeting the promotion of lifelong learning competencies are presented. In addition, the significance of Bildung-Psychology and its place within science and application are discussed.

#### sym203-1.2 Immigrant youth positive adaptation: Why Bother? From Scientific Evidence to Educational Policy

Frosso Motti-Stefanidi

*National and Kapodistrian University of Athens, Greece*

European nations are culturally diverse. Currently, in addition to ethnic minority groups and immigrants who have settled in different European countries over a period of many years, large numbers of refugees are entering and settling in Europe. A significant proportion of these ethnic minorities, immigrants and refugees are younger than 20 years of age.

Their successful integration in the receiving society is of utmost importance not only for their own long-term adaptation and mental health but also for society's prosperity and wellbeing. However, refugees and immigrants need to feel welcomed and to have a sense of belonging to their new home in order to successfully integrate in receiving societies.

The presentation will examine a) the scientific evidence regarding the successful integration and positive adaptation of children and young people in host countries, and b) implications of such evidence for public and educational policies and practices. Furthermore, the role of receiving communities -the places in which newcomers settle, along with the residents- which are actually on the front lines of refugee and immigrant integration, will be discussed. Evidence based strategies that promote refugee and immigrant integration at the level of the community (vs. the host country), focusing particularly on the integration of young people, as well as examples of successful implementation of such strategies in different countries around the world will be examined

### **sym203-1.3 From school burnout to school engagement**

Katariina Salmela-Aro

*University of Helsinki and Jyväskylä, Finland*

Finnish students have achieved top scores in PISA but there is now mounting evidence of their decreasing school engagement: Already at the age of 12 about 50% have lost meaning towards school. In particular boys and immigrants are suffering from disengagement. The aim of the present study drawing on demands-resources model is to examine changes in school engagement and burnout during lower secondary and high school education and the extent to which immigration status and gender are associated with the level and change. This longitudinal study among 9,223 students from 7th to 9th grade (age 13-16) was to assess whether immigration status and gender are associated with the level and change (slope) in school burnout among lower secondary school students in the Helsinki metropolitan area. Most of the variation in school burnout was attributable to individual factors. Both the intercept and slope of school burnout were statistically significant. The slope showed increasing school burnout from grades 7 to 9. School burnout increased more in girls than in boys. Initially apparent higher school burnout among students who had immigrated to Finland within the last five years compared to Finnish native students was largely accounted for by sociodemographic and school-related factors. However, there was a persistent gender by immigration status difference in the fully adjusted model: recently (<5 years ago) immigrated boys experienced a larger increase in school burnout, especially due to increased cynicism, than recently immigrated girls. Findings contribute to the evidence on the importance of school transitions to adolescents' emotional disposition towards school. Lack of institutionalized support, low expectations, the fairness of teachers towards students and low tolerance may filter into the school context. We need programs to support immigrant youth learning and engagement and programs against discrimination.

### **sym203-1.4 I can stop bullying! How and why peer-led models can be effective**

Ersilia Menesini

*Department of Educational Sciences and Psychology – University of Florence, Italy*

**Background/Aim:** In scientific literature, the effectiveness of peer education approach in bullying prevention appears controversial (Ttofi and Farrington, 2011; Smith et al. 2012; Lee et al., 2015). According to Smith et al. (2012), this is due to the fact that the expression “work with peers” is too broad and implies several different activities, highlighting the need to improve our understanding of what works and under what circumstances in this intervention model. Specifically, we will focus on an understudied aspect of peer-led models, i.e. the “peer educators’ recruitment strategy”, and how this can impact the quality and the effectiveness of the intervention.

**Method:** We used data from the NoTrap! program (ed. 2015/2016), an Italian anti-bullying intervention, based on peer education and peer support (Palladino et al., 2016). The participants were 1003 middle and high school students (7°-10° grades). Using a randomized procedure, the 47 classrooms were divided in two experimental conditions: (a) classrooms with voluntary peer educators and (b) classrooms in which peer educators were nominated by classmates. Given this classification we distinguished four subgroups: voluntary peer educators, classmates of voluntary peer educators, nominated peer educators, and their classmates. We compared the longitudinal trajectories of bullying, victimization and defending behaviours in the four groups.

**Results:** Findings show a decrease of bullying and victimization in voluntary peer educators, and in turn a similar effect in their classmates. Furthermore, only peer educators and their classmates increased their defending behaviour levels, while no such change was observed in nominated peer educators and nominated peers’ classmates.

In comparison to nominated peer educators, voluntary peers seem to have a more positive influence on the behaviour of their classmates. These results may help us to understand for whom and under what circumstances a peer-led anti-bullying program can be effective.

## sym203-2 Contributions of child and parent characteristics to parenting and their underlying mechanisms

Loes Keijsers, Discussant  
*Tilburg University, Netherlands*

This symposium brings together four innovative studies investigating several antecedents of parenting behavior and their underlying mechanisms. Consistent with Belsky's Process model of parenting (1984), both parental (psychological needs) and child (internalizing and externalizing problems and prosocial behavior) factors will be investigated. By including both adaptive (autonomy-support, reasoning, warmth) and maladaptive (psychological control, overreactive discipline, laxness, overprotective control) types of parenting, a comprehensive picture of "why parents parent the way they do" (Belsky, 1984, p. 83) will be provided. Moreover, because explaining mechanisms such as stress, psychological availability and vitality for the associations between antecedents and parenting are investigated, this symposium will yield in-depth knowledge of why these child and parent factors affect parents' behaviors. The presentations cover both community and clinical samples, longitudinal designs, multiple informant perspectives and different age groups.

De Haan and colleagues investigated longitudinal relations between parental self-efficacy and parenting behaviors during adolescence. Cross-lagged models show that direction of effects between parental sense of competence and parenting differs across types of parenting. In a diary study with parents of adolescents, Mabbe and colleagues showed how parents' experiences of need satisfaction and frustration accounted for daily fluctuations in autonomy-supportive and psychologically controlling parenting respectively. In a diary study with parents of elementary school children, van der Kaap-Deeder and colleagues showed the importance of parents' psychological availability and stress in the daily relation between need experiences and provided autonomy support and psychological control. In a sample of mothers of children with Autism Spectrum Disorder, Dieleman and colleagues revealed that both daily child behavior and mothers' psychological needs relate to day-to-day variation in parenting. Moreover, these relations could be accounted for by daily stress and vitality in the mother-child interaction. Loes Keijsers will discuss the broader significance of these findings, while highlighting future challenges in this area of research.

### sym203-2.1 Longitudinal Relations between Parental Self-efficacy and Parenting Behaviors during Adolescence

Amaranta de Haan, Peter Prinzie, Willemijn van Eldik, Maja Deković, Bart Soenens, Maarten Vansteenkiste, Athanasios Mouratidis, Rachel Campbell, Sarah De Pauw  
*Erasmus University Rotterdam, Netherlands*

Parental self-efficacy (PSE), or the extent to which parents believe they can effectively manage parenting tasks, is generally acknowledged to be a central predictor of parenting behaviors. Although associations between PSE and parenting can be conceptualized as a feedback loop, direction of effects may differ for different types of parenting. Only very few studies have examined both directions of effects, however, and even fewer included multiple types of parenting. Moreover, to our knowledge, no studies have examined whether associations differ between mothers versus fathers, of daughters versus sons. The current study aims to extend the knowledge base on relations between PSE and parenting, by examining bidirectional relations between maternal and paternal PSE and several types of ineffective and adaptive parenting behaviors.

Research questions were addressed with cross-lagged panel modeling, using two waves of data (2007, 2009) of a large sample of mothers (N=498, Mage=42.5 years) and fathers (N=467, Mage=44 years) of sons and daughters (Nsons=457, Ndaughters=508, Mage=13.5 years at T1). All constructs were assessed through parental self-reports. Differences in associations across parental and child gender were examined using multigroup modeling.

Longitudinal associations between PSE and parenting were similar across parental and child gender. PSE was found to relate to lower overreactive discipline and laxness two years later and, conversely, these parenting behaviors were related to lower PSE two years later. Although overprotective control was related to lower PSE two years later, no significant longitudinal effects of PSE on overprotective control were found. Further, although PSE was related to more autonomy granting, reasoning, and warmth two years later, conversely,

these parenting behaviors did not affect PSE over time. Parents' perceptions of their own competence may thus be affected only by experiences of ineffective parenting but not adaptive parenting strategies; conversely, parental self-efficacy affects both ineffective and adaptive parenting behaviors over time.

### **sym203-2.2 Daily Variation in Autonomy-supportive and Controlling Parenting and Their Antecedents**

Elieen Mabbe

*Ghent University, Belgium*

Autonomy-supportive and psychologically controlling parenting have been shown to relate to positive and negative developmental outcomes, respectively. While research has begun to also address antecedents of these parenting constructs, most of this research has focused on the predictive role of between-parent differences (e.g., personality). To gain insight in dynamics of within-parent changes in parenting behavior, this study focused on daily fluctuations in autonomy-supportive and psychologically controlling parenting and examined the role of parents' experiences of need satisfaction and frustration in accounting for those fluctuations.

In the current study, a diary methodology was used to investigate (a) the degree to which parental behavior fluctuates on a daily basis (b) whether daily fluctuations in parents' psychological need satisfaction and need frustration relates to daily fluctuations in autonomy-supportive and controlling parenting and (c) the interplay between trait levels of autonomy-supportive and controlling parenting and daily fluctuations in parenting. Mothers (Mage=45 years) and fathers (Mage=47 years) of 198 adolescents (Mage=14.89; 51% female) participated in this diary study. They filled out a diary each day, on 7 consecutive days.

Multilevel modeling showed significant day-to-day variability in both autonomy-supportive and controlling parenting. Furthermore, daily fluctuations in need satisfaction and frustration were related to daily fluctuations in autonomy-supportive and controlling parenting respectively. Finally, inter-parent differences in controlling and autonomy-supportive parenting were associated with controlling parenting behaviors on a daily-level basis, but did not moderate the association between daily need satisfaction and need frustration and daily parental behavior.

The findings underscore the dynamic nature of parenting and indicate that daily need satisfaction represents a critical ingredient for the daily provision of autonomy support, even for parents who are more dispositionally inclined to be controlling.

### **sym203-2.3 Why Do Daily Parental Need-based Experiences Relate to Autonomy-Supportive and Psychologically-Controlling Parenting?**

Jolene van der Kaap-Deeder

*Ghent University, Belgium*

The current study sought to identify intervening processes linking daily parental experiences of need satisfaction and need frustration to autonomy-supportive and psychologically controlling parenting behavior, thereby focusing on the role of parental psychological availability and stress.

In total, 206 mothers (Mage = 40.33 years) and 206 fathers (Mage = 42.36 years) and their elementary school child (Mage = 9.93 years; 46.6% female) participated in a 7-day multi-informant diary study. While parents reported on their daily need-based experiences, parental psychological availability, and parental stress, children reported on the perceived autonomy support and psychological control from both parents. While parents' daily need satisfaction was related to more psychological availability, parental need frustration was related to higher stress in parent-child interactions. In turn, psychological availability and stress were related to a higher degree of child-perceived autonomy support and psychological control, respectively. See Figure 1 for an overview of the main findings.

These findings point to (a) the importance of parents' psychological availability and stress in the daily relation between need experiences and provided autonomy support and psychological control towards their elementary school-aged child; (b) the relevance of investigating daily processes of parenting and its sources; and (c) the differentiation between a bright (i.e., need satisfaction – psychological availability – autonomy support) and dark (i.e., need frustration – stress – psychological control) pathway in socialization.

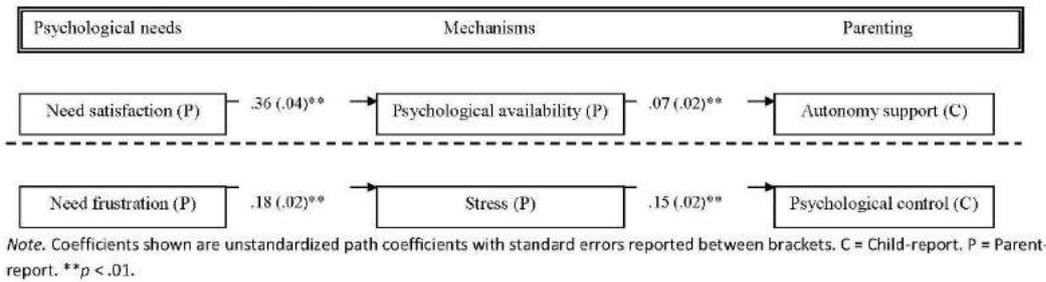


Figure 1: A Summary of the Main Findings.

## sym203-2.4 Parenting youth with ASD: Relationships with child (mal)adjustment and parents' psychological needs

Lisa M. Dieleman  
Ghent University, Belgium

Ample research has shown that parenting a child with an Autism Spectrum Disorder (ASD) is a unique and challenging experience, increasing the risk for parental stress, reduced well-being, and impaired parent-child interactions. One important factor that has been consistently associated with parental distress and parenting behavior is the co-occurring problem behavior that children with ASD often exhibit, such as disruptive or depressive behavior. Less is known, however, about the processes involved in these effects of co-occurring problem behaviors on parental behavior. Herein, we aim to examine underlying role of daily experienced stress and vitality in the day-to-day relations between child behavior, parents' psychological needs (as determined by the Self-Determination Theory (Deci & Ryan, 2000)) and parenting behavior.

Data will be presented from a 7-day diary study examining the daily associations between child behavior (i.e., externalizing problems, internalizing problems, and prosocial behavior), parents' psychological needs, parenting (i.e., autonomy support and controlling parenting) and experienced stress and vitality. In total 43 mothers (Mage = 41.60) of children with ASD (aged between 7 and 15) participated.

Analyses revealed that both daily child behavior and mothers' psychological needs relate to day-to-day variation in parenting behavior. Moreover, these relations could be accounted for by daily stress and vitality in the mother-child interaction. More specifically, a dark and a bright pathway were identified: stress accounted for the impact of externalizing child problems and need frustration on controlling parenting, whereas vitality accounted for the impact of prosocial behavior and need satisfaction on autonomy support.

This diary study highlights (1) the importance of daily child behavior in parenting a child with ASD, and (2) the vital role of daily experienced stress and vitality in the mother-child interaction in the daily relationships between child behavior and parents' psychological needs on the one hand, and parenting on the other hand.

## sym203-3 Telling a story together – influence of caregivers and unfamiliar adults in childhood and adolescence

Alice Graneist, Chair

*Goethe University Frankfurt, Germany*

Daniela Bulgarelli, Discussant

*Dipartimento di Psicologia, Università di Torino, Italy*

This symposium brings together a set of studies on joint storytelling from Israel, Germany, and Portugal. We will cover various perspectives and outcomes of joint storytelling: high-risk vs. normative samples, emotion- vs. life-narratives, childhood vs. adolescence, parents vs. caregivers vs. unfamiliar adults.

In the first paper, White and colleagues compare the completion of story-beginnings of 4- to 8-year old children with and without a background of maltreatment. Preliminary data show that, once their caregivers entered the room, maltreated children use more mental state language and narrate more positive parent representations than children without maltreatment.

The second paper by Henriques and colleagues examines 6- to 11-year-olds who live with their biological family, with their family by adoption or in institutional care facilities. Telling their life story with and without the interviewers' help, they show that scaffolding by the interviewer increased structural coherence, life narrative's productivity and thematic diversity, when compared to the spontaneous life narrative.

The following two papers focus on joint emotion-storytelling in adolescence. Tamari and colleagues examined emotion-narratives between mothers and their 12- to 13-year old adolescent children. Their study revealed that adolescents' increased pubertal development is accompanied by reduced acceptance and cooperation in mother-adolescent communication.

In turn, Graneist and colleagues focused on scaffolding behavior and emotional reaction within emotion-narratives of mothers and their 12-, 15-, and 18-year old children. Results showed that mothers scaffolded especially their 15-year old children in storytelling and also revealed that anger narratives are much more characterized by justification and rejection of the other's statement.

### sym203-3.1 How the presence of a maltreating caregiver alters the child's narrative play

Lars O. White, Rahel Richter, Susan Sierau, Andrea Michel, Kai von Klitzing, Jessica L. Borelli, Paulina Gołaska  
*Department of Child and Adolescent Psychiatry, Psychotherapy, and Psychosomatics, University of Leipzig, Germany*

Introduction: Much work shows that maltreated children possess fewer positive and more negative representations of their caregivers (e.g., Stronach et al., 2011). At the behavioral level, maltreated children's representations may give rise to hypervigilance and compulsive compliance with their caregivers' demands, as well as a pervasive inhibition of exploratory play (e.g., Crittenden et al., 1988). We seek to combine these two lines of inquiry using a new narrative interaction task (NIT) with a sample of maltreated and nonmaltreated children.

Aims of the study: First, we aimed to examine whether alterations in doll-play narratives of maltreated children would occur in the presence compared to the absence of the caregiver in the room, especially if the caregiver was previously involved in the child's maltreatment as a perpetrator. In addition, we also aimed to study the behavioral responses to the presence of the caregiver (e.g., glancing to caregiver) and the dynamics of the interaction with the doll figures.

Material and Methods: Sixty 4- to 8-year-old maltreated children and 60 age- and gender-matched nonmaltreated controls were recruited from child protection services (CPS), and the general population. Maltreatment characteristics (e.g., perpetrator, subtype) were coded from CPS files and parent interviews using the Maltreatment Classification System (Barnett, Manly & Cicchetti, 1993). For the NIT (informed by the MacArthur Story-Stem Battery; Bretherton & Oppenheim, 2003), children completed four story-beginnings about challenging and distressing scenarios. Caregivers entered into the room after the first two stories. Narratives were transcribed and rated by trained coders.

Results: Preliminary analyses in a subsample revealed that once their caregivers entered the room maltreated children refer to mental states of story characters more often, especially mental states of the mother

character, and narrate stories with more positive parent representations.

Conclusions: We will discuss the implications of our results for interventions with maltreated children.

### **sym203-3.2 Co-construction of life narratives with the child as a professional scaffolding process**

Margarida Rangel Henriques, Diana Teixeira, Pedro Saraiva

*Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto, Portugal*

Provided that narrative construction allows for the assignment of meaning to life experiences, we can explore how each child perceives her path, within the narrative paradigm.

Aiming to add knowledge about the production of life narratives, we ran analyses of structural coherence, productivity and thematic content in autobiographical narratives of children with different life paths, including single-episode life narratives, spontaneous life narratives and life narratives told with an interviewer's support. We also tested the impact of scaffolding in the construction of life narratives using a single autobiographical narrative task and the Life Narrative Interview for Children – LNIC - a semi-structured interview, designed to provide gradually increasing support in terms of narrative elicitation.

Narratives were analyzed in terms of structural coherence, productivity and emerging themes. All the methods were subject to specialized training and inter-judge agreement with standards over 80% on several measures. Participants were 50 children aged between 6 and 11 years ( $M=8.88$ ;  $DP=1.77$ ) from different paths: 20 who always lived with their biological family; 20 living in institutional care facilities; and 10 in families, by adoption. Results show that scaffolding led to a significant increment in structural coherence, life narrative's productivity and thematic diversity, when compared to the spontaneous life narrative.

The structural coherence of single autobiographical narratives and the life narratives are positively correlated. Productivity, age and path of life came out as predictors of structural coherence in spontaneous life narratives, with the first two also predicting structural coherence in the guided life narratives. Content analysis of narratives related to the context of care showed that children with an adverse life path produce diverse narratives in terms of thematic content and also integrate adverse events. In conclusion, this research presents a useful instrument to co-construct life narrative with children, promoting their quality and integrating adverse early experiences.

### **sym203-3.3 Mother-child emotional communication in early adolescence: The challenge of puberty.**

Revital Tamari, Ora Aviezer, David Oppenheim

*Center for the Study of Child Development, University of Haifa, Israel*

Parent-adolescent emotional communication is challenged in early adolescence with its puberty associated changes, in particular. Pubertal development is accompanied by growing investment in peer relations, and gradual oscillations in parental and adolescents' perceptions and expectations of each other (Collins & Laursen, 2004). These processes are reflected in decreasing warmth and increasing conflicts in early adolescents' communication with parents (Marceau, Ram & Susman, 2014). The present study used observations of mother-adolescent emotional communication to examine their associations with adolescents' pubertal development. Participants were 108 young adolescents (54 girls) and their mothers. Mothers and adolescents were asked to jointly narrate five past events involving different emotions experienced by the adolescent (Koren-Karie, Oppenheim, Haimovich, & Etzion-Carasso, 2003). The dialogues were transcribed, and two aggregate scores were used for coding: Maternal Sensitive Guidance and Adolescent Cooperative Behavior. Mothers also completed for their child a pubertal development questionnaire (Petersen, Crockett, Richards & Boxer, 1988). Girls were more physically developed than boys, and pubertal status was unrelated to age. The regression model for mothers' sensitive guidance was significant ( $F[2,102] = 8.4$ ,  $p < .001$ ) and explained 14% of the variance. Pubertal development, when entered last, contributed a significant portion to the explained variance in mothers' sensitive guidance ( $R(\text{change}) = 5.0\%$ ,  $F(1,102) = 5.89$ ,  $p < .02$ ) beyond adolescents' verbal IQ ( $R(\text{change}) = 9.0\%$ ,  $F(1,103) = 10.35$ ,  $p < .01$ ). Girls' menstruation (29 girls) was associated with lower maternal sensitive guidance ( $t = 2.45$ ,  $p < .02$ ) and lower child cooperation ( $t = 2.04$ ,  $p < .05$ ).

These results suggest an association between puberty and reduced acceptance and cooperation in mother-adolescent emotional communication, which illustrate the psychosocial implications of puberty. However,

longitudinal data needs to determine if the findings reflect temporary or lasting effects, and to illuminate their direction (Belsky, Steinberg, & Draper, 1991). The unique implications of these processes will be discussed.

#### **sym203-3.4 “Okay, now you say something” – Mothers’ and adolescents’ joint story telling**

Alice Graneist, Tilmann Habermas  
*Goethe University Frankfurt, Germany*

Much work supports the relevance of mother-child conversations to the development of children’s narrative skills and emotion understanding. However, little is known about (1) maternal scaffolding in adolescence and (2) the conversational dynamics between mothers and their adolescent offspring.

Addressing these issues, this study aimed to analyze the narrative interaction between 60 mother-child dyads at age 12, 15, and 18. Mothers and their adolescent offspring co-narrated three jointly experienced, emotional events (sadness, anger, and happiness). Detailed and reliable codings of narratives were conducted for question types and emotional reaction to each statement.

Results revealed that during the process of storytelling mothers asked their 15-year-old children significantly more questions to than their 12- or 18-year-old children. These questions served, first, to ask the child about information about the event or a particular aspect, including all *wh*- questions and, second, to prompt the child to talk about something specific. Analyzing age-patterns of the reaction to each statement, mothers most often corrected utterances of their 15-year-old children, while adolescents most often disagreed to their mothers’ statement at age 12. Comparing reactions between distinct emotions, we found that within anger narratives mothers distanced themselves from and disagreed with their children’s statements more often than in sadness narratives, while adolescents justified themselves more often. However, acknowledgment of the other’s opinion did not differ.

Although adolescents are already able to construct coherent narratives by themselves (Habermas & Bluck, 2000), our study revealed that mothers seem to consider themselves responsible to scaffold especially their 15-year old children in storytelling. Moreover, the results suggest that particularly anger narratives are characterized by the negation and discussion of different opinions which may be especially important for identity development.

Exposure to stress and teratogens during pregnancy is known to influence the development of psychopathology. However exposure may have differential effects on children's mental health outcomes according to the timing, type of stressors or dosages. This symposium brings together five prospective longitudinal studies examining prenatal risks. The first presentation (Anne Kaasen, Department of Nursing and Health Promotion, Oslo) addresses the issue of whether detection of fetal anomaly triggers psychological stress responses in pregnant mother and her partner. Using data from a case-control study with psychological stress measures of both mothers and fathers. The second presentation (Carolien Konijnenberg, Department of Psychology, Oslo) uses data from a 10-year longitudinal case-control study. The study aim to evaluate the cognitive development of 10-year-old children prenatally exposed to methadone or buprenorphine. The third presentation (Egil Nygaard, Department of Psychology, Oslo) focuses on neuro anatomical, cognitive and mental health differences between youths born of mothers with opiate (heroin) and polysubstance use during pregnancy and a comparison group. The fourth presentation (Ragnhild E Brandlistuen, Norwegian Institute of Public Health, Oslo) uses data from a longitudinal prospective pregnancy cohort, the Mother and Child Cohort Study of Norway (MoBa) (n= 71,996 children (19,297 siblings). This study aims to examine the long-term exposure to benzodiazepines or z-hypnotics on internalizing behavior in early childhood within a sibling-control design. Our final presentation (Mona Bekkhus, Department of psychology, Oslo) also utilizes data from The Norwegian Mother and Child cohort study (MoBa) (n= 22 132 siblings). The aim of this study is to examine the link between exposure to maternal anxiety in pregnancy and child difficulties at age 6 months and 36 months, using a sibling-comparison design. Together, these studies examine important issues in the assessment and impacts of prenatal exposure on children's mental health.

#### **sym203-4.1 Parental Psychological Stress Responses in Pregnancy after Ultrasonographic Detection of Fetal Malformation**

Anne Kaasen, Guttorm Haugen

*Department of Nursing and Health Promotion, Oslo and Akershus University College of Applied Sciences, Oslo, Norway, Norway*

**Background:** In Norway 1200 babies per year are born after detection of a structural anomaly by ultrasound in pregnancy, as a minimum estimate. One ultrasound examination is offered to all pregnant women, a procedure accepted by almost all. The prognosis associated with these detected anomalies may vary.

**Aim:** Detection of a fetal anomaly triggers psychological stress responses in pregnant mother and her partner. We aimed to describe parental psychological distress longitudinally after detection of a fetal anomaly in second trimester (Case group, n=30) compared to parents with normal ultrasound findings (Control group, n=85).

**Methods :** Psychological stress assessments were performed at four time points (T1-T4); T1 a few days after the detection of fetal anomaly (or normal anomaly scan in control group), T2 three weeks later, and T3 and T4 at 30 and 36 gestational weeks, respectively. The severity of the malformations was classified according to Kaasen et al. (BJOG 2010;117:1127). Psychological distress was assessed using self-rating questionnaires referring to the previous week: Impact of Event Scale (IES, 22 items) with subscales intrusion, avoidance and arousal, and Edinburgh Postnatal Depression Scale (EPDS, 10 items) measuring dysphoric mood, anxiety, suicidal ideas and "not coping".

**Results:** Mean gestational age at T1 was 19.4±3.2 and 18.7±2.1 weeks in cases and controls, respectively.

Among cases all distress scores were highest at T1, whereas the control group was more stable throughout pregnancy (see Table, median and range values). Fathers had lower scores than mothers at all time-points in both groups (all p-values <0.022 except IES avoidance at T4). At most time-points for all scales, cases scored significantly higher than controls for both fathers and mothers.

**Conclusion:** At the first assessment cases had significantly higher distress scores than controls. These differences diminished over time. Fathers had lower scores than mothers at all time-points within both groups.

	Group	T1		T2		T3		T4	
		Female	Male	Female	Male	Female	Male	Female	Male
IES Intrusion	A	22.0 (1-40)	13.5 (2-31)	15.0 (1-36)	7.0 (0-25)	9.0 (1-30)	5.0 (0-24)	7.0 (0-33)	5.0 (0-23)
	B	10.0 (0-29)	6.0 (0-25)	5.0 (0-24)	4.0 (0-24)	5.0 (0-31)	3.0 (0-25)	5.0 (0-26)	2.0 (0-21)
	P-value	<0.001	<0.001	<0.001	=0.001	=0.001	0.045	0.341	0.085
IES Avoidance	A	9.0 (0-30)	5.0 (0-16)	4.5 (0-27)	1.5 (0-13)	4.0 (0-30)	1.0 (0-19)	2.0 (0-35)	2.0 (0-10)
	B	1.0 (0-26)	0.0 (0-18)	0.0 (0-14)	0.0 (0-10)	0.0 (0-22)	0.0 (0-9)	0.0 (0-14)	0.0 (0-13)
	P-value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
IES Arousal	A	12.0 (1-26)	3.5 (0-18)	5.0 (0-20)	3.0 (0-12)	4.0 (0-18)	2.0 (0-9)	4.0 (0-25)	2.0 (0-15)
	B	3.0 (0-17)	2.0 (0-11)	2.0 (0-17)	1.0 (0-7)	2.0 (0-13)	1.0 (0-8)	3.0 (0-15)	1.0 (0-19)
	P-value	<0.001	<0.001	<0.001	0.007	0.067	0.114	0.049	0.522
EPDS	A	11.0 (2-21)	4.5 (0-12)	4.0 (0-17)	1.0 (0-9)	7.0 (0-18)	1.0 (0-12)	4.0 (0-15)	2.0 (0-10)
	B	2.0 (0-14)	1.0 (0-9)	2.0 (0-13)	0.0 (0-11)	4.0 (0-18)	0.0 (0-10)	3.0 (0-16)	0.0 (0-6)
	P-value	<0.001	<0.001	<0.001	0.024	0.013	0.177	0.059	=0.001

Independent samples, Mann Whitney U Test. A=case, B= control group

Table 1: Parental Stress in Case and Control Groups

## sym203-4.2 Cognitive Development of Children Prenatally Exposed to Methadone or Buprenorphine

Carolien Konijnenberg, Annika Melinder

Department of psychology, University of Oslo, Norway

Background: Despite evidence of the beneficial effects of opioid maintenance therapy (OMT) in the care of pregnant opioid-dependent women, prenatal methadone or buprenorphine exposure may not be without risk. Both methadone and buprenorphine cross the placenta and enter the bloodstream of the fetus and may consequently disrupt normal fetal development. Several studies have investigated the neonatal outcomes of infants prenatally exposed to methadone or buprenorphine. However, few studies have investigated the long-term development of children of women in OMT.

Aim: The aim of this study was to evaluate the cognitive development of 10-year-old children prenatally exposed to methadone or buprenorphine. In this ongoing prospective longitudinal study, 40 children (20 exposed and 20 non-exposed) followed-up since birth were evaluated at age 10. Children's cognitive performance was measured with a battery of cognitive tasks (CANTAB, WASI, TOMAL) as well as EEG measures. Results: Previous findings of our longitudinal study showed no significant group differences on measures of general cognitive functioning. Results from the 10-year old study will follow up these findings by discussing children's general cognitive development, attention, executive functions and memory.

Conclusion: Findings from our longitudinal project have shown that children of women in OMT generally score lower on most standardized cognitive tests compared to low-risk non-exposed children, however, within the normal range of development. Some children experience specific subtle cognitive deficits which should be identified early so that appropriate intervention can be implemented before problems arise.

### **sym203-4.3 Neurocognitive Differences and Mental Health after Prenatal Opiate and Polysubstance Exposure**

Egil Nygaard, Kari Slinning, Vibeke Moe, Kristine Walhovd  
*University of Oslo, Norway*

**Aim:** Previous studies have showed that young children exposed to maternal opioid and polysubstance use in utero are at increased risk for neuropsychological difficulties compared to control groups. However, few studies have investigated the development into youth. There is also a lack of neuroanatomical studies. We investigated whether such neuroanatomical, cognitive, behavioural and mental health differences persisted into youth, and to what extent such perinatal vulnerabilities could be compensated for by being raised under optimized conditions.

**Methods:** In the present study, 50 children born of mothers with opiate or polysubstance use during pregnancy and 48 children without any known prenatal risk were followed prospectively from birth to youth (17-22 years). The most commonly reported main drug of choice among the pregnant mothers beside tobacco was opiates (heroin) (42%), and most of the children in the exposed group had neonatal abstinence syndrome (78%). Most drug-exposed youths (88%) were either adopted or moved to permanent foster homes before one year of age. At youth the participants were assessed with 10 neuropsychological tests, quantitative MRI, a diagnostic interview (MINI) and self-reports of behavior (ASEBA).

**Results:** The drug-exposed youths performed significantly worse than the comparison group on the neuropsychological tests. They also had smaller neuroanatomical volumes, smaller cortical surface areas and thinner cortex than the comparison group. They also reported mental health problems more frequent. The study could not isolate effects of prenatal substance exposure. However, birthweight or parental care changes accounted for only a small part of the findings.

**Conclusions:** The results indicate that children exposed to opioid and polysubstance abuse in utero do not catch-up over time. Rather, youths born to mothers with heroin or polysubstance use during pregnancy seem to be vulnerable compared to their peers in a wide range of neuropsychological areas, like cognition, mental health and neuroanatomical features.

### **sym203-4.4 Prenatal Exposure to Benzodiazepines and Child Internalizing Problems: a Sibling-controlled Cohort Study**

Ragnhild Brandlistuen, Hedvig Nordeng  
*Division of Mental and Physical Health, Norwegian Institute of Public Health, Oslo, Norway., Norway*

**Background** During pregnancy many women experience sleep problems and symptoms of anxiety. The long-term safety of benzodiazepine and z-hypnotic use during pregnancy remains controversial.

**Method** We conducted a cohort study and a sibling control study utilizing data from the population based Norwegian Mother and Child Cohort Study. Data were collected from mothers at gestation week 17 and 30 and when children were 6 months, 1.5 and 3 years of age. The total sample consisted of 71,996 children (19,297 siblings) at 1.5 years and 55,081 children (13,779 siblings) at 3 years. Random effect and sibling-matched fixed effect regression models were conducted. Propensity score (PS) adjustment included variables on indication of use (sleep problems, symptoms of anxiety and depression) and other potential confounding factors.

**Results** Long-term exposure to benzodiazepines or z-hypnotics was associated with increased internalizing behavior among children aged 1.5 years [ $\beta$  0.60, 95% confidence interval (CI) 0.17-0.95], but not at 3 years after PS adjustment in sibling matched fixed effect models. Analyses on specific drug groups showed that prenatal exposure to BZD-anxiolytics was associated with increased internalizing problems at both 1.5 years [ $\beta$  0.25, 0.01-0.49] and 3 years [ $\beta$  0.26, 0.002-0.52]. Exposure to z-hypnotics was not associated with internalizing problems after adjustment at any time point. Exposure to benzodiazepines or z-hypnotics was not associated with increased externalizing problems.

**Conclusion** The findings suggest a moderate association between BZD-anxiolytic exposure and child internalizing problems that is not likely due to stable familial confounding factors.

## sym203-4.5 Prenatal Maternal Anxiety and Child Difficulties: a Sibling Design.

Mona Bekkhus, Anne Borge

Department of Psychology, University of Oslo, Norway

Background: Prenatal exposure to maternal anxiety has been associated with child emotional difficulties in a number of epidemiological studies. One key concern, however, is that this link is vulnerable to confounding by pleiotropic genes or environmental family factors. Our objective was therefore to examine the link between prenatal maternal anxiety and child emotional difficulties in a sibling-control design.

Method: Data on 22 132 siblings from the population-based Mother and Child Cohort study were used in this study. Mothers filled out questionnaires for each unique pregnancy and for infant difficulties at 6 months, as well as for emotional difficulties at 36 months, for each child. The link between prenatal maternal anxiety and child difficulties were examined using logistic regression analyses and multiple linear regression analyses for the full study sample and the sibling sample.

Results: First, in the conventional full-cohort analyses prenatal exposure to maternal anxiety was associated with child difficulties after at both 6 months and 36 months, but when we controlled for fixed family effects, the same association was no longer significant (see Table 1). The findings also showed that the results were essentially the same whether we examined infant difficulties at six months or emotional difficulties at 36 months.

Conclusions: Our finding lends little support for there being an independent prenatal effect on child difficulties, rather our findings suggest that the link between prenatal maternal anxiety and child difficulties could be confounded by pleiotropic genes or environmental family factors.

Full cohort	Infant Difficulties 6 months		Emotional Difficulties 36 months	
	Crude OR ( 95% CI )	Adjusted* OR ( 95% CI )	Crude OR ( 95% CI )	Adjusted** OR ( 95% CI )
Sample size(=n)	(n=80,238)	(n=55,179)	(n=52,608)	(n=38,035)
No Anxiety (reference)	1	1	1	1
17th week	<b>1.63 (1.51, 1.76)</b>	<b>1.46 (1.33, 1.61)</b>	<b>1.91 (1.75, 2.09)</b>	<b>1.59 (1.42, 1.77)</b>
30th week	<b>1.51 (1.40, 1.63)</b>	<b>1.32 (1.2, 1.46)</b>	<b>1.96 (1.80, 2.14)</b>	<b>1.66 (1.49, 1.85)</b>
Long-term (17th through 30th week)	<b>2.09 (1.94, 2.27)</b>	<b>1.68 (1.51, 1.86)</b>	<b>2.72 (2.47, 2.99)</b>	<b>2.30 (2.04, 2.60)</b>
<b>Sibling Cohort</b>				
Sample size(=n)	(n=21,719)	(n=15,791)	(n=13,097)	(n=9,908)
No Anxiety (reference)	1	1	1	1
17th week	1.11 (0.84, 1.47)	0.95 (0.63, 1.43)	1.30 (0.88, 1.90)	0.82 (0.49, 1.38)
30th week	1.16 (0.87, 1.54)	0.95 (0.62, 1.47)	0.99 (0.69, 1.43)	1.02 (0.60, 1.74)
Long-term (17th through 30th week)	1.32 (0.91, 1.90)	1.07 (0.61, 1.88)	1.07 (0.64, 1.76)	1.28 (0.63, 2.60)

\* Adjusted for mother's age, education, marital status, parity, partner relation, alcohol intake, smoking status, birth complication, child's sex, birth weight, somatic disease, gestational age. \*\*Also adjusted for infant difficulties at 6 months. *Bold are significant at p<0.001*

Table 2: Logistic Regression Models of Infant Difficulties at 6 months and Emotional Difficulties at 36 months in Children Exposed to High Prenatal Maternal Anxiety.

Ingrid Schoon, Discussant  
*UCL Institute of Education, United Kingdom*

Personality traits predict a range of important developmental outcomes in childhood and throughout the adult years. However, the effects of personality do not occur in a social vacuum. This symposium presents research linking a range of personality characteristics to development and success across multiple developmental periods and social contexts. In particular, these papers speak to current debates on how individuals function as self-determining agents within their social-contextual constraints. This includes work examining the contribution of personality and other non-cognitive factors to educational achievement beyond the effects of family background; research into how personality can compensate for social disadvantage during the transition from school to work; and examination of the 'grit' trait which has been linked to successful pursuit of long-term goals. The papers presented in this symposium point to the advantages of multiple non-cognitive personality characteristics across a range of educational and occupational contexts.

### **sym203-5.1 Can Locus of Control compensate for socioeconomic adversity during transitions from school-to-work?**

Terry Ng-Knight, Ingrid Schoon  
*UCL Institute of Education, United Kingdom*

Dispositional personality traits have gained widespread traction as key predictors of educational and occupational outcomes, often independently of parental social background or cognitive ability. Indeed, it has been argued that personality can to some extent compensate for socioeconomic disadvantage ('resource substitution'). However recent evidence shows that high levels of generally valued personality traits such as conscientiousness only offer partial compensation for the disadvantage associated with parental socioeconomic status (SES), and that they are by no means sufficient to lead to full catch-up effects (Damian, Su, Shanahan, Trautwein, & Roberts, 2015; Shanahan, Bauldry, Roberts, Macmillan, & Russo, 2014). This suggests that personality characteristics that predict positive outcomes may not necessarily be the same as those that moderate socio-economic risk processes at the population level. Drawing on McAdams and Pals (2006) expanded framework of personality, we shift focus beyond dispositional traits such as the 'big five', to the more contextualised adaptations that characterise individuals' attempts to operate as self-determining or agentic beings in a social world. This study examines if internal locus of control (LoC), understood as an indicator of individual agency, can moderate the association between family disadvantage and difficulties in the transition from school to work. We draw on data collected for a longitudinal nationally representative cohort of English young people (N = 15770), following their lives from age 14 to 20. Guided by a socio-ecological model of agency we found that LoC does indeed have a compensatory effect and that LoC both shapes and is shaped by transition experiences.

### **sym203-5.2 Big five and vocational interests: predicting educational attainment over family background characteristics**

Nele Usslepp, Nicolas Hübner, Gundula Stoll, Marion Spengler, Rong Su, Ulrich Trautwein, Benjamin Nagengast  
*University of Tuebingen, Germany*

Previous research has shown that educational choices within tracked school systems are influenced by family background and achievement (e.g., Breen & Jonsson, 2005). It is somewhat surprising that further potential predictors as personality traits (Big Five; Costa & McCrae, 1992) and vocational interests (RIASEC-Interests; Holland, 1997) are not considered so far although they affect most vocational and career-related outcomes (for Big Five: e.g., Barrick & Mounts, 1991; for RIASEC-Interests: e.g., Rounds & Su, 2014). Only few studies provided first evidence for the relation of different personality facets and attainment. For instance, O'Connell and Sheikh (2011) have shown that the Big Five influence social attainment in terms of earnings and life-long educational attainment at the age of 50. In addition, Tracey and Rounds (1996) suggest that RIASEC-interests might be

related to prestige. Up to now, we don't know whether different personality facets predict educational attainment within tracked school systems. Therefore, we examined whether personality traits and vocational interests influence educational attainment over and above family background and achievement at different transitions of the German educational system. In Study 1, we analyzed the decision between vocational training versus upper secondary-education after lower secondary school (N = 467; TOSCA 10; Trautwein, Nagy, & Maaz, 2011). In Study 2, we investigated the transition from upper secondary-education to work/university (N = 5,732; TOSCA 2002 & 2006; Köller, Watermann, Trautwein, & Lüdtke, 2004; Trautwein, Neumann, Nagy, Lüdtke, & Maaz, 2010). The results suggest that vocational interests (at least 4 of 6; e.g., investigative and enterprising interest) and personality traits (2 of 5; e.g., Agreeableness and Openness) are associated with educational attainment over and above achievement and family background. Therefore, educational attainment is a multi-determined construct. Furthermore, both personality traits and especially vocational interests are important for educational decisions and future pathways.

### **sym203-5.3 Germans got Grit? Examining Grit in the German adult population**

Clemens Lechner, Daniel Danner, Beatrice Rammstedt  
*GESIS – Leibniz Institute for the Social Sciences, Germany*

Grit—the passion and perseverance for long-term goals—has received considerable attention as a personality trait relevant for success in educational and occupational settings. Recently, however, critics have questioned the construct and criterion validity of grit, casting doubt on its added value over the Big Five dimension of Conscientiousness. Moreover, much existing research on grit has drawn on samples from the North American context, whereas few studies in samples from other world regions such as Europe exist. We used recent large-scale data from the German PIAAC study and its longitudinal follow-up (PIAAC-L) to contribute to the debate as to whether the grit construct can add to the study of personality and important life outcomes. In Study 1, we investigated the psychometric properties and distribution of a five-item grit scale (mainly covering the perseverance facet) among German adults (N = 6,231). Multiple-group latent variable models and MIMIC models demonstrated that grit can be validly assessed in major sociodemographic subgroups (age, gender, educational attainment, and employment status). Mean-level differences along the lines of sociodemographic subgroups were limited. In Study 2, we used a subsample of employed respondents (N = 2,410) to investigate how grit relates to Conscientiousness and cognitive ability; and whether grit incrementally predicts occupational success (income, status) and motivation (work engagement, participation in further education) over Conscientiousness, cognitive ability, and sociodemographic factors. Results showed that grit was highly correlated with Conscientiousness but orthogonal to cognitive ability. Moreover, grit incrementally predicted occupational success and motivation above and beyond all other factors in the model. Our findings offer qualified support for the added value of the grit construct in a large-scale sample outside the North American context.

### **sym203-5.4 Self- and Teacher Ratings of Student Characteristics as predictors of Educational Success.**

Marion Spengler, Richard Goellner, Brent Roberts, Ulrich Trautwein, Laura Braun  
*University of Tuebingen, Germany*

Studies in the school context demonstrate the importance of cognitive and non-cognitive factors – such as IQ, motivation, and personality traits – as predictors of academic achievement (Gottfredson, 2002; Gustafsson & Undheim, 1996; Hailikari, Nevgi & Komulainen, 2007; Kuncel, Hezlett & Ones, 2004; Spengler, Lüdtke, Martin & Brunner, 2013; Steinmayr & Spinath, 2009). We know from previous studies that Conscientiousness is the most promising non-cognitive candidate (Spengler et al., 2013; Porpoat, 2009). More recently, first studies indicate that actual behavior and characteristics of students (e.g., being a responsible student) in the school context were also related to educational attainment (Spengler et al., 2015). We still don't know whether those behaviors and characteristics are also related to early educational success, and whether self- or teacher ratings are the stronger predictors. Therefore, we investigated whether teacher ratings (student's personality and student's behaviors) predict school achievement over and above personality, IQ and socioeconomic status (SES). The analyses were based on a longitudinal study (Transitions and Innovations, TRAIN; Jonkmann, Rose, & Trautwein, 2013). We used data from four waves (each 1 year apart; grade 5 to 8) from 133 classes (n1 = 2,893,

46% female; n2 = 2,936, 45% female; n3 = 2,990, 46% female; n4 = 3,052, 46% female). Personality was assessed with the German version of the Big Five Inventory (BFI; John, Donahue & Kentle, 1991). The teacher ratings were assessed with 8 items. The teachers also answered the peer-version of the BFI-10 (Rammstedt & John, 2007). School achievement was assessed by the final grades (Math and German; grades 5 to 8). Results indicate that being a responsible student (assessed by the teacher) predicted school achievement over and above personality (self- and teacher report), IQ and SES across a period of four years.

## sym203-6 Psychological Adaptation in Minority Immigrant Adolescents': Prosocial Behavior, Self-Efficacy, Self-Esteem and Well-Being

Imane Oulali, Chair

*University of Amsterdam, Netherlands*

Jochem Thijs, Chair

*Utrecht University, Netherlands*

Maykel Verkuyten, Discussant

*Utrecht University, Netherlands*

Adolescents of ethnic minority immigrant backgrounds face an important set of challenges. Not only are they confronted with 'normal' developmental tasks of adolescence, but they also have to find their place in ethnic majority or 'host' societies that are often culturally different and sometimes even hostile to them. In this symposium we bring together qualitative and quantitative studies that examined the psychological adaptation of minority immigrant adolescents in different European countries. This research highlights different aspects of successful adaptation, and considers different individual and contextual factors that either promote or hinder their development. (1) Imane Oulali and her colleagues researched mediation effects of religious and ethnic self-esteem in the relation between school type and prosocial behavior, and studies whether these effects were moderated by religious affiliation for religious minority students in the Netherlands. Their study reveals the different roles of religious and ethnic self-esteem in promoting religious minority children's prosocial behavior. (2) Peter Titzmann and Phillip Jugert investigated changes in self-efficacy among newcomer and more experienced immigrant (ethnic minority) adolescents in Germany. Their research demonstrates that both acculturation-related and acculturation-unrelated variables explained unique variance in self-efficacy in both immigrant groups. (3) Hildegunn Fandrem and her colleagues examined investigated inclusion processes of ethnic minority pupils in secondary Norwegian multicultural schools. Their qualitative design and study demonstrate implications for how teachers can promote self-esteem, prosocial behavior and inclusion in school. (4) Gonneke Stevens and her colleagues researched the importance of cultural distance for the wellbeing of ethnic minority adolescents in Europe. She will discuss the extent to which (differences in) cultural dimensions between immigrant adolescent's origin and receiving countries are associated with wellbeing. Our discussant will be Maykel Verkuyten (Utrecht University) who is an expert on ethnic identity, well-being, and interethnic relations in children as well as adults.

### sym203-6.1 Religious Minority Students' Prosocial Behavior: Mediating Roles of Religious versus Ethnic Self-Esteem

Imane Oulali, Alithe van den Akker, Jochem Thijs, Henny Bos, Geertjan Overbeek

*University of Amsterdam, Netherlands*

Recent studies in the Netherlands concerning religious minority students attending religious and public schools demonstrate the important role of religious and ethnic identities in promoting attitudes and reflections concerning citizen competences (prosocial behavior). However, for some religious minority students attending religious schools, religious self-esteem is more important than ethnic self-esteem in promoting prosocial behavior, and for some religious minority students attending public schools ethnic self-esteem plays a more essential role in their life than religious self-esteem. This present study aimed to investigate a) whether religious minority children attending religious schools have a higher sense of prosocial behavior than religious minority children attending public schools, examine b) whether this effect is mediated by religious self-esteem and/or ethnic self-esteem, and explore c) whether the mediation effects (religious vs. ethnic self-esteem) are moderated by religious affiliation. Data were gathered from 1,387 students ( $M_{age} = 11.73$ ,  $SD = 0.61$ ; 52% girls) in 37 primary schools (9 Reformed Protestant, 9 Islamic, 3 Hindu and 16 public schools) across five regions in the Netherlands. Students were asked to complete an anonymous paper and pencil questionnaire containing variables of interest. The sample included 31.7% children with a Dutch background, 21.7% with a Moroccan background, 13.1% with a Turkish background, 10.4% with a Surinamese background, and 23% with other backgrounds. Two students (0.1%) did not indicate their background. Students were asked to define their own religion: 673 Students identified themselves as Muslim (48.8%), 427 (31.0%) as Reformed Christian, and 278 (20.2%) as Hindu. Results from moderated mediation analyses will be discussed in relation to school type,

religious vs. ethnic self-esteem and prosocial behavior moderated by religious affiliation. The study will have implications for Dutch religious and public schools in how religious and ethnic self-esteem can promote prosocial behavior.

### **sym203-6.2 Acculturative and Developmental Predictors for Changes in Self-efficacy among Adolescent Immigrants**

Peter Titzmann, Phillipp Jugert  
*Leibniz University Hanover, Germany*

This study investigated changes in self-efficacy among newcomer and more experienced immigrant adolescents. Self-efficacy is concerned with adolescents' judgments of being successful in executing courses of action required to deal with age-related developmental tasks and has been found to be associated with many beneficial developmental outcomes, such as optimism and self-esteem. Based on acculturation theories associated with a culture learning perspective and Bandura's assumptions about the origins of self-efficacy, we expected newcomers to have lower levels of and more pronounced increases in self-efficacy as compared to levels and change rates among experienced immigrant adolescents. In addition, we tested whether acculturation-related and acculturation-unrelated variables representing mastery experiences (grade point average, use of German language), affective states (social support, discrimination), and vicarious experiences (parental education) explained inter-individual differences in self-efficacy in both groups. The sample comprised 480 newcomer (59% female, 15.8 years old) and 483 experienced (55% female, 15.9 years old) immigrant adolescents, assessed in four annual waves. Latent growth curve models revealed that the transition to another country indeed seems related to a drop in self-efficacy, but with a subsequent recovery period. This was evidenced by the significantly lower initial levels of self-efficacy among newcomers as compared to experienced immigrant adolescents, as well as in newcomer self-efficacy levels' more pronounced increase over time. With regard to predictors of self-efficacy, mastery experiences, affective states, and vicarious experiences all added unique explained variance to our longitudinal assessment of self-efficacy in both groups. In general, however, more predictors were found for the intercept of self-efficacy than for the slope. Finally, both acculturation-related and acculturation-unrelated variables explained unique variance in self-efficacy in both immigrant groups, underscoring the assertion that both normative and immigration-related processes have to be considered simultaneously in the understanding of adolescent immigrant functioning.

### **sym203-6.3 Teachers Roles in Immigrant Pupils' Experiences of Affiliation in Norwegian Schools**

Hildegunn Fandrem, Svein Nergaard, Hanne Jahnsen, Kirsti Tveitereid  
*University of Stavanger, Norway*

The present study investigates inclusion processes of immigrant pupils in Norwegian multicultural schools. Inclusion is essential to human dignity and the most effective way to build solidarity among diverse pupils. For immigrant pupils it might, however, be a challenge to participate on an equal basis, because of factors related to acculturative stress and also because these pupils are not necessarily physically integrated in mainstream classes due to the need for Norwegian language education. However, physically integrated does not necessarily means included. One of the greatest methodological challenges in the field of inclusive education is how to look for and recognize inclusion in schools. The focus in this study is on what make immigrant pupils experience affiliation and what do the teachers do to make immigrant pupils feel affiliated in the mainstream class and school. Teachers' attitudes towards immigrant pupils and conditions for participation are important aspects. The study has a qualitative design and semi-structured interviews are used to gather data. The sample consists of 12 immigrant pupils in secondary schools (6 from introduction classes and 6 from mainstream classes), 6 teachers and 6 native Norwegian pupils. The results are discussed in relation to the vision of inclusive education, which claim that all pupils should be learning together as a community in regular classrooms. The study will have implications for how teachers might promote self-esteem and social development aiming immigrant pupils to feel more included in educational settings.

## sym203-6.4 Cultural Distance and the Impact of Immigration on Adolescent Wellbeing

Gonneke Stevens, Willem Helbing, Sophie Walsh  
*Utrecht University, Netherlands*

To explain the impact of immigration on adolescent wellbeing, literature has often emphasized the difficulties immigrants may experience when acculturating into a new society. However, the extent to which this acculturation process is critical is thought to depend largely on the extent to which the receiving country culture differs from that of the sending country (so called cultural distance). Notwithstanding the development of several theoretical models in this respect, few empirical studies have been conducted on the importance of cultural distance for the wellbeing of immigrant adolescents. The present study addresses this issue by analyzing data among a representative sample of adolescent immigrants in Europe. We used cross-sectional survey data from the 2013/14 Health Behavior in School-aged Children study assessing the country of birth of adolescents and their parents, family affluence and life satisfaction. Data were available for approximately 11,000 immigrant adolescents between 11- to 15-year-olds in 23 receiving countries from over 160 origin countries. During the presentation, results from linear multilevel regression analyses will be shown, assessing the extent to which (differences in) cultural dimensions (power distance, uncertainty avoidance, individualism versus collectivism and masculinity versus femininity) between immigrant adolescent's origin and receiving countries are associated with wellbeing. Results are discussed in light of existing theoretical models and empirical research.

Elma Blom, Chair  
*Utrecht University, Netherlands*  
Aylin Küntay, Discussant  
*Koc University, Turkey*

It is well known that children's language outcomes vary greatly, but our understanding of the causes and implications of language proficiency is limited. The aim of this symposium is to deepen our understanding of the developmental relationships between language proficiency and executive functioning, a topic that recently gained more attention, but is still under-researched.

Executive functions are part of a domain-general cognitive system that is essential for the flexibility and regulation of cognition and goal-directed behavior. Executive functions are involved in the effective use of environmental stimuli for learning and may therefore influence children's language development (Diamond, 2013). Relationships between executive functioning and language are suggested by the frequent co-occurrence of language impairment and executive function deficits (Kapa & Plante, 2015) and by associations between language proficiency and executive functioning in bilingual children (Blom et al., 2014).

This symposium consists of four empirical studies and a discussion slot. The papers explore whether executive functions and language skills are independent, complement one another, or are predictive of one another in development in different populations such as language-impaired children and bilingual children. The discussion will focus on the integration of the findings. We will discuss the role of individual difference factors (language impairment, bilingualism, age), language domain (lexicon, morphology, syntax), executive function modality (auditory, visual) and the overlapping effects of limited language input and limited auditory processing.

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### **sym203-7.1 Investigating relationships between language and executive functioning in monolingual and bilingual preschoolers**

Josje Verhagen, Pauline Slot, Hanna Mulder, Paul Leseman  
*Utrecht University, Netherlands*

**Aims:** Bilinguals often show enhanced executive functions (EF) but poorer language skills (in each language) than monolinguals. Previous studies have typically only looked at monolinguals or bilinguals. The current study compares monolinguals and bilingual children and investigates whether, in these groups, language predicts EF and/or vice versa. We predict (i) mutual relationships between EF and language in both groups and (ii) a stronger relationship from EF to language for the bilinguals, due to enhanced EF, enabling them to acquire language from complex (bilingual) input.

**Methods:** 394 Dutch monolingual children and 152 children who learned Dutch and another language were assessed at ages 3 and 4. At both waves, children completed language tasks (phoneme identification, vocabulary, sentence comprehension) and EF tasks (selective attention, visuospatial working memory, inhibition). Confirmatory factor analysis (CFA) assessed whether task scores represented two latent factors (language and EF) at each wave in both groups. Multi-group structural equation modeling (SEM) investigated whether language and EF at age 3 predicted language and EF at age 4 in the two groups.

**Results:** CFAs showed that language and EF represented two latent factors at both waves. SEM analyses showed that, in both groups, language at age 3 significantly predicted language and EF at age 4, when included as the sole predictor. EF at age 3 significantly predicted language and EF at age 4, when included as the sole predictor. However, when both language and EF were included as predictors, these cross-domain relationships disappeared, and strong within-domain relationships remained. No differences were found between the monolinguals and bilinguals.

Conclusions: We conclude that these results indicate strong stability from age 3 to age 4 for language and EF, but no cross-domain relationships. They also suggest that bilinguals do not rely on EF to a larger extent than monolinguals in language learning.

### **sym203-7.2 Bilingual proficiency and executive functioning in Frisian-Dutch bilingual children**

Evelyn Bosma, Elma Blom, Eric Hoekstra, Arjen Versloot  
*Fryske Akademy, Netherlands*

**Aims:** Various studies have shown that children need a certain degree of bilingual proficiency before their bilingual experiences enhance their executive functioning (EF). Since children's linguistic and cognitive skills are both developing during childhood, it is possible that the cognitive effects of bilingualism are not stable and change over time. In this study, we investigated whether degree of bilingual proficiency predicted EF performance in Frisian-Dutch children and if the effect of degree of bilingual proficiency on EF is maintained over time.

**Methods:** For three consecutive years, 5- to 8-year-old Frisian-Dutch bilingual children ( $n = 120$ ) were tested on two attention (Sky Search, Flanker) and two working memory (Backward Digit Span, Backward Dot Matrix) measures. For each year, degree of bilingual proficiency was calculated on the basis of receptive vocabulary and morphology scores in both languages. Non-verbal intelligence and parental education were included as control variables.

**Results:** Regression analyses showed that degree of bilingual proficiency had an effect on the Sky Search task only: children who were proficient in both languages performed better on the Sky Search than children who were less proficient in either one or both of their languages. Bilingual proficiency predicted performance on the Sky Search at time 1,  $\beta = -.188$ ,  $p = .032$ , and time 2,  $\beta = -.181$ ,  $p = .036$ , but not at time 3,  $\beta = -.035$ ,  $p = .702$ .  
**Conclusions:** This study confirms the previous finding that the cognitive effects of bilingualism are moderated by degree of bilingual proficiency, but only to a limited extent. The finding that the effect vanishes over time is inconsistent with previous research, which demonstrated that cognitive effects of bilingualism emerge over time, as an effect of growing bilingual proficiency. Possible explanations and implications will be discussed.

### **sym203-7.3 Executive functions, lexicon and syntax in children with and without language impairment**

Elma Blom, Tessel Boerma  
*Utrecht University, Netherlands*

**Aims:** Children with language impairment (LI) have difficulties learning language, but syntax is often more affected than lexical development. LI can be accompanied by lower executive functioning (EF), but studies also find age-appropriate EFs in this population. We investigated if EF predicted the lexical and syntactic development of children with and without LI. Two possible outcomes were envisaged: reduced EFs may depress the effect of EF on language in LI but, as EF could also be a relative strength, LI children may also rely more on EF than children with typical development (TD).

**Methods:** Data from 40 TD and 83 LI children were collected at three waves with yearly intervals, starting at ages 5 or 6. All children were monolingual Dutch. Language measures included a picture matching task, assessing lexical ability, and a sentence repetition task, assessing syntactic ability. EF was measured with three attention and working memory tasks and included in the analyses through factor scores.

**Results:** Children with LI performed lower on the language tasks, but did not differ from TD children on EF. Cross-lagged correlations including auto-regression demonstrated that in the LI sample, EF at wave 1 predicted lexical development at wave 2, but not syntactic development. In the TD sample, lexical outcomes at wave 1 predicted EF at wave 2.

**Conclusions:** This is the first study investigating longitudinal relationships between EF, lexicon and syntax in children with LI. In LI children, EF supported lexical development. Syntactic difficulties of children with LI cannot be attributed to EF. We suggest that the differential effect of EF on lexicon and syntax is related to the role of language input in the two language domains. TD children, in contrast with LI children, may use verbal strategies in EF tasks.

## sym203-7.4 Language proficiency and sustained attention in bilingual children and children with LI

Tessel Boerma, Paul Leseman, Frank Wijnen, Elma Blom  
*Utrecht University, Netherlands*

**Aims:** Language impairment (LI) and bilingualism may both affect children's language abilities, albeit for different reasons. While the language outcomes of bilingual children are influenced by reductions in input frequency, the language difficulties of children with LI may stem from ineffective input processing, reflecting a weakened ability to sustain attention to auditory stimuli. The current study tested this hypothesis within a monolingual and bilingual context. We investigated the effects of LI and bilingualism on children's language development (vocabulary-morphology) and sustained attention (auditory-visual) skills, and explored the role of sustained attention in explaining the effects of LI on children's language proficiency.

**Methods:** Monolingual and bilingual children with and without LI (N=128) participated. Data collection started at age 5 and 6. Dutch receptive vocabulary and grammatical morphology were assessed at three waves. In addition, auditory and visual sustained attention were tested at wave 1. Mediation analyses were performed to examine relationships between LI, sustained attention, and language skills.

**Results:** LI and bilingualism negatively affected vocabulary and morphology at all three waves, but the effect of bilingualism on vocabulary diminished over time. Moreover, children with LI had weaker auditory and visual sustained attention skills relative to typically developing peers, while no differences between monolinguals and bilinguals emerged. Auditory sustained attention mediated the effect of LI on vocabulary and morphology in both the monolingual and bilingual group of children.

**Conclusions:** The results indicate persistent language difficulties in children with LI and more temporary language delays in bilingual children. Results furthermore suggest that the low language outcomes of children with LI may be explained by poor auditory sustained attention, leading to incomplete input processing. This study elucidates the relation between the linguistic and nonlinguistic deficits of children with LI, which is a necessary step in further understanding the nature of the disorder.

## Paper sessions 203, Thursday August 31, 16:15 – 17:45 hrs.

### pap203-8 Fear and Anxiety in Children and Adolescents

#### pap203-8.1 Fear conditioning in young infants. Evidence of a neurodevelopmental approach?

Kjell Morten Stormark, Hanne Braarud, Dag Nordanger, Anne Marita Milde  
*Uni Research/Uni Research Health, Norway*

Fear conditioning is a basic form of associative learning, which enables us to detect and avoid threat. Its neural substrate involves a network of brain structures, among those the amygdala. Intriguing findings from studies on non-human primates have suggested that altricial rat pups do not show signs of contextual fear since the brain circuitry for fear conditioning is not turned on before the pups start to walk and can avoid fear-provoking stimuli. The purpose of this study was to examine if a similar developmental pattern would emerge in human infants' responses to syringe injections in an inoculation program, comparing the responses in pre-locomotive (three month olds) and locomotive (15 month olds) infants. All 18 infants received three presentations of the cotton wad used to wash their skin in preparation for the syringe injection, before (habituation phase) and after (extinction phase) the actual inoculation. Skin conductance (SC) and heart rate (HR) responses were monitored and video of infant distress vocalizations were recorded. There was no increase in neither autonomic functions nor distress vocalizations to the cotton in the three month olds. Although there were no overall within-group differences in the 15 months olds either, there was a significant increase in both SCRs magnitudes and HR responses during the third and last trial during the extinction compared to the habituation phase. For the distress vocalizations, the 15 months olds evidenced more overall crying in response to the cotton wad during the extinction than the habituation phase. These results accord with findings in rat pups, supporting a developmental perspective on fear conditioning in infants. One implication of these findings is that young infants' emotional regulation of fear-provoking stimuli is not primarily achieved through learning, but is dependent on other mechanisms, such as social buffering effects of the caregiver.

#### pap203-8.2 Children's spontaneous coping with imaginary fear and parents' reaction to children's fear

Monica Buta, Anca Axente, Paula Nutas, Laura Visu-Petra  
*Developmental Psychology Lab, Department of Psychology, Babeş-Bolyai University, Romania*

**Aim:** While extensive research has examined children's anxiety problems, there are few studies on the spontaneous ways children and parents cope with fear. We addressed this gap by investigating young children's coping with real/ imaginary threats and related this to the way parents cope with their child's fear. We also examined the connection between parents' coping during a pretend scenario and their coping with children's negative emotions in real life. Lastly, we investigated the interplay between children and parents' coping and individual differences in children's anxiety and depression.

**Methods:** We evaluated 136 Romanian children (ages 4-8) and their parents. To evaluate children's coping with fear of real/ imaginary creatures we created two short stories (based on Sayfan & Lagattuta, 2009). They depict a child reacting to an ambiguous stimulus which they think is an imaginary/real frightening creature (a monster or a snake). Children had to suggest strategies the character could use to alleviate his/her fear. Parents read the same stories, but with their own child as the protagonist, and were asked to choose what they would do to reduce their child's fear. Additionally, we administered the Coping with Children's Negative Emotions Scale, the Spence Preschool Anxiety Scale for preschoolers or the Revised Child Anxiety and Depression Scale for school-age children.

**Results:** Children preferred cognitive strategies when coping with imaginary entities and behavioral ones for real creatures. In contrast, parents believed the best strategies for managing their child's fear of imaginary creatures were cognitive ones, whereas behavioral strategies were best for fear of real entities. Regarding children's fear of imaginary creatures, avoidance strategies were associated with higher depression, whereas for real entities, children's avoidance was linked with higher overall anxiety.

**Conclusions:** These results help shed light into the spontaneous ways children cope with anxiety and how parents might shape this process.

### **pap203-8.3 Do late adolescent socially anxious girls look the audience in the face?**

Esther van den Bos, Sara Jakobsson Mansson, Duygu Serbetçi, Michiel Westenberg  
*Leiden University, Netherlands*

**Aim:** Social Anxiety Disorder (SAD) is characterized by strong fear or anxiety about social situations in which one may be scrutinized by others (American Psychiatric Association, 2013). Avoidance of eye-contact is considered a supporting feature of the diagnosis (American Psychiatric Association, 2013). However, empirical evidence for a relation between social anxiety and gaze avoidance in social situations is scarce. Some adult studies with predominantly male samples found that SAD-patients (Chen et al., 2015) and people at risk for SAD (Lowe et al., 2012) looked less at faces in the audience during public speaking. The present study investigated the relation between gaze behavior and social anxiety in a community sample of late adolescent girls.

**Method:** Forty-seven participants (ages 17-21) completed questionnaires on social anxiety and public speaking anxiety. A wearable eye-tracker was used to register gaze behavior in two conditions. In the speech condition, participants introduced themselves to a pre-recorded audience of nine members who behaved neutrally (1 min). In the viewing condition, they watched the same fragment of the recording without speaking. We measured the proportion of fixations on faces and the total fixation time on faces.

**Results:** Repeated measures analyses of variance with condition as within-subjects factor and social anxiety and public speaking anxiety as covariates showed that the effects of anxiety did not differ between conditions. Subsequent correlational analyses showed a negative relation with the proportion of fixations on faces and total fixation time on faces for public speaking anxiety, but not for social anxiety (see Table 1).

**Conclusions:** The present study provided initial evidence for gaze avoidance in late adolescent girls. Performance anxiety may be more relevant than (general) social anxiety in a public speaking context. Taking into account individual fears of specific social situations may further clarify the relation between eye-contact avoidance and social anxiety.

	Social anxiety		Public speaking anxiety	
	Speech	Viewing	Speech	Viewing
Proportion of fixations on faces	-.030	-.086	-.304*	-.335*
Total fixation time on faces	-.028	-.146	-.303*	-.380**

\*  $p < .05$ , \*\*  $p < .01$

*Table 1. Correlations of the proportion of fixations on faces and the total fixation time on faces with social anxiety and public speaking anxiety in the speech condition and the viewing condition.*

### **pap203-8.4 Parenting and Child Temperament on Anxiety among Toddlers: Mediating Role of Attachment**

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Anxiety problems are frequently seen in early childhood; and parenting and child temperament characteristics are the two of the factors related to anxiety in especially toddlerhood (Lindhout, Markus, Hoogendijk, & Boer, 2009). Current study aimed to investigate the role of maternal overprotectiveness and emotional warmth as parenting; and behavioral inhibition and negative emotionality as temperamental characteristics on children's anxiety. Also, the mediating roles of mother-child secure and ambivalent attachment types were examined. 100 children (18-36 months of age) and their mothers participated in this study. 1-hour semi-structured observations were made through home visits. Observations were videotaped. Anxiety problems were assessed by using anxiety-related subdomains of Brief version of Infant-Toddler Social and Emotional Assessment (BITSEA; Briggs-Gowan, & Carter, 2006); parenting dimensions were assessed through related subdomains of Parents Attitude Scale (PAS; Baumrind, 1966). Also, Early Childhood Behavior Questionnaire (ECBQ; Putnam, Gartstein & Rothbart, 2006) was filled by mothers to measure temperamental characteristics of children. After the whole home visit observation, Turkish version of Toddler Attachment Q-Sort 60 was coded by two researchers and interrater reliabilities were checked.

Results revealed that, as expected, maternal overprotectiveness ( $\beta = .34$ ,  $t = 4.10$ ,  $p < .001$ ), behavioral inhibition ( $\beta = .40$ ,  $t = 4.55$ ,  $p < .001$ ), and negative emotionality ( $\beta = .19$ ,  $t = 2.20$ ,  $p < .05$ ) positively predicted children's anxiety problems. According to the results of mediation analyses through the INDIRECT macro (Hayes, 2013), ambivalent attachment mediated the links between maternal overprotectiveness (boot = .0674, SE = .0456), behavioral inhibition (boot = .0318, SE = .0183) and anxiety problems. The findings of this study are quite important in terms of focusing on such an early age group considering the anxiety problems in relation with maternal overprotectiveness and temperamental characteristics by also showing the mediating role of ambivalent attachment in that link.

### **pap203-8.5 Creativity and anxiety developmental trend and interrelationships in school-age children**

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**Aim:** The main aim of our study was to assess creativity trend during primary school years, with a clear expectation for a negative peak around the age of 8 (Torrance, 1968; Darvishi e Pakdaman, 2014). A second critical goal was to investigate the correlation between creativity and anxiety, supposing a direct association. **Method:** We assessed 384 children (189 boys) aged between 7 and 11 years (mean=8,63; sd=1,16) attending six primary schools in Northern Italy. Children were administered Incompleted Figures sub test of TTCT assessing four factor of creativity: Fluency, Flexibility, Originality and Elaboration, the RCMA-II evaluating a global measure of Anxiety and five sub dimensions: Physiological Anxiety, Worry, Social Anxiety and Defensiveness and The Colored Progressive Matrices, as a measure of fluid intelligence and logical reasoning. **Results:** The results suggest that during primary school, while the scores of Fluid Intelligence and Elaboration increase, the scores of Originality gradually decrease. Concerning our second aim, we detect a more stressful condition for creative children: we found a positive correlation of Originality with all the anxiety scales. This condition was supported by the results of the ANOVA, dividing the subjects in three groups according to their anxiety level (low, medium, high): high levels of Anxiety are related to high scores of Originality and Fluency. **Conclusions:** These results, besides opening the way for further investigation of the relationship among creativity and anxiety at school, also stimulate a deeper reflection about which role the educational system should have in fostering or inhibiting the development of creativity and promoting pupils' wellbeing.

### **pap203-8.6 Effect of the video game Mindlight on anxiety in children with ASD**

Lieke Wijnhoven, Daan Creemers, Rutger Engels, Isabela Granic

*Radboud University/GGZ Oost Brabant, Netherlands*

In the clinical setting, a large proportion of children with an autism spectrum disorder (ASD) experience anxiety symptoms. Because anxiety is an important cause of impairment for children with an ASD, it is necessary that effective anxiety interventions are implemented for these children. Recently, a serious game called Mindlight has been developed that is focused on decreasing anxiety in children. This approach is based on recent research suggesting that video games might be suitable as an intervention vehicle to enhance mental health in children. The present study involved a randomized controlled trial (RCT) with two conditions (experimental versus control), in which it was investigated whether Mindlight was effective in decreasing (sub)clinical anxiety symptoms in children with an ASD (see study protocol: Wijnhoven, Creemers, Engels, & Granic, 2015). For this study, children of 8-16 years old with a diagnosis of an ASD and (sub)clinical anxiety symptoms were randomly assigned to the experimental (N = 58) or the control (N = 63) condition. Children in the experimental condition played Mindlight for one hour per week, for six consecutive weeks. Children in the control condition played the puzzle game Triple Town, also for one hour per week and for six consecutive weeks. All children completed assessments at baseline, post-intervention and 3-months follow-up. Furthermore, parents and teachers also completed assessments at the same time points. If Mindlight turns out to be effective, it could be an important contribution to the already existing interventions for anxiety in children with an ASD. Mindlight could then be implemented as an evidence-based treatment for anxiety symptoms in children with an ASD in mental health institutes and special education schools. The last 3-months follow-ups will take place in April 2017. Therefore, the results of this RCT can be presented during the European Conference on Developmental Psychology 2017.

**pap203-9.1 The role of close friendships in individual empathic abilities**

Miriam Hollarek

*Free University of Amsterdam, Netherlands*

Social scientists have studied the structure of our social networks extensively. In order to navigate these complex networks we need well developed social cognitive abilities. This study examined how the nature and strength of our social networks relate to individual social cognitive abilities. We used methods of social network analysis and combined these with research on mentalizing processes. Social networks were formed based on peer nominations in school classes. Data were collected in 328 adolescents (age 12 to 17) assessing the nature and strength of their relationships within their own school classes. Participants were asked to select their friends within their class and rate their relationship. All participants also completed a battery of questionnaires measuring self-reported empathy and perspective taking abilities. Applying Social network analysis, we calculated scores to measure closeness and intimacy within the peer group of each participant. These scores were then related to individual scores on empathy and perspective taking skills using multilevel modeling. Results suggested a relationship between the closeness and strength of one's social network and self-reported mentalizing abilities. The study highlights the importance to consider the role of the social context in the nature and development of social cognition.

**pap203-9.2 Adolescents' empathy and relationship quality with parents and peers: A meta-analysis**

Savannah Boele, Jolien van der Graaff, Minet de Wied, Inge van der Valk, Elisabetta Crocetti, Susan Branje  
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During adolescence, empathic abilities are still expected to increase, and parents are seen as important socialization agents. Warm and supportive parents serve as role models, as they consider their children's perspective and show concern for their children's emotions. However, empirical findings of the association between adolescents' empathy and parent-child relationship quality show some inconsistencies. As peers become increasingly important, we also have to consider the role of peers. Intimacy and support increases in peer relationships during adolescence. Thus, empathic abilities become more important in interpersonal experiences with peers, and socialization in the peer relationship may also occur. Therefore, we question whether peers might be more involved in adolescents' empathy than parents. This remains unclear, as studies often focused on either the parent-child or peer relationship, and measured relationship quality with a variety of constructs (e.g., warmth, support, and conflict). Hence, this meta-analysis aimed to provide more clarity into the association between empathy and relationship quality with parents and peers throughout adolescence. We searched for relevant primary studies in the following electronic databases: Eric, PsycINFO, PsycARTICLES, Psychology and Behavioral Sciences Collection, and Social Sciences Citation index. Studies were considered eligible when they examined global relationship quality, or indicators of positive (i.e., warmth and support) or negative features (i.e., conflict and antagonism). Peers include friends, romantic partners, and siblings. Moreover, studies were included when adolescents were between 10 and 20 years old. We adopted a multilevel approach that allows for including multiple effect sizes of one study while controlling for their dependency. The database search resulted in 874 unique studies, of which approximately 50 studies were included in the meta-analysis. Mean effect sizes and relevant moderators (e.g., age, gender, and type of empathic response) will be presented. Implications of findings, and suggestions for future research, will be discussed.

### **pap203-9.3 Emotion regulation in infancy influences the development of empathy**

Malou M.P.G. Noten, Kristiaan, B. van der Heijden, Stephan, C.J. Huijbregts, Stephanie, H.M. van Goozen, Hanna Swaab  
*Leiden University, Netherlands*

**Aim:** Although early emotion regulation is theorised to be important in the development of empathy, research on the contribution of different components of emotion regulation as early predictors of empathy is scarce. This study examined whether emotion regulation in 134 infants at age 6 months predicted empathic behaviour at age 20 months. **Methods:** Emotion regulation during mild emotional challenge was measured at a behavioural (more struggle and self-soothing behaviour) and physiological level (increased heart rate (HR), decreased pre-ejection period (PEP), and decreased respiratory sinus arrhythmia (RSA)). **Results:** Stronger HR, PEP and RSA response to challenge at 6 months was related to self-oriented aspects of empathy at 20 months. Associations with other-oriented aspects of empathy were not significant, except for one significant positive association between HR and prosocial behaviour. Although behavioural regulation at 6 months also predicted empathy at 20 months, regression analyses indicated that physiological regulation predicted empathy over and above behavioural regulation. **Conclusions:** These findings demonstrate the important role of emotion regulation, in particular physiological regulation, in early empathy development.

### **pap203-9.4 Longitudinal Bidirectional Relations Between Empathy and Prosocial Behaviors in Early Adolescence**

Alexia Carrizales, Lyda Lannegrand  
*University of Bordeaux, France*

Research on empathy and prosocial behaviors in early adolescence is critical, since adolescence has been conceived as a transitional period, characterized not only by a number of physical and physiological changes but also by individual, social and contextual transitions (Rosenblum & Lewis, 2003). A large amount of empirical research has shown the beneficial role of prosocial behaviors for the actor and the target (Eisenberg, Fabes & Spinrad, 2006), and empathy has been proposed as a prerequisite that fosters prosocial behaviors (Batson & Powell, 2003; Michalik, 2007). Despite the importance of understanding empathy and prosocial behaviors, research on their development in early adolescence remains relatively scarce. The purpose of the present study was to investigate the longitudinal bidirectional relations between empathy and prosocial behaviors in adolescents from age 11 to 14. Additionally, we examined whether age and gender affect these relations. A total of 308 French adolescents (47% females) participated in a three-wave longitudinal study with annual assessments. They were 11-12 year-old at the first wave. At each wave, they completed questionnaires concerning their perceived empathy (BES; Jolliffe & Farrington, 2006) and prosocial behaviors (PBS; Caprara, et al., 2005).

In order to examine the bidirectional relations between prosocial behaviors and empathy, cross-lagged path analyses were performed in Mplus 7.3. In the first step, we tested a baseline model for the total sample, in which we estimated stability paths of empathy, of prosocial behaviors, and correlations between within-wave residuals empathy and prosocial behaviors. In subsequent models, cross-lagged paths were added to the baseline model to investigate whether it improved the overall fit of the total model. Our results demonstrated significant bidirectional relations between empathy and prosocial behaviors across time points. Moreover, we found paths differences according to age and gender. The implications for empathy and prosocial developmental theories and research are discussed.

### **pap203-9.5 Empathy, alliance and behaviour change in a forensic youth-psychiatric setting**

Minet de Wied

*Utrecht University, Netherlands*

Therapist empathy is thought to be an important factor in therapeutic alliance and treatment outcomes. Less is known about the role of client empathy in the therapeutic process. Reduced empathy is common in antisocial youth which may disrupt the therapeutic alliance and therefore also treatment outcomes. The current study examined (1) whether client empathy before treatment is associated with therapeutic alliance and behaviour change during treatment, (2) whether client empathy is subject to change during treatment, (3) whether such change relates to therapeutic alliance and behaviour change, and (4) whether therapist factors (empathy and personality) play a moderating role in a sample of male and female adolescents referred to a forensic psychiatric out-patient clinic in the Netherlands. In total 96 patients (70% males) participated in the study. Client and therapist empathy were assessed with the Basic Empathy Scale (BES), and Interpersonal Reactivity Index (IRI), both self-report questionnaire measures of affective and cognitive empathy. Therapeutic alliance was assessed by the therapist and client on visual analogue scales. The Outcome Rating Scale (ORS) and the Strengths and Difficulties Questionnaire (SDQ) were used to assess behaviour change. Preliminary results reveal significant associations between client empathy, therapeutic alliance and outcome measures. Implications for interventions across different clinical conditions will be discussed.

### **pap203-9.6 Development of Empathy and Prejudice in Adolescence: Between- and Within-Person Processes.**

Marta Miklikowska, Mattias Sjöberg

*Örebro University, Sweden*

Although research has shown the effects of empathy manipulations on prejudice, little is known about the longer-term relation between empathy and prejudice development, the direction of effects, and about the relative effects of cognitive and affective components of empathy on development of prejudice. In addition, the causal inferences and practical implications drawn from previous studies are uncertain, given that this research not separated the between- and within-person processes. Thus, this three-wave study of adolescents (N = 517) examined the longitudinal relation between youth empathic concern, perspective taking, and anti-immigrant attitudes on a between and within-person level. The standard cross-lagged model analysis of aggregated between- and within-person processes showed significant, bidirectional effects between empathic concern, perspective taking, and prejudice. The analysis of the within-person processes showed, however, that only perspective taking predicted within-person changes in adolescents' prejudice. No significant effects of empathic concern on within-person changes in prejudice or effects of prejudice on within-person changes in empathic concern or perspective taking were found. The analysis also showed a connection between empathic concern and prejudice on a between-person level. These results provide evidence for the effects of perspective taking on development of prejudice in adolescence. They also suggest that the link between empathic concern and prejudice can be explained by stable between-person differences rather than by processes operating within persons. The findings suggest that anti-prejudice programs might work more closely with adolescents' perspective-taking. The findings highlight the need for research to separate the between- and within-person processes.

**pap203-10.1 Children's theories about food, nutrition and physical activity**

Georgia Panagiotaki, Gavin Nobes, Gaby Tazzini  
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**Aim:** Childhood obesity is one of the most serious public health challenges of the 21st century. Studying children's health knowledge and practices is important for the design of effective educational interventions. This study explored the development of children's reasoning about nutrition and physical activity, and the relationship between them. It also tested the link between understanding and BMI, healthy eating and physical activity. We used the "theory theory" framework, according to which children construct domain-specific 'naïve theories' to explain and predict biological phenomena.

**Method:** We interviewed 141 7-13 year-olds and adults. Understanding was measured with two open-ended questionnaires about the purpose of eating/exercising, the effect of different amounts of food/exercise, and the effect of specific foods/activities. We measured participants' BMI as well as their dietary intake trends with a food frequency questionnaire. Participants also completed a 7-day physical activity diary.

Responses were coded into categories, and received scores, reflecting different levels of understanding: 1- Biological associationism (simple input-output relations between food/exercise and health); 2 - Naïve theory (reference to energy and vital force from food/exercise or analogy of the body as machine); and 3 - Physiological (scientific).

**Results:** There was a significant effect of age on children's understanding of nutrition and physical activity ( $ps < .001$ ): 10-12 year-olds performed better than 7-9 year-olds ( $ps < .01$ ). Adults were better than children of all age groups ( $ps < .001$ ). Nutrition and physical activity scores were associated, indicating that understanding of the two concepts follows a similar pattern. Analysis of the consistency of response types across questions supported the 'naïve theory' account. Participants' variety/frequency of healthy food was positively associated with interview scores: those with better understanding consumed healthier food.

The potential of developing interventions aimed at improving children's knowledge and long term health behaviours will be discussed.

**pap203-10.2 Tuning into colour: what infant colour perception tells us about perceptual development**

Alice Skelton, Gemma Catchpole, Joshua Abbot, Jenny Bosten, Anna Franklin  
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**Aim:** Perceptual development is the result of both low-level sensory processes and experience related factors (e.g, Timeo et al, 2017). Here we present two studies of infant colour perception which provide insight into how low-level processes (i.e. early sensory encoding of colour) and experience (i.e. the chromatic environment) contribute to the development of colour perception. **Methods:** In study 1, the relationship of infants' sensitivity to colour and the distribution of colours in natural scenes was investigated by measuring colour discrimination thresholds of infants (4-6 months, N=42) and adults (N=15) by recording eye-movements on a chromatic target detection task. In study 2, the underlying mechanisms of infant colour categorisation were investigated using a novelty preference procedure (4-6 months, N=179). **Results:** In study 1, infants' sensitivity to hue was poorer for blue and yellow hues than others around the hue circle and was 'tuned' to the distribution of colours in natural scenes, yet less so than in adults. In study 2, the pattern of novelty preference across hues indicated that infants divide the colour spectrum into five categories, and four of these categories relate to the colour processing pathways of the retina and lateral geniculate nucleus. **Conclusions:** Infant colour discrimination and categorisation reveals both the contribution of low-level processes and experience related mechanisms. We more broadly discuss the extent to which studies on infant colour perception inform theories of perceptual development. Funded by European Research Council funded project ('CATEGORIES', 283605) to AF.

### **pap203-10.3 Neonatal imitation depends on the time window used for analysis**

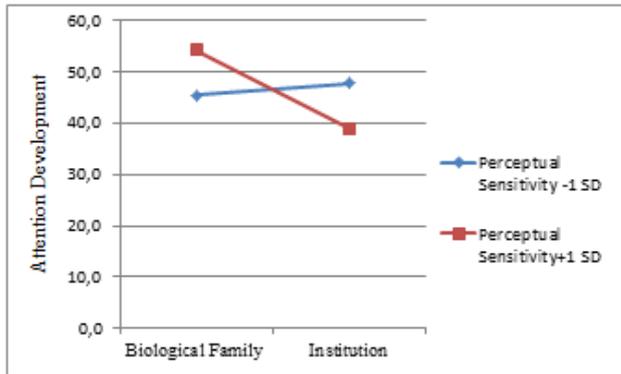
Mikael Heimann, Tomas Tjus  
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The observation that neonates sometimes seem to imitate facial gestures has led to a considerable debate within developmental psychology. Is what we observe really imitation or can the observations be explained otherwise? Those interpreting the evidence in favor of neonatal imitation often evoke a supramodal matching mechanism based on mirror neurons as an explanation to the infants' capacity. In contrast, those opposed to the idea of an early imitative capacity have suggested that what looks like an imitative response is better explained as arousal, an innate releasing mechanism, a coincidental match or plainly as an artifact. These issues will be addressed anew based on observations of 33 newborn children (mean age: 47 hrs) observed for imitation of tongue protrusion and mouth opening. The method mimicked the procedure used by Meltzoff and Moore (1983), thus the stimuli was presented dynamically 3 x 20s interwoven with 3 x 20s long response periods when the presenter kept a still face. Imitation of tongue protrusion was evident immediately whereas mouth opening showed a protracted response, it took the infant 60 seconds to display an imitative response. Individual analysis showed that not all infants imitated both gestures but only four children consistently failed to imitate any of the gestures. Children were as likely to imitate when the stimuli was presented dynamically as during the response periods when the presenter kept a still face. The study provides renewed support for neonatal imitation but also complicates the picture. Imitation depends partly on the time window used in the analysis and also on the gesture presented. Infants reacted much faster to a presentation of tongue protrusion than to mouth opening. Finally, our findings underscore, as several has done before us (e.g. Simpson et al., 2014) that already neonates differ in the proneness to display imitation-like responses.

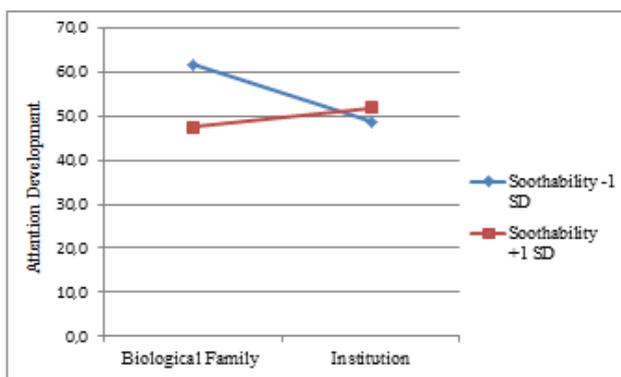
### **pap203-10.4 Attention Skills of Institutional Infants: Turkish Care Type Study**

Zeynep Ertekin, Sibel Kazak Berument  
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The first aim of the current study was to compare attention skills of infants in institutional care to the infants reared by their biological family. The second aim was to examine unique and moderator effect of temperament on attention skills of infants. A total of 128 infants aged between 6 to 15 months participated in the study (institution= 72; family=56). Attention skills of infants was measured with the Clearfield & Jedd,'s (2013) attention task. Perceptual sensitivity, soothability, and reactivity were measured as temperamental characteristics by Infant Behavior Questionnaire (Gartstein & Rothbart,2003) completed by caregivers or mothers of the infants. The attention task was administered to the infants by trained research assistants. According to preliminary analysis with the Multiple Hierarchical Regression, the interaction between perceptual sensitivity and group was significant ( $R^2 = .092$ ,  $F(1, 120) = 1.74$ ,  $p < .05$ ). Slope analysis showed that when the perceptual sensitivity was high, institutionally cared infants had lower attention scores compared to family reared group ( $\beta = -15.247$ ,  $p < .05$ ). However, there was no group difference when the infants had a low perceptual sensitivity (see Figure 1). The interaction between soothability and group was also found to be significant ( $R^2 = .05$ ,  $F(1, 120) = 1.35$ ,  $p < .05$ ). Slope analysis revealed that infants with low soothability had better attention scores if they were raised in the family environment compared to institutions ( $\beta = -13.22$ ,  $p < .05$ ). There was no group difference for the highly soothable infants (see Figure 2). This study is important in terms of being the first study to test attention skills of infants in institutional care, as well as considering the role of individual factors like temperament. Results will be discussed in terms of differential susceptibility theory.



**Figure 1: Interaction between care types and perceptual sensitivity in predicting attention scores of infants.**



**Figure 1: Interaction between care types and soothability in predicting attention scores of infants.**

*Figure 1: Interaction between care types and temperament in predicting attention scores of infants.*

### **pap203-10.5 An observational study looking at the developmental mechanism for learning action sequences**

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In developmental psychology, the acquisition of natural action sequences is central to imitation, planning and ritual behavior. However, few studies have examined how young children learn action sequences. Loucks, Mutschler, & Meltzoff (2016) suggested that in imitating action sequences, 3-year-olds tend to gain from spatially grouped demonstration. We aimed to explore whether 3-year-olds acquired action sequences by segmenting the action streams using the observational method.

Twelve 3-year-olds participated in our study. We observed the setting of “morning preparation” in preschool at four time points every two weeks. Table 1 indicated the event sequences of “morning preparation”. We coded each action by the three measures; whether an action was initiated by children or by their teacher, the order in which an action was performed, and the time it took for beginning a next action after finishing the previous action.

We compared the degree of starting an action by children with starting the following action at each time point. Table 1 indicated that “fetching a hanger” was more prompted by their teacher than the following action (e.g., undoing a smock’s button) at Time 1 and Time 2 (Time 1:  $Z = 2.00$ ,  $p = .046$ , Time 2:  $Z = 2.65$ ,  $p = .008$ ). Moreover, the time taken for starting “fetching a hanger” was longer than the time it took for the following action ( $Z = 2.65$ ,  $p = .008$ ). Looking at the number of order errors, children segmented the actions into two groups with “fetching the hanger” as the interval, in which the children skipped actions within the group but not between the two groups.

These findings suggest that 3-year-olds learn “morning preparation” sequences by segmenting action stream in a bottom-up manner, because fetching the hanger did not require returning to the desk whereas the rest of the actions did require preparations at the desk.

Table 1. The percentage of starting an action spontaneously by children at each time point.

	Time 1	Time 2	Time 3	Time 4		
1. Put the bag on the desk	.17	.33	<	.83	1.00	
2. Take out the attendance sheet of the bag	.58	.67	<	1.00	.92	
3. Tie the bag's shoulder strap	.00	<	.42	<	.83	1.00
4. Put the bag on the shelf	.33	.67	.83		.92	
5. Put the attendance sheet on the shelf	.00	<	.33	<	.75	.92
7. Tie the water bottle's strap	.50	.67	.75		.92	
8. Put the water bottle in a basket	.25	<	.75	.92	1.00	
9. Fetch the hanger	.00	.25	<	.67	<	1.00
10. Undo the smock's button	.50	.83	.83		.92	
11. Put the pocket tissue in the smock	.25	.58	<	1.00	.92	
12. Wear the smock	.17	<<	.75	1.00	.92	
13. Fix the collar	.00	.08	<<	.67	.67	
14. Put sticker on the attendance	.25	<	.58	.92	.92	
15. Put the attendance sheet on th	.42	.75	.92		1.00	

Note 1. The percentage represents the rate of the number of children who began an action spontaneously,  $n = 12$

Note 2. The number before each action represents the order in which children are instructed to perform in the Japanese kindergarten of this study.

Note 3. "<" indicated the significance  $p < .05$ , "<<" indicated the significance  $p < .01$ .

Table 1: This figure is inserted between method and result and represents the percentage of starting an action spontaneously by children at each time point.

## pap203-10.6 Longitudinal predictors of executive attention from infancy to early childhood

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Executive attention (EA) refers to a set of mechanisms involved in the voluntary control of goal-directed actions. The first signs of attention control are shown over orientation of attention and are observable from about the second half of the first year of life. Infants are able to disengage attention from an object in order to explore a different object, or to move attention to a location where they expect that something of interest is about to appear. We conducted a longitudinal study aimed at tracing the early development of EA. The study initially involved the participation of 111 infants, whose attention skills were measured in three waves of data collection: 9-12 (W1), 16-18 (W2), and 36-40 (W4) months of age. At W1 we used two different eyetracking tasks taxing attention shifting and disengagement mechanisms. We also used as a measure of endogenous control of attention at W2: the proportion of correct gaze anticipations in a visual sequence learning-task. By 3 years of age (W3, children performed two different conflict tasks (spatial conflict task and flanker task) largely used to measure EA in developmental studies. Results reveal important individual differences in the early development of attention skills that are predictive of later performance on EA tasks. Children who showed better EA skills during infancy and toddlerhood resolved cognitive conflict more efficiently by three years of age. We discuss our results in terms of the importance of designing early measures of attention skills that may act as marker tasks of EA in infancy and toddlerhood, which can be of great help for the early detection of risk of developmental disorders involving EA deficits.

**pap203-11.1 Students' agency as a factor of using psychological resources in educational crises**

Elena Leonova

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**Objectives.** This study explores the general criteria of agency (according to K.A. Abulkhanova) - readiness and capacity to use one's abilities, personal qualities, mental capabilities and skills to solve problems. We have focused on the issue of students' agency during the period of age crisis and crisis of adaptation to next educational level.

**Method.** We used the method of expert assessments and the following psychological tests: Purpose in Life Test (J.S. Crumbaugh, L.T. Maholick; Russian version of D.A. Leontyev), CPQ, HSPQ, 16PF Questionnaire (R.B. Cattell et. al.; Russian version of IMATON), Professional Motives Questionnaire (V.N. Abramova), Personal Orientation Inventory (E. Shostrom; Russian version of N. Kalina), Torrance Tests of Creative Thinking, Raven Progressive Matrices test (RPM). Data were collected from 216 pupils and 167 university students. The Statistica v.13 software program was used for computations. By using the k-means method of cluster analysis, each category of students was divided into clusters with similar agency indicators.

**Results.** Adaptation criteria (information, behavioral and affective) were defined in accordance with B.F. Lomov's systemic approach. Regression models of adaptation and disadaptation of students were developed. General, age and individual psychological factors of educational crises successful overcoming (by first-graders, fifth-graders, tenth-graders and freshmen) were defined.

**Conclusion.** It was proven that high level of agency indicators (personal qualities, motives, values) – are the psychological factors of educational crises successful overcoming for all categories of students. Age-specific students' agency (as a result of resolution age crisis) were determined. It is proven that pupils and students, who adapted in new educational environment successfully, have high levels of life meaningfulness and the desire for self-actualization. Overall, the results suggest that agency is an important factor of educational crises' overcoming.

The study was supported by the Russian Foundation for Humanities, project 16-16-40008.

**pap203-11.3 Mental health and school absenteeism in adolescence**

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*Uni Research Health, Norway*

**Aims:** To investigate the link between mental health, sleep duration and school attendance in a large population based study of older adolescents.

**Methods:** A large population-based study from Norway conducted in 2012, the youth@hordaland study, surveyed 8,347 adolescents aged 16–19 years (54% girls). Mental health was assessed by self-reported depressive symptoms by the Short Moods and Feelings Questionnaire (SMFQ) and symptoms of hyperactivity and inattention by the Adult Self report Scale (ASRS). Sleep duration was assessed by self-report. The survey was linked with objective outcome data on school attendance.

**Results:** After adjusting for sociodemographic variables, depression (OR= 1.92, CI 95%, 1.5-2.37), inattention (OR=2.23, CI 95% 1.84-2.69) and hyperactivity (OR=1.62, CI 95% 1.32-1.99) was significantly associated with school absence. Inattention and depression had an independent associations with school absence after accounting for co-occurring problems. The associations were reduced after additional adjustment for sleep duration, and only inattention was still significantly after additional adjustment for sleep duration (OR 1.61, CI 95% 1,29-2.02)

**Conclusion:** Mental health problems are associated with school attendance, and are partly accounted for by co-occurring problems and sleep duration. Targeting a broad range of mental health problems and sleep in adolescence may be important to improve school attendance and completion.

#### **pap203-11.4 High School And University Students' Attitudes Towards Older People**

Gamze Er Vargün, Cansu Sünbül  
*Mersin University, Turkey*

**Aim:** The aim of this study was to examine the relationships between high school and university students' attitudes towards older people and the quality and quantity of their relations' with older people.

**Method:** This study was conducted with two hundred and fifty eight high school (102) and university (156) students who were between the ages of 14 and 27. Students were asked to complete a number of questionnaires including ageism attitude scale, quantity and quality of contact with older people scale and personal information form.

**Results:** The results of the analyses indicated that high school students had more positive attitude towards older people than university students. Secondly, female students had less negative attitude towards older people than male students. Thirdly, positive attitude towards older people was predicted by both quantity and quality of contact. Finally, quality of contact with older people significantly and negatively predicted negative attitude toward older people.

**Conclusion:** The results suggest that male students have more negative attitude towards older people and quantity and quality of contact are important factors for attitudes toward older people.

#### **pap203-11.5 Teachers' Beliefs and Responses to Socially Withdrawn Behaviors: Does Teacher's Efficacy Matter?**

Özge Metin Arslan, Sevgi Bayram Özdemir  
*Hacettepe University, Turkey*

Teachers' beliefs and attitudes towards withdrawn behaviors have important implications for children's academic and social development (Coplan et al., 2011). However, not every teacher reacts to children's withdrawn behaviors in the same way. Teacher's confidence on their skills and abilities may determine how they perceive and react to children's non-social behaviors. In this study, we examined whether teachers' efficacy beliefs play a role on their reactions to preschool children's engagement in withdrawn behaviors (i.e., shyness and unsociability).

Turkish early childhood teachers (N = 192) were presented two hypothetical vignettes depicting preschool-age children's engagement in withdrawn behaviors in peer settings. Following each vignette, teachers responded to a series of questions measuring their emotional reactions, attitudes, intervention strategies, and their beliefs on the implications of depicted behavior on children's academic and social development (Arbeau & Coplan, 2007). We used the Teachers' Sense of Efficacy scale to measure teachers' classroom management efficacy (Tschannen-Moran & Woolfolk, 2005).

Teachers, especially those with low efficacy, responded to shyness with more negative emotions compared to unsociable behaviors. They felt more anxious and upset in response to children's display of shy behaviors. Teachers also showed variations on how they intervened with withdrawn behaviors depending on their efficacy level. Those with high efficacy suggested more direct (e.g., intervening to stop the behavior) and indirect strategies (e.g., monitoring child behavior; contacting with school psychologist) to intervene with withdrawn behaviors, especially shyness. In contrast, teachers with low efficacy reported that they would do nothing to intervene. Regardless of their efficacy, all teachers perceived shy behaviors as more problematic for the social and academic development of children. Together, these findings suggest that teachers' efficacy plays critical role on how they perceive and approach to withdrawn behaviors in the preschool settings. Implications of these findings will be discussed within early-childhood context in Turkey.

## **pap203-11.6 Dropout intentions in undergraduate students: The influence of motivation and perceived competence**

Laura Girelli, Mauro Cozzolino  
*University of Salerno, Italy*

**Aim.** The purpose of this study was to provide a better understanding of undergraduate students persistence and academic success in the first year of higher education, by developing and validating a predictive model of dropout intentions. Based on self-determination theory (SDT), the model posits that perceived autonomous forms of motivation decreases dropout intentions and increases academic success and that autonomous motivation is explained by perceived autonomy support from parents and perceived competence.

**Method.** A two-wave prespective design was adopted. Three groups of freshman from three different courses of the same department at an Italian university (total N = 388; 73,5% females, M age 21.38 years  $\pm$  4.84) completed measures of perceived autonomy support, perceived competence, self-regulated motivation and intention to drop out from university at the start of the academic year. Gender, students' prior education and grades, and socioeconomic background were also measured. At the end of the first semester, information about number of course modules passed, total of credits attained and exams' grades of each student, were collected from the department office and matched with the data collected in the first wave by an identification number.

**Results.** The findings of the study support the proposed model for the three courses. Specifically, autonomous motivation appears to predict academic persistence (dropout intention) and academic success. Perceived autonomy support from parents and perceived competence predicted autonomous motivation. These effects remain even after controlling for the influence of background variables. Differences between the three courses are also shown.

**Conclusion.** According to our findings, in order to prevent freshman students from developing dropout intentions and subsequently leaving their course, interventions should aim to foster autonomous motivation and perceived competence

## **pap203-11.7 Screen time use and self-regulation in young children**

Roma Jusienė, Alina Syrnickytė  
*Vilnius University Faculty of Philosophy, Lithuania*

**Aim:** Television, computer, and other forms of screen media are more and more common free-time activities among children. Despite warnings of mental and physical health professionals, age of screen time use becomes younger and screen time duration longer. The aim of this longitudinal study is to analyse associations between screen time in toddlers and self-regulatory abilities of the same children in preschool age. Parental education was taken into account as the presumable moderating factor.

**Methods:** Complete data of 81 child born in 2009 (37 girls and 44 boys) participating in longitudinal study are analysed. At children's age two and three years old their mothers reported screen time use. At age four years self-regulatory abilities were tested with the tasks adapted from Kochanska et al. (1996), McCabe et al. (2004), Fagot and Gauvain (1997). Mean scores of two tasks measuring delay of gratification were defined as hot regulation, and mean scores of four tasks measuring motor and cognitive control and planning were defined as cool regulation.

**Results:** Screen time use does not differ in girls and boys. Parental education was related to hot and cool regulation as well as to screen time duration. Screen time use at age two and three years old was related to hot self-regulation ( $p < 0.01$ ) and cool self-regulation ( $p < 0.05$ ). The regression revealed that screen time in toddlerhood significantly adds to delay of gratification at age four years old. Whereas cool regulation is better predicted by parental education, not the screen time.

**Conclusions:** Screen time use in young children can have negative effects on their delay of gratification, which in turns is significant for the child's emotional and behavioral problems in everyday life. These preliminary results are in further examination with the larger sample and with taking into account the content of media use.

## Presidential address, Thursday August 31, 18:00 – 18:45 hrs.

### Presidential address Translating knowledge into interventions: An ‘individual by context’ approach to bullying

Ersilia Menesini

*University of Florence, Italy*

Bullying affects a considerable number of children and adolescents, with serious consequences for school performance, health and emotional well-being. Most studies have highlighted that social and individual factors can explain bullying problems. From a developmental point of view, a promising approach is the individual by context approach, which implies that social contexts can either attenuate or exacerbate (i.e., moderate) the effect of individual characteristics on bullying behaviour. The focus on moderators can help with specificity and precision to understand the factors underlying the process and to influence them through intervention. Within this interactional framework, I will present some recent and ongoing studies from my lab, which lie at the intersection between two research areas, bullying and translational research. Specifically, I will review studies that show how the relation between individual vulnerability and bullying is moderated by class norms, peer behaviours and teacher interventions. Following these results, I will present: 1) studies evaluating interventions which aim to change peer behaviours and class norms; 2) studies investigating the circumstances under which an intervention may work or not; and 3) studies focusing on the effectiveness of an intervention on different subject types and groups. Finally, future directions for bullying research and interventions will be discussed within a framework of risk and resilience across development.

## Friday September 1

### Keynote 4, Friday September 1, 08:30 – 09:15 hrs.

key04 The development of moral and social judgments: Coordination in decision-making, social inequalities, and resistance

Elliot Turiel

*Graduate School of Education at the University of California, United States*

Research demonstrates that moral and social development involves the formation of distinct domains of thinking through children's reciprocal interactions in a multi-faceted social world. Variety in the social environment includes heterogeneity in cultural practices. Children (and others) think, reason, reflect, and make emotional evaluative appraisals about social interactions and morality in social relationships. Two bodies of research extend a domain approach to moral and social development, and their relations to cultural practices. One is on decision-making that involves coordination of different considerations within the moral domain and between morality and other social domains. Coordination involves weighing and balancing different goals and drawing priorities. A second body of research is on opposition and resistance to cultural practices of inequality in power, status, and entitlements framed by social hierarchies. To understand how individuals relate to practices of inequality in social hierarchies it is necessary to also examine the perspectives of those subjected to inequalities, who it has been found are critical of many cultural practices they judge to be unfair. Cultural comparisons need to examine patterns of similarities between groups in like positions in different cultures (e.g., lower in the hierarchy) and differences between groups in different positions in the same culture.

## Symposium sessions 301, Friday September 1, 09:30 – 11:00 hrs.

### isym301-1.1 The dynamics of psychological processes: When intensive longitudinal data meet state-of-the-art statistical modeling

Ellen Hamaker, Chair  
*Utrecht University, Netherlands*

Psychological researchers have always been interested in the dynamics of processes, that is, the ways in which internal and external forces influence the course of a particular phenomenon. However, the opportunities to study such dynamics were rather limited, due to a lack of appropriate data and statistical techniques. Fortunately, this has started to change as the result of recent technological developments, and we are now witnessing a rapid increase in the number of studies that make use of intensive longitudinal data, such as obtained with ambulatory assessments, experience sampling, ecological momentary assessments, and daily diaries. The three presentations in this symposium focus on different ways in which these data can be analyzed, allowing us to exploit the unique opportunities these data have to offer.

#### isym301-1.1.1 An introduction to dynamic structural equation modeling (DSEM)

Ellen Hamaker  
*Utrecht University, Netherlands*

Dynamic structural equation modeling (DSEM) is a newly emerging class of techniques that combines time series analysis with multilevel modeling. The time series model is used to model the dynamics of intensive longitudinal data from a single person, and informs us about the lagged relationships between variables within a person. For instance, we may investigate whether rumination precedes stress or vice versa. At the second level, we can allow for individual differences in these dynamics, such that for instance some individuals are characterized by stronger lagged relationships than others. Furthermore, such individual differences in moment-to-moment dynamics at a microlevel time-scale may then be meaningfully related to stable between person differences. For instance, these differences may be explained by certain person characteristics (i.e., level two predictors), such as neuroticism or gender. Moreover, the individual differences in moment-to-moment dynamics can also be used to explain subsequent relatively stable person characteristics (e.g., later levels of depression). In this presentation, I will present an empirical example of such a model using Mplus. Furthermore, I will discuss some alternative options that DSEM includes and that provide unique insights into the structure and dynamics of intensive longitudinal data.

#### isym301-1.1.2 Studying the real-time motor that drives developmental change: Applications from the Tilburg Experience Sampling Center

Loes Keijsers, Angelique Cramer, Eeske van Roekel  
*Tilburg University, Netherlands*

Smartphones and wearables have become an integral part of our daily lives. Whether it is our moods swings, movements - or the lack thereof -, social interactions and conflicts: Each of these daily experiences can be measured in real-time. This so-called Experience Sampling method may help to understand the mechanisms associated with leading a(n) healthy and happy life and may thus hold the key towards novel modifiable targets for therapeutic concepts and e-Health applications. In this contribution we will highlight three applications of novel methodological approaches in different areas of psychology. Firstly, we will present how network analyses of mood swings and activities have illuminated that each individual may have a unique network of symptoms of depression. Secondly, we will present our plans to use DSEM of parenting and adolescent adaption will to detect a person-specific family-dynamic and tailor parenting advice to the family's unique needs and strengths. Thirdly, we will provide an example of how Experience Sampling may open up possibilities to intervene in the moment for youths with loss of pleasure (anhedonia). Apart from sharing new

theoretical insights, we will also highlight the methodological decisions, considerations, and challenges with these novel methodologies.

### **isym301-1.1.3 An introduction to continuous time modeling**

Manuel C. Voelke

*Humboldt University, Germany*

The goal of this symposium workshop is to introduce participants to continuous time modeling. Continuous time models are dynamic models for the analysis of change that make optimal use of the time structure to infer the development and dynamic relationships among constructs of interest. The workshop is targeted to an audience of applied researchers in developmental psychology with an interest in quantitative methods and some prior experience in multivariate data analysis. After distinguishing between static and dynamic models for the analysis of change and a short discussion of their respective advantages and disadvantages, I will introduce the basics of continuous time modeling by means of SEM in a stepwise fashion. I will highlight the possibility to work with intensive longitudinal data, including the analysis of  $N = 1$  time-series (e.g., dynamic factor models) and panel models ( $T$  small,  $N$  large). Apart from a general introduction, special emphasis will be put on the practical implementation and interpretation of these models. To this end, I will introduce the R package `ctsem` for continuous time analysis.

Ayşe Altan Atalay, Discussant  
Koc University, Turkey

Self-regulation (SR) encompasses both emotion and behavior regulatory capacities, as well as executive functions (EFs; Zhou, Chen, & Main, 2011). SR is crucial for children's positive functioning throughout development and is susceptible to environmental influences, such as parenting (Fay-Stammach, Hawes, & Meredith, 2014). However, the effects of parental practices on SR do not operate equally across individuals, suggesting that the broader ecological system also plays an important role (Raver, Blair, & Willoughby, 2013). Yet, empirical investigations testing the interplay among parenting, SR, and sociocultural variables are still lacking (Li-Grining, 2012).

Drawing on samples from five different countries, this symposium brings together four presentations aimed to investigate the associations between parental influences and SR across different developmental periods and socio-cultural contexts. The studies involve both immigrant and non-immigrant children and are based on different methodological approaches.

Study 1 presents a longitudinal study which examines the mediating role of maternal sensitivity in the relation between maternal depression and young children's EFs in the US. Study 2 adopts a mixed-method design to test whether the association between maternal control and behavior regulation varies as a function of socio-economic status in school-aged children from Germany and Chile. Study 3 investigates whether positive parenting mediates the relation between socio-economic status and both hot and cool EFs in a sample of Turkish immigrant early adolescents in the Netherlands. Last, Study 4 explores whether the link between poor parental supervision and problem behaviors varies as a function of levels of EFs in a sample of Chinese immigrant and national non-immigrant preadolescents in Italy.

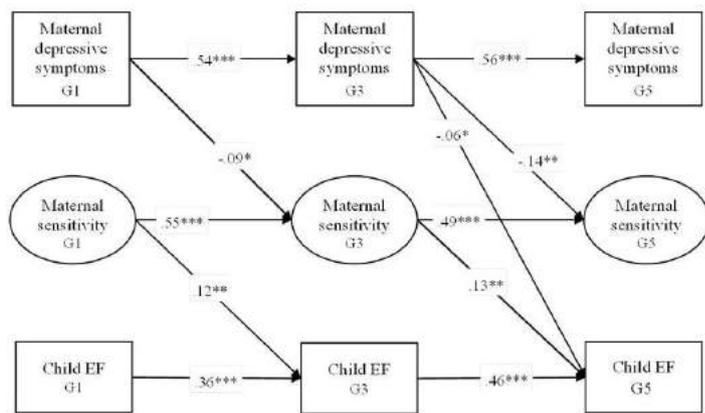
A leader in developmental and cross-cultural psychology will frame the discussion, integrating findings in light of the broader literature on the topic. Practical implications and promising future directions for the study of parenting and SR in socio-cultural context will be addressed.

### **sym301-2.1 Maternal depression and the development of executive function: mediation by maternal sensitivity**

Diana Miconi, Xin Feng, Seulki Ku  
Department of Human Sciences, The Ohio State University, United States

Executive function (EF) has been regarded as critical in adaptive functioning. EF undergoes rapid growth throughout early childhood and elementary school years, and its development is susceptible to childrearing environment. Several maternal parenting factors, including maternal sensitivity and autonomy support, as well as psychosocial factors such as depression, have been found to influence the development of EF. However, little is known about the pathways through which these maternal factors are linked to child EF. In the current study, we examined the mediating role of maternal sensitivity in the relation between maternal depressive symptoms and child EF, and whether the relations between maternal sensitivity and child EF were bidirectional. Participants were 1,364 mother-child dyads (659 girls), drawn from NICHD Study of Early Child Care and Youth Development. Data collected when children were at Grade 1 (G1), 3 (G3), and 5 (G5) were included. EF was assessed using the Tower of Hanoi task, and maternal depressive symptoms using the Center for Epidemiologic Studies Depression Scales. Maternal sensitivity was a latent construct with three indicators, supportive presence, respect for autonomy, and hostility (reversed), observed in mother-child play.

Data were analyzed in an autoregressive and cross-lagged SEM model, with maternal depressive symptoms and sensitivity predicting subsequent assessment of EF and EF predicting later maternal sensitivity. As shown in Figure 1, the model fit the data reasonably well. Maternal depressive symptoms at G1 and G3 predicted maternal sensitivity at G3 and G5 respectively, and maternal sensitivity at G1 and G3 predicted child EF at G3 and G5 respectively. However, earlier EF was not associated with later maternal sensitivity. The indirect effect of G1 maternal depressive symptoms to G3 maternal sensitivity to G5 child EF was significant ( $B = -.011$ ,  $SE = .005$ ,  $p = .035$ ). Results supported the mediating role of maternal sensitivity in connecting maternal depression and child EF.



Model fit:  
 $\chi^2 = 388.743$ ,  $df = 90$ ,  $p < .001$ ; CFI = .940; RMSEA = .059 (.053, .065)

Figure 1: Diagram of the SEM model. Only significant paths are shown in the figure. Child gender (not shown in the diagram) was controlled in the analysis, and it was only associated with maternal sensitivity at G3,  $\beta = .11$ ,  $p < .01$ , indicating that mothe

### sym301-2.2 Sociocultural influences on parenting and children's behavior regulation in Germany and Chile

Mirjam Deffaa, Mirjam Weis, Gisela Trommsdorff  
 University of Konstanz, Germany

The development of behavior regulation is of great importance for a child's successful adaptation to its environment. Contextual factors such as culture and social class influence the development of behavior regulation. Studies reported less behavior regulation in children of lower social classes compared to their peers of higher social classes. Past research suggested that the use of restrictive maternal control influences the relationship between social class and behavior regulation. Cross-cultural comparisons revealed differences between countries (e.g., Germany and Chile) in the use of restrictive maternal control and children's behavior regulation. However, intracultural differences regarding social class have rarely been considered.

The present study used a mixed-method design to investigate the importance of culture and social class for the relationship between restrictive maternal control and children's behavior regulation in Germany and Chile. Social class was measured by multiple sociodemographic risk-factors. 167 Chilean mothers and 109 German mothers completed questionnaires on parenting, sociodemographic risk, and their child's behavior regulation. Moreover, 14 focus groups were conducted in settings with high and low sociodemographic risk in Germany and Chile.

Results revealed a higher use of restrictive maternal control and lower behavior regulation of children in Chile than in Germany. However, a closer look at intracultural differences in sociodemographic risk uncovered that Chilean and German low-risk mothers did not differ in their use of restrictive maternal control. In the Chilean and German low-risk groups, children's behavior regulation was significantly higher than in the Chilean high-risk group. Likewise, Chilean and German low-risk mothers shared more assumptions about the development of behavior regulation than high-risk mothers from different countries and reported similar parenting strategies. Chilean high-risk mothers used significantly more restrictive maternal control than Chilean and German low-risk mothers. Qualitative data revealed insights into the challenges high-risk mothers and their children face within their sociocultural context.

### sym301-2.3 Family predictors of hot and cool executive functioning of Turkish minority preadolescents

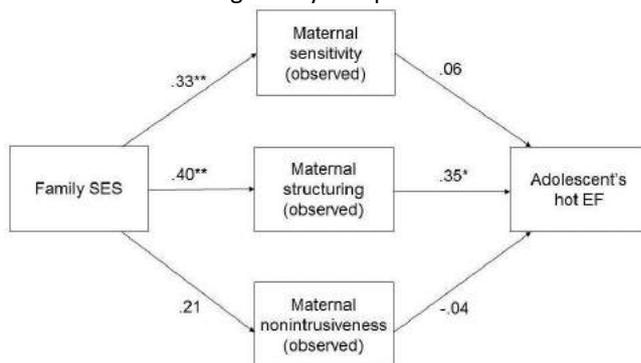
Rosanneke Emmen, Maike Malda, Nihal Yeniad, Mariëlle Prevoo, Judi Mesman  
*Leiden University, Netherlands*

Executive functioning (EF) refers to cognitive self-regulatory processes such as inhibitory control, cognitive flexibility, and working memory. When EF operates in a motivationally or emotionally significant situation, it is classified as a hot EF process, whereas in a neutral context it is classified as cool EF (Zelazo & Carlson, 2012). The Family Investment Model (FIM; Conger & Donnellan, 2007) provides a possible explanation for the positive relation between family socioeconomic status (SES) and child EF by explaining that higher SES fosters a positive child development through more and higher-quality family investments, such as parenting practices. The primary goal of the present study was to test whether positive parenting mediates the relation between SES and both cool and hot EF of Turkish ethnic minority preadolescents in the Netherlands.

The sample consisted of 72 Turkish minority mothers in the Netherlands and their 11- to 13-year-old children ( $M = 12.35$ ,  $SD = 0.44$ ). Mothers reported on family SES. The Emotional Availability Scales (Biringen, 2008) were used to measure observed positive parenting (sensitivity, structuring, and nonintrusiveness) during a seven-minute problem-solving task. Adolescents' frustration inhibition (hot EF) and cognitive flexibility (cool EF) were measured with a computer task.

Structural equation modelling showed that maternal structuring was a significant mediator in the relation between SES and adolescent's hot EF (Figure 1). Higher SES was related to more maternal structuring which was in turn related to more frustration inhibition (hot EF). SES and the observed positive parenting subscales were not related to adolescent's cool EF.

This study is one of the first that measured observed positive parenting in relation to both hot and cool EF of ethnic minority preadolescents. Interventions aimed at promoting positive parenting may foster a supportive family environment for socioeconomically disadvantaged ethnic minority adolescents, which in turn may enhance their self-regulatory competence.



$\chi^2(2) = 0.86$ ,  $p = .68$ ,  $NFI = .99$ ,  $CFI = 1.00$ ,  $RMSEA < .000$

Figure 2: Maternal structuring mediates the relation between SES and adolescent's hot executive functioning.

### sym301-2.4 Executive functions moderate the parenting-problem behavior link in Chinese immigrant early adolescents

Diana Miconi, Ughetta Moscardino, Gianmarco Altoè, Silvia Salcuni  
*Department of Developmental Psychology and Socialization, University of Padova, Italy*

Parenting is one of the most important proximal influences on youths' psychological adjustment, and the importance of parental supervision becomes particularly crucial at the entry into adolescence, when increasing time is spent with peers outside of home (Kim, Wang, Shen, & Hou, 2015). Mounting evidence suggests that self-regulatory abilities, such as executive functions (EFs), represent potential protective factors for the negative effect of inadequate parental supervision on problem behaviors (Zhou et al., 2012). However, the protective role of EFs in links between poor parental supervision and problem behaviors has yet to be explored in immigrant populations. This study aimed to examine whether the association between inadequate parental supervision and problem behaviors depends on levels of executive functions (i.e., working memory, inhibitory

control, cognitive flexibility). In addition, we tested if these associations vary as a function of ethnic background.

Participants were 97 Chinese immigrant and 165 non-immigrant Italian youths aged 11-13 years (52% girls) and their parents. A combination of self and parent-report questionnaires as well as computer tasks were used. We conducted a multiple linear regressions to test the hypothesized associations, adopting a model selection approach based on Akaike Information Criterion (Akaike, 1973).

Results indicated that a better working memory capacity was independently associated with fewer problems in both groups. Poor parental supervision was linked to increased problem behaviors, but only for preadolescents with low levels of inhibitory control. Contrary to expectations, among Chinese youth there was a positive association between poor parental supervision and problem behaviors at high levels of cognitive flexibility, and no association when levels of cognitive flexibility were low.

The findings underscore the importance of considering different components of EFs in explaining the relation between parenting and emotional and behavioral problems in early adolescence, and point to the need of situating cognitive functioning in socio-cultural context.

## sym301-3 Family relation and child development

Svetlana Savenysheva, Chair  
*Saint-Petersburg State University, Russia*  
Victoria Manukyan, Discussant  
*Saint Petersburg State University, Russia*

The symposium explored the role of family relationships for child development in the early stages of its development

Attitudes, attachment to the child begins to take shape in the prenatal period of its development. And in this period the parental attitudes are already playing an important role for the child development. The quality of the marital relationship is very important factor among the various factors that may affect the attitudes to the child. Therefore, in our symposium will be presented research devoted to studying the relation of marital satisfaction and relations to the fetus in both men and women.

In the infancy parent-child relationship develops in a real interaction. And great importance for the child's development it acquires in age crises. «One year old child's crisis» is one of the least studied of age crises. Therefore, a separate report will be devoted to the study of the relations between manifestations of the «one year old child's crisis», child mental development and characteristics of the family interaction.

At preschool age self-awareness, self-attitude, self-esteem begin to form in the child. And in this period the attitude of parents and their psychological characteristics play a meaningful role in their development. In this regard, a study devoted to the relation of child self-esteem and psychological well-being and parental attitudes of father will be presented.

### sym301-3.1 Paternal prenatal attachment and marital satisfaction

Svetlana Savenysheva, Evgenia Savina  
*Saint Petersburg State University, Russia*

Psychologists emphasize the great role of the maternal attachment for the child's development. While the paternal attachment in the early stages of child development, especially before childbirth, is insufficiently studied.

The aim of our study was to investigate correlation between the relationship to the fetus and marital satisfaction in fathers before childbirth. Hypothesis: Paternal prenatal attachment is determined by marital relationship.

Participants were 45 men living in St. Petersburg (Russia), aged 18 to 40 years, married. Gestational age of their wives: the average – 27,8 weeks.

Methods: Demographic questionnaire, Marriage satisfaction questionnaire (Y. Aleshina); Paternal antenatal attachment Scale (J. Condon), Questionnaire "Parental attitude research instrument" (E.S. Schaefer, R.Q. Bell), Projective method "Drawing the family", Color relationship test (examined attitudes to the concepts of: child, spouse, pregnancy, family).

Results.

Prenatal attachment in men is closely linked to marital satisfaction, men with higher levels of marital satisfaction demonstrate a higher level of prenatal attachment ( $p < 0.05$ ), and greater importance of pregnancy ( $p < 0.01$ ). Satisfaction with marriage is associated with parental attitudes: we found low level of attitude «Excessive emotional distance from the child" in men who satisfied with their marital relationship.

The analysis showed the importance of emotional intimacy with wife for the formation of an emotionally close relationship to the fetus ( $p < 0.01$ ). The perception of family relations as the conflict leads to the greater emotional distance from the child ( $p < 0.05$ ) and the lower value of the child ( $p < 0.05$ ).

Conclusion. The study confirmed the hypothesis that marital satisfaction is an important factor for the formation of prenatal attachment and positive attitude to the child in men before childbirth.

Research was supported by grant RSHF № 16-06-00392

### **sym301-3.2 Relationship to fetus and marital relation in pregnant women**

Evgenia Savina, Svetlana Savenysheva  
*Saint-Petersburg State University, Russia*

The type of the attitude toward pregnancy and the fetus that formed through the pregnancy are usually maintained and secured after child's birth. The quality of the marital relationship of women is essential for the formation of positive attitude towards the fetus.

The aim of our study was to investigate correlation between the relationship to the fetus and marital relations in pregnant women. Hypothesis: attitude to pregnancy and the fetus is determined by marital relationship of a pregnant woman.

Participants were 340 pregnant women living in St. Petersburg (Russia), aged 18 to 40 years, different in marital status. Gestational age: the average - 29 weeks.

Methods: Demographic questionnaire, Pregnant woman attitude test (I. Dobryakov); Marriage satisfaction questionnaire (Y. Aleshina); Projective method "Drawing the family", Projective method "Figures" (estimates 3 types of experience of pregnancy: adequate, anxious-ambivalent and ignoring/rejecting). Color relationship test (examined attitudes to the concepts of: child, spouse, pregnancy, family).

Results. We found that deviating types of relationship to pregnancy and child are less common at a high level of marital satisfaction ( $p < 0.01$ ). Women with higher levels of marital satisfaction characterized by a more adequate type of experiences of pregnancy ( $p < 0.01$ ), a large value of pregnancy ( $p < 0.001$ ), but also they characterized by euphoric type of attitude to pregnancy ( $p < 0.001$ ).

The analysis showed the importance of emotional intimacy with husband for the formation of an adequate type of parent relations ( $p < 0.01$ ) and emotionally close relationship to the child ( $p < 0.01$ ) in pregnant women.

The high value of the spouse of a pregnant woman can adversely affect her relationship to the child ( $p < 0.01$ ).

Conclusion. The study confirmed the hypothesis that positive marital relations are a factor in the formation of a positive attitude to pregnancy and child in pregnant women.

Research was supported by grant RHSF № 16-06-00392

### **sym301-3.3 Manifestations of the "one year old child's crisis" and family interaction**

Victoria Vasilenko, Yana Natalenko  
*Saint-Petersburg State University, Russia*

«One year old child's crisis» is one of the least studied of age crises. Present research aims to identify the relations between manifestations of the «one year old crisis», child mental development and characteristics of the family interaction.

The study involved 75 people (25 triad «mother-father-child») from Saint-Petersburg, the age of children - from 10 months to 1 year 11 months.

Methods used: questionnaire «Manifestations of the "one year old child's crisis"» by V.Vasilenko; Scales for assessing neuropsychological development of children under the age of 1 year by G.Pantyukhina, K.Pechora, E.Frucht and from 1 year to 3 years by N.Aksarina, K.Pechora, G.Pantyukhina; «Parent-child emotional interaction questionnaire» by E.Zakharova; Marriage satisfaction questionnaire by Y. Aleshina.

The study revealed that main constructive formation of crisis after 10 months is the appearance of autonomous child speech, negativistic manifestations were amplified after a year and a half. In general, the crisis is more pronounced in children after a year and a half. Mother's sensitivity to child, her ability to influence to the child's state combined with some "conditional love" from the fathers are important for the development of autonomous child speech and the emergence of motivating presentations. Less parent's sensitivity to the child and clear system of prohibition combined with increasing motor skills, interest to the surrounding objects and the appearance of a specific relationship of the child to walking. Negativistic symptoms of the crisis are less pronounced in the case of mother's ability to influence to the child's state. Marriage satisfaction in the fathers is positively correlated with father-child emotional interaction.

Thus, mother's sensitivity to child, ability to influence to the child's state combined with some "conditional love" from the fathers can be regarded as resources for the successful flow of the «one year old child's crisis».

Research was supported by RHSF №16-06-00392

### **sym301-3.4 Child self-esteem in connection with father's psychological well-being and parental attitudes**

Evgenia Troshikhina

*Saint Petersburg State University, Russia*

The aim of the present study was to examine the role of the father for the children's self-esteem (supported by RFN, project 16-06-00307a). It explored the quality of parental attitudes that leads to a healthy sense of self. Researchers suggest that high level of self-esteem indicates children in flourishing mental health. The parent's child-rearing behaviour contributes profoundly to their development. The question, then, is how children's self-esteem correlates with fathers' parental attitudes, psychological well-being, and their assessment of his child. The study involved 50 5-6 year old children and 50 their fathers from St-Petersburg. Children's self-esteem was measured by asking about how they feel in different aspects of their life such as physical appearance, intelligence, character, competence. The fathers assessed qualities of his child by using the same scales. Fathers' attitudes about child-rearing and parent-child relationships, were measured by PARI (Parent Attitude Research Instrument). Fathers' psychological well-being was measured by Ryff's Scales. The results showed that children's self-esteem has positive correlation with fathers' assessment of the child. Children's self-esteem are positively associated with the fathers' parental attitudes 'Permitting Child Self Assertion', 'Lack of Irritability' and negatively associated with 'Avoiding Deification of Parent'. In addition, it positively connected with the components of the fathers' psychological well-being: 'Autonomy', 'Positive relatedness', and 'Life purpose'. The more psychologically well-being the father the more he takes on responsibility with regard to education of the child. Thus, the role of the father in the education of the child is significant. The child focuses on the father's evaluation of his/her qualities and abilities. Responsible father thinks that he deserves the highest esteem and regard of his child. The father promotes self-assertion of the child, giving him/her attention and stimulating 'sense of respect'. Such kind of father-child relationships contributes to the shaping of the children's healthy development.

Tessa Lansu, Chair

*Radboud University / Behavioural Science Institute, Netherlands*

Toon Cillessen, Discussant

*Radboud University / Behavioural Science Institute, Netherlands*

It has long been recognized that social cognitive processes play an important role in child and adolescent peer relationships. The papers in this symposium present data from recent research that further contribute to our understanding of such processes. Specifically, they shed more light on how social position in the peer group and social cognitions concerning peer status and influence are related to aggressive and prosocial behaviors. The first study examined the strategic orientation, goal directedness and cognitions of different types of defenders of victims of bullying. Indirect defending was shown to be non-strategic and altruistic, whereas direct defending was more strategic and goal-oriented.

The second study related youth's bullying participant roles to co-nomination of bullying and liking, and defending and liking (attraction). It showed that defenders were attracted to other defenders, whereas assistants and bullies were attracted to bullies.

The third study examined bullies' social cognitions regarding likeability in the peer group. Results show that bullying is related to social cognitions such as valuing popularity but not likeability, and beliefs that the target of their behavior would not have liked them anyway.

The fourth study examined unique effects of actual and desired popularity on peer nominated as well as observed behavior. Whereas prioritizing popularity predicted more negative and less positive behavior, actual popularity predicted both more negative and more positive behavior.

Together, the papers in this symposium show how social status and the bullying participant roles interact with social cognitions to determine aggression and prosocial behavior among children and adolescents.

Understanding the moderating role of social cognition in the association between status and behavior is important for our understanding of the motivation behind youths' behaviors with their peers. Opportunities and challenges for this research field will be discussed by an expert in social status and aggression.

#### **sym301-4.1 Heterogeneity of Peer Defending in the Bullying Dynamics: Strategies, Goals and Cognitions**

Jeroen Pronk, Frits Goossens, Tjeert Olthof

*Vrije Universiteit Amsterdam / Department of Clinical, Neuro- and Developmental Psychology, Netherlands*

Recent studies indicated that peer defending is not a unitary construct. Peers witnessing classmates being bullied can confront bullies (i.e., direct defending), support victims (i.e., indirect defending), or combine these behaviors. Defending is not exclusively the domain of defenders, as bullies also (directly) defend their friends. As a result, four defending subtypes can be distinguished: (1) indirect defending, (2) direct defending, (3) all-round defending, and (4) hybrid bullying/direct defending. Not all peer defending is thus executed with good intentions. Therefore, more knowledge about the correlates of these defending subtypes is necessary to promote provictim defending in antibullying interventions. The present study investigated how the defending subtypes can be differentiated in terms of strategies, goals and cognitions.

A sample of 549 youths (49.4% boys; Mage = 12.47 years, SD = 0.58) participated in this study. The defending subtypes and bullying behaviors were hierarchically regressed in separate models against: (1) behavioral strategies towards resource control (i.e., prosocial and coercive strategies), (2) social (agentic and communal) and prosocial (altruistic and egocentric) goals, (3) emotional cognitions (affective and cognitive empathy), and (4) social cognitions (social intelligence, trickery and deceit, and trust in others). The results are presented in Table 1.

The findings suggest that direct defending—like bullying—is strategic, goal-directed and socially savvy behavior, but—unlike bullying—is not only executed to obtain dominance (i.e., agentic goals), but also to sustain intimate social bonds (i.e., communal goals). Furthermore—like indirect defending—all-round defending stems from an altruistic motivation and from being empathically concerned about the feelings of others (i.e., victims). Finally, direct defending is not executed from a desire to manipulate others to get one's way. Taken together, peer defending may be best promoted by focusing intervention efforts on helping youths understand the emotional consequences and distress experienced by victims of bullying.

	Indirect defending		All-round defending		Direct defending		Bullying/ Direct defending		Bullying	
	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$
Step 1	.35*		.04*		.28*		.26*		.07*	
Gender		.31*		.18*		-.01		-.05		-.24*
Non-criterion behavior 1 <sup>a</sup>		.46*		.13*		.16*		.52*		.13*
Non-criterion behavior 2 <sup>b</sup>						.53*				
Step 2 - Strategies	.01*		.00		.00		.02*		.43*	
Prosocial		.04		-.02		-.05		-.03		.15*
Coercive		-.10*		.08		.10		.16*		.54*
Step 2 - Goals	.02*		.05*		.02*		.02*		.03*	
Agentic social		.00		.12*		.08*		.11*		.12*
Communal social		-.03		.12*		.11*		.10*		-.07
Altruistic prosocial		.14*		.15*		.05		.05		-.05
Egocentric prosocial		-.04		-.03		-.01		.00		.05
Step 2 - Emotional cognitions	.01*		.02*		.00		.00		.01*	
Affective empathy		.09*		.12*		.04		.04		-.03
Cognitive empathy		.00		.02		.02		.01		-.09
Step 2 - Social cognitions	.01*		.07*		.03*		.06*		.56*	
Social intelligence		-.08*		.32*		.25*		.24*		.75*
Trickery and deceit		-.05		-.15*		-.09*		-.09*		.06*
Trust in others		.06		.06		.02		.03		-.07*

Note. Gender was coded as 0 (Boys) and 1 (Girls).

<sup>a</sup>Non-criterion behavior 1 stands for: (1) direct defending when indirect defending is the criterion, (2) bullying when all-round defending or direct defending are the criteria, (3) direct defending when bullying/direct defending or bullying are the criteria; <sup>b</sup> Non-criterion behavior 2 is only included in the direct defending criterion analysis and stands for indirect defending.

\* $p < .05$ .

Table 1: Hierarchical regression models predicting bullying role behavior ( $N = 549$ ).

### sym301-4.2 If the Bully is the Liked Classmate: Motives Associated with Bullying Roles

Simona Caravita, Elisa Donghi, Jacopo De Angelis  
C.R.I.d.e.e, Università Cattolica del Sacro Cuore, Italy

Studies indicate that bullying is associated with different motivational dimensions. Nevertheless, little is known about the relations between social motivation and bystander roles in bullying (defender of the victim, outsider, bully assistant, and bully reinforcer). Furthermore, social motives of attraction and mimicry tendency (Juvonen & Ho, 2008) toward bullying and defending classmates have not been investigated yet. This study aimed at exploring the interplay among social motives related to attraction and mimicry tendency for the bully or the defender classmate, Machiavellianism and social anxiety, and forms of participation in bullying. More specifically, bystander roles have been investigated.

Method: 184 children (fourth-graders: 9-10 years) and 254 adolescents (eight-graders: 13-14 years) answered self-report measures of Machiavellianism (Andreou, 2004) and social anxiety (La Greca & Stone, 1993), and peer-report measures assessing bullying roles (Salmivalli et al., 1996) and peer status, (likeability, perceived popularity, being admired). Unreciprocated attraction and mimicry tendency were assessed by computing scores of co-nominations of the same classmates as bully or defender, and being liked (attraction), being popular, being admired (mimicry tendency; Juvonen & Ho, 2008).

Results: Preliminary analysis (intercorrelations and regressions) showed that, among both children and adolescents, defending the victim was associated with attraction to the defender, even when the effects of Machiavellianism, social anxiety and the person's likeability and perceived popularity status were controlled for: children, .33\*\*\*; adolescents, .16\*. Among adolescents, the attraction to the bully was negatively associated with the outsider role (-.20\*\*), and positively with assisting the bully (.13\*) and ringleader bullying (.12\*). Attraction and mimicry dimensions also moderated some of the associations between Machiavellianism and social anxiety, and bystander roles.

Conclusion: Findings suggest that, in anti-bullying interventions aimed at bystander behaviors, social motives related to attraction for the bully and the defender classmates should be addressed, more than other motivational dimensions.

### sym301-4.3 Why Does Decreased Likeability not Deter Bullying Perpetrators?

Claire Garandeau, Tessa Lansu

Utrecht University / Department of Youth and Family Studies, Netherlands

Bullying is positively associated with perceived popularity and with endorsement of popularity goals. Nevertheless, it is negatively associated with likeability. This raises the following question: If the achievement of perceived popularity serves as a motivator of bullying behaviors, why does the decrease in likeability that bullying incurs not prevent perpetrators from engaging in it? We tested 3 hypotheses: 1) Bullies are unaware that they are disliked, 2) Bullies only value popularity, and care less about likeability 3) Bullies know they are disliked but believe that their targets would not like them anyway. Therefore, they have nothing to lose in terms of likeability.

Peer-reports of bullying, popularity, and likeability were obtained about 601 Dutch adolescents (M age=12.92; 51% male), in addition to self-reports of likeability and of the importance of being popular and importance of being liked. Participants were also presented with three hypothetical bullying scenarios and asked to rate how likely it was that [the victim's name] would have disliked [the bully's name] even before this bullying started? on a 7-point scale.

Bullying was positively correlated with popularity ( $r = .34, p < .001$ ) and being disliked ( $r = .30, p < .001$ ). Regression analyses revealed no significant interaction between bullying and self-perceived likeability in the prediction of actual likeability, suggesting that bullies are not more likely to overestimate their likeability. Hypothesis #1 is not supported. Those higher in bullying were more likely to report that they value being popular, though not more likely to report that they value being liked. This supports Hypothesis #2. We examined whether bullying positively predicted beliefs that victims would have disliked bullies even before the bullying started. This coefficient was marginally significant ( $p = .07$ ), suggesting partial support for the hypothesis that bullies believe their victims did not like them anyway.

	Hypothesis 1		Hypothesis 2		Hypothesis 3
	Likeability	Dislikeability	Importance of popularity	Importance of likeability	Response to hypothetical scenario
Age	.037	-.036	.012	-.111*	-.011
Gender	.062	.000	-.116**	-.072	.006
Bullying	.051	.284***	.106*	-.008	.091†
Popularity	.341***	-.042	.215***	.033	-.015
Dislikeability			-.068	-.075	-.051
Self-perceived likeability	.179***	-.213***			
Bullying*self-perceived likeability	.030	.048			
<i>F</i>	17.502***	11.851***	10.985***	2.265*	0.777
<i>R</i> <sup>2</sup>	.17	.12	.10	.02	.01

Note. Standardized coefficients shown. The variables bullying, popularity, dislikeability and self-perceived likeability were mean-centered.  
 † $p < .07$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 2: Multiple regression models testing the three hypotheses

### sym301-4.4 How Actual and Desired Popularity Relate to Peer-Nominated and Observed Social Behaviors

Tessa Lansu

Radboud University / Behavioural Science Institute, Netherlands

In the first years of secondary school, the goal of striving for popularity -together with actual popularity status- has been shown to be associated with peer nominated aggressive behavior (Cillessen et al., 2014; Dawes & Xie, 2014; Kiefer & Wang, 2016). The current study examines how having a popularity goal and actual popularity status relate to aggressive and prosocial behavior in the last two years of primary school. Moreover, in addition

to peer nominated behavior, also behavior as observed during small group competitive and cooperative sessions with peers are examined as outcome variables.

Participants were 185 Dutch 5th and 6th grade students (109 girls, M age = 10.65 years, SD = 0.81). In a classroom session, peer nominated popularity, aggressive behavior, and prosocial behavior as well as self-reported popularity goals (LaFontana & Cillessen, 2010) were measured. In a follow-up session with groups of four same-sex peers the students were once observed when planning a party (cooperative setting) and once observed when playing a card game (competitive setting). Each student was rated on negative behavior, coercive resource control, prosocial resource control, skillful leadership, and positive behavior by trained observers. Hierarchical regression analyses were performed on each behavior variable with prioritizing popularity, popularity status and the interaction between both as predictors (see Table 1).

The results demonstrate that already at elementary school, both prioritizing popularity and popularity status are related to peer nominated and observed negative and positive social behavior in the peer context. Whereas prioritizing popularity was associated with more negative and less positive behavior, popularity status was associated with both more negative and more positive behavior. In contrast to findings from secondary school samples (Cillessen et al., 2014; Kiefer & Wang, 2016), in the current primary school sample popularity goals and popularity status did not interact in predicting social behavior.

*Standardized regression coefficients predicting negative and positive peer reported and observed behaviors.*

## sym301-5 Risky aspects of youth romantic relationships

Rongqin Yu, Chair  
*University of Oxford, United Kingdom*  
Catrin Finkenauer, Discussant  
*University of Utrecht, Netherlands*

Romantic relationship experience is seen as normative and salient in the lives of adolescents and young adults. It is considered as a central and defining feature of young people's life. Although youth romantic relationship can provide significant source of support and companionship, it has also been linked to negative outcomes such as dating aggression and violence. With a joint goal of providing deeper understanding of the negative sides of youth romantic relationships, this symposium brings together recent empirical studies that investigate linkages among young people's personal characteristics (e.g., personality traits, attachment styles, and internalizing symptoms) and negative aspects of romantic relationship (e.g., romantic dissolution, long-term dissatisfaction, and dating aggression and violence). It consists of four studies conducted in four different countries (i.e., Germany, Israel, Switzerland, and Canada). Seiffge-Krenke and Burk will show whether different types of dyads based on aggression of both partners can distinct romantic relationships with high conflict rates and maladaptive coping styles from those are supportive and trusting. Shulman et al. will demonstrate why some emerging adults have difficulties coping with a romantic breakup while others stay in difficult relationships, by examining the role of personality in the development of distinct romantic pathways. Buehler et al. will present their results on the mediating role of insecure attachment in the link between sociosexuality and relationship dissatisfaction among young adult couples. In addition, Yu et al. will reveal longitudinal associations between adolescents' internalizing symptoms, including both anxiety and depressive symptoms, and dating violence perpetration. Finally, our symposium discussant Professor Finkenauer, who is an prominent expert in this research field, will provide an overarching discussion of the research findings and point out important directions for future studies.

### sym301-5.1 Aggression in adolescents' romantic couples and links to relationship quality

William Burk, Inge Seiffge-Krenke  
*Radboud University Nijmegen, Netherlands*

**Background.** Aggressive behaviour is a serious problem in adult couples and a frequent reason for help-seeking behaviour in psychotherapy. Less is known about an early start, e.g. aggression in adolescents' romantic relationships. **Materials and Methods.** In a sample of 194 romantic partner dyads (age 16 to 18), differences between female and male partners' reports of aggression (psychological and physical) and different measures of relationship functioning (e.g. conflicts, coping behaviour and the affiliative and romantic quality of the relationship) were assessed. **Results.** A hierarchical cluster analysis identified five distinct subgroups of dyads based on male and female reports of psychological and physical aggression: nonaggressive couples, couples with higher perceived aggressiveness (both physical and psychological) by females, couples with higher aggressiveness perceived by males and mutually aggressive couples. A substantial number of non-aggressive dyads emerged. Of note was the high number of females showing one-sided aggression, which was, however, not countered by their partner. The mutually aggressive couples showed the least adaptive relationship functioning, with a lack of supportive, trusting relationship qualities, high conflict rates and less adaptive coping styles. **Conclusion.** The discussion focuses on the different functions of aggression in these early romantic relations, the aggravating impact of mutual aggression on relationship functioning and its potential antisocial outcomes. The gender-specific function of self-silencing behaviour is explored.

### sym301-5.2 The dark and "sweet-bitter" sides of romantic relationships in emerging adulthood

Shmuel Shulman, Miri Scharf, Shira Bezalel-Boiangiu, Valerya Tregubenko  
*Bar Ilan University, Israel*

Many young people nowadays are in and out of relationships and increasing numbers tend to engage in casual romantic or sexual encounters. Fluctuations were perceived to represent instabilities of emerging adulthood,

reflecting the longer way to adulthood. According to the Developmental Systems Theory, fluctuations represent a process of reorganization in the search for a new integrated form of adult intimate and committed love. The current presentation explores the diverse pathways of romantic experiences and tries to understand their meaning.

We present findings from a longitudinal study that assessed 135 Israeli adolescents at ages 16-17, 20 and 23. At each assessment family, personality and romantic relationship information was collected. At the third wave, an in-depth interview was conducted in which participants were asked to describe their romantic life during recent years. To capture inner processes, participants were encouraged to elaborate on their experiences; and to reflect on the extent to which they felt they had progressed or were still uncertain. Qualitative analyses of interviews yielded four distinctive romantic pathways: Sporadic Involvement (23.7%), Sporadic/Abstaining Involvement due to Betrayal (12.9%), Lengthy Superficial Involvement Pathway (9.7%), and From Casual to Steady Involvement (53.8%). Although fluctuations overall led to romantic development, close to 50% belonged to non-adaptive pathways. They found romantic relationships painful, and were seldom involved in dating. Members of the Lengthy Superficial Involvement Pathway described efforts to appease a partner to maintain a relationship intact, and could not understand the toll taken by staying together. A multinomial regression analysis was conducted to predict romantic pathway affiliation. As shown in Table 1, individuals low on security attachment tend to be Sporadic. Individuals who stay in difficult relationships reported greater self-silencing and lower maternal support seven years earlier. The role of personality in romantic pathway affiliation will be discussed.

	<i>Sporadic Pathway</i>		<i>Lengthy Superficial Involvement and Sporadic following Betrayal – Two Pathways (combined)</i>			
	<i>B<sub>β</sub></i>	<i>Wald</i>	<i>OR</i>	<i>B<sub>β</sub></i>	<i>Wald</i>	<i>OR</i>
T1 Secure Attachment	<b>-1.45</b>	<b>9.77***</b>	<b>.23</b>	-.16	.06	.83
T1 Self Silencing (SS)	-.94	<b>6.69**</b>	.39	<b>1.64</b>	<b>5.49*</b>	<b>5.17</b>
Change in SS over the years	-.77	1.71	.67	<b>1.44</b>	<b>4.51*</b>	<b>4.23</b>
T1 Maternal Support	-.91	1.17	.28	<b>-2.08</b>	<b>6.59**</b>	<b>.12</b>
T1 Paternal Support	1.03	1.21	.27	.66	2.53	1.93

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Note: Significant findings are highlighted in bold

Table 1 Multinomial Regression Analysis Predicting Membership in Pathway Patterns (Comparisons of the Three Alternative Pathways to the From Casual to Steady Involvement Pathway)

### sym301-5.3 Linking sociosexuality to relationship satisfaction from an attachment perspective

Janina Buehler, Rebekka Weidmann, Thomas Ledermann, Alexander Grob  
University of Basel, Switzerland

Sociosexuality as inclination to pursue uncommitted sexual relationships encompasses three facets: desire for, attitudes toward, and past experiences with casual sex. Whereas restrictive sociosexuality is associated with higher relationship satisfaction, permissive sociosexuality is related to lower relationship satisfaction. However, less is known about possible explanations behind this association. One process that might provide meaningful insights is attachment. Secure attachment is positively associated with relationship satisfaction, whereas avoidant and anxious attachment is negatively related to relationship satisfaction. With respect to sociosexuality, secure attachment is related to a more restrictive sociosexuality, reflecting one's need for emotional intimacy, whereas anxious and particularly avoidant attachment is linked to a more permissive

sociosexuality, reflecting one's strategy to avoid either intimacy or being rejected. We, therefore, hypothesized a mediating role of attachment in the link between sociosexuality and relationship satisfaction.

In a sample of 71 heterosexual couples ( $M=22.61$ ,  $SD=4.06$ ), we assessed sociosexuality with the SOI-R, attachment with the ECR-RS, and relationship satisfaction with the RAS. Applying the APIMeM, avoidant attachment, anxious attachment, and sociosexual desire are intrapersonally associated with lower relationship satisfaction. Interpersonally, men's avoidant attachment is negatively related to female's relationship satisfaction, and female's anxious attachment is negatively associated with male's relationship satisfaction. Regarding mediation, avoidant attachment for men and anxious attachment for women intrapersonally mediates the association between sociosexual desire and relationship satisfaction. Interpersonally, females' anxious attachment mediates the link between their own sociosexual desire and their partners' relationship satisfaction. No significant effects emerged for sociosexual behavior and attitudes.

In sum, this study punctuates the significance of attachment and sociosexuality for youth romance in two meaningful ways. First, avoidant and anxious attachment exhibit intrapersonal and interpersonal relevance for relationship satisfaction. Second, sociosexual desire plays an important role for relationship satisfaction with insecure attachment as potential explanatory system behind this association.

### sym301-5.4 Internalizing symptoms and dating violence perpetration in adolescence

Rongqin Yu, Wendy Josephson, Jennifer Connolly  
University of Oxford, United Kingdom

Background: Increasing evidence suggests that internalizing symptoms are associated with a heightened risk of violent behaviours. Whether this positive link exists in the context of romantic relationship remain largely unknown. The aim of the current study is to examine the link between internalizing symptoms, including anxiety and depression, and adolescent dating violence perpetration with a longitudinal design. Methods: The sample included 238 Canadian adolescents (42% boys) from a longitudinal study RISE. From ages 13 to 14 years, anxiety and depressive symptoms and dating violence were annually assessed. We conducted cross-lagged analyses to test longitudinal associations between internalizing symptoms and dating violence. Results: As shown in the Figure 1 and 2, our analyses revealed significant cross-lagged effects from anxiety and depressive symptoms to dating violence ( $B = 0.17$ ;  $SE = .06$ ,  $\beta = .27$ ,  $p = .003$ ; and  $B = 0.06$ ,  $SE = .03$ ,  $\beta = .14$ ,  $p = .04$ , respectively). However, the reversed cross-lagged paths from dating violence to anxiety and depressive symptoms were not significant ( $B = 0.02$ ;  $SE = .09$ ,  $\beta = .02$ ,  $p = .80$ ; and  $B = 0.22$ ,  $SE = .14$ ,  $\beta = .09$ ,  $p = .11$ , respectively). Conclusions: Our findings underscore the predictive value of internalizing symptoms on dating violence in young adolescents. Reduction of internalizing symptoms is likely to be an important target for the prevention of dating violence in adolescents.

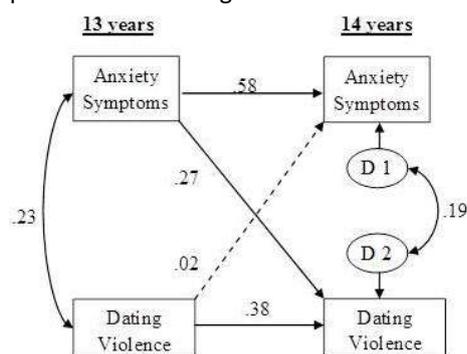


Figure 1. Cross-lagged Model on Effects between Adolescent Anxiety Symptoms and Dating Violence Perpetration

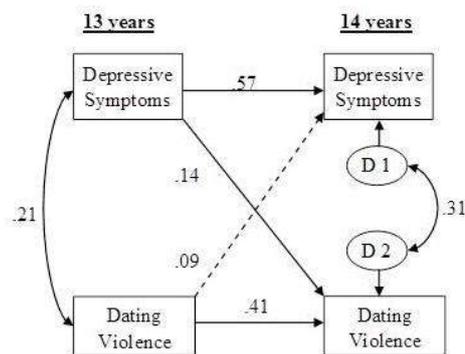


Figure 2. Cross-lagged Model on Effects between Adolescent Depressive Symptoms and Dating Violence Perpetration

Note. D = Disturbance; Dashed line indicated insignificant path. Note. D = Disturbance; Dashed line indicated insignificant path.

### Figure Cross-lagged Model on Effects between Internalizing Symptoms and Dating Violence Perpetration

## sym301-6 Ethnic Identity Processes and Behavioural Outcomes in Immigrant, Refugee, and Non-Immigrant Adolescents

Pasquale Musso, Chair

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Frosso Motti-Stefanidi, Discussant

*University of Athens, Greece*

In recent years, the migration phenomenon has become a relevant issue in the European context. The European Union itself and all its Member States have to face this question with urgency, but the answers (in terms of policies and interventions) to the raising problems are often not consistent with the complexity and the changing conditions of the events. In this framework, despite the growing number of studies and scholarly papers on the psychosocial adaptation of immigrants and minority groups, integrative research and theoretical models are further needed, especially with reference to the new generations and their developmental processes and outcomes. With this in mind, the current symposium collects four papers aimed at assessing two main topics among immigrant, refugee, and non-immigrant youth in nine different countries: (a) the formation of ethnic identity and its role in the psychological functioning and (b) the correlates of positive and negative behavioural outcomes. The first paper focuses on the question to what extent contextual factors trigger ethnic identity development among Turkish adolescents living in different national contexts. The second paper examines associations of perceived group discrimination with life satisfaction and school engagement, by exploring ethnic identity as one of the potential mediators of these relationships in both marginalised Roma adolescents and mainstreamers in six countries. The third paper examines the direct and interactive effects of perceived teacher support for cultural pluralism and ethnic identity on prosocial behaviour among students attending ethnically mixed classrooms in Italy. The fourth paper assesses proactive affiliation-related aggression and its potential predictors (such as identity crisis) among unaccompanied refugee, immigrant-background and non-immigrant high school students in Norway. In addition, a fifth discussant presentation will integrate the various perspectives and approaches among the four presentations into a meaningful whole

### sym301-6.1 Ethnic Identity Formation in Non-Immigrant, Immigrant and Minority Contexts

Dagmar Strohmeier, Aysun Dogan, Arzu Karakulak, Radosveta Dimitrova

*University of Applied Sciences Upper Austria, Austria*

Identity development takes place during important transition periods which are not only triggered by maturation but also by contextual factors. Although already Erikson has emphasized the importance of contextual factors for identity development, studies on this issue are sparse. Marcia (1980) theorized that identity development involves two processes, exploration and commitment. Thus, by investigating two age groups of ethnic Turkish young persons living as either in their national context (Turkey), as a state-recognised minority group in Bulgaria or as recently arrived “guest-worker” immigrants in two national contexts, this study aims to shed light on the question to what extent contextual factors trigger ethnic identity development. Furthermore, this study focuses on developmental changes during adolescents by focusing on both preadolescents and adolescents. A total 204 Native Austrians and 139 Austrian Turks, and 201 Bulgarian Turks aged 14 to 16 years participated in this study. Participants completed demographics and the Multigroup Ethnic Identity Measure-Revised (MEIM-R) (Phinney & Ong, 2007) scale. In line with our expectations, achieved ethnic identity is more often seen in 16 year olds compared with 14 year olds and Turkish immigrants in Austria are more involved in exploration process compared with recognized minority groups

### **sym301-6.2 Discrimination, Life Satisfaction, School Engagement: Mediating Role of Ethnic and Religious Identity**

Radosveta Dimitrova, Pasquale Musso, Iva Polackova Solcova, Delia Stefenel, Fitim Uka, Skerdi Zahaj, Peter Tavel

*Palermo University, Italy*

Multiple resources such as ethnic, national and religious identity promote psychological adjustment in the context of ethnic minority group-based discriminatory experiences. We complement existing work by addressing a gap in identity literature in European context and unique Roma minority and mainstream samples that add to the contextualized new knowledge on identity research. In so doing, we examined associations among perceptions of ethnic group discrimination, life satisfaction and school engagement, and explore multiple identities (i.e., ethnic, national and religious) as mediators of these relationships in underrepresented, marginalized, discriminated against, and scarcely investigated Roma ethnic minority youth. Participants were 845 Roma and 1263 mainstream adolescents (Mage = 15.49 years, SD = 1.59) from Albania, Bulgaria, the Czech Republic, Kosovo, Romania, and Italy. They filled in self-reports on Roma ethnic, national and religious identity, perceived ethnic discrimination, life satisfaction and school engagement. A multigroup path model, estimating coefficients simultaneously for Roma samples in each country, indicated that Roma ethnic identity mediated the positive associations between perceived ethnic group discrimination, life satisfaction and school engagement. National and religious identities showed significant positive and direct associations with life satisfaction for Roma in all countries (Figure 1). Second path model for mainstream youth indicated direct and significant relations of ethnic and religious identity to life satisfaction and school engagement. We propose that contextual conditions of discrimination relate to ethnic, national and religious identities and are important factors for life satisfaction and school engagement of Roma. We also suggest that social policies and interventions promoting ethnic, national and religious identities among Roma youth would be maximally effective in enhancing their well-being and school engagement. Final conclusions regarding universals and cultural specifics in the study of multiple identities and their relations to psychological functioning with implications for global research on marginalized ethnic minority groups are discussed

### **sym301-6.3 Individual and Classroom Correlates of Prosocial Behavior Among Immigrant and Non-Immigrant Youth**

Ughetta Moscardino, Pasquale Musso, Diana Miconi, Cristiano Inguglia, Sara Scrimin

*University of Padua, Italy*

The unprecedented increase of ethnocultural diversity in schools poses numerous challenges to educators, health professionals, and policymakers who need to address the demands of both immigrant and non-immigrant youth to ensure successful integration and prevent potential disparities. The current study takes a socioecological approach to investigate the direct and interactive effects of perceived teacher support for cultural pluralism and ethnic identity (EI) on prosocial behavior among students attending ethnically mixed classrooms using multilevel modeling. Participants were 997 adolescents (51% girls, Mage = 16.26 years, SD = 1.56, grades 9 – 13) nested within 47 classrooms within 12 secondary schools in Italy. Of these, 44% had an immigrant background. During school hours, adolescents completed self-report measures of teacher support for cultural pluralism, EI, and prosocial behaviors. Latent profile analysis suggested the presence of three ethnic identity profiles: Achieved (n = 336; 33,7%), Foreclosed (n = 334; 33,5%), and Diffuse (n = 327, 32,8%). Immigrant students were more likely to belong to the achieved profile (46,1%), whereas their non-immigrant counterparts were more likely to belong to the diffuse (38,6%) or foreclosed profiles (37,5%). Multilevel analyses (controlling for adolescent age, gender, SES, and ethnic class composition) showed that: a) perceived cultural pluralism, achieved EI profile, and immigration background were positively associated with students' prosocial behavior at the individual level; b) neither significant results were found at classroom levels nor cross-level interactions. The results underscore the importance of adolescents' perceptions of teachers' attitudes toward cultural diversity and the EI identity formation processes in promoting prosocial behavior as well as show a picture of immigration status as a positive correlate of behaviors intended to benefit others. Our findings have potential implications in the context of multicultural classrooms and may offer novel avenues for school-based interventions involving both teachers and adolescents

## **sym301-6.4 Acculturation, Social Networks and Affiliation-Related Aggression Among Unaccompanied Minor Refugees**

Brit Oppedal

*Norwegian Institute of Public Health, Norway*

A recent framework for the study of proactive and reactive aggression involves the distinction between affiliation and power as social motives underlying proactive aggression. Research has shown gender, age, and immigrant status variation both in the level of proactive and reactive aggression, and how each dimension relates to bullying. Specifically, immigrant children and youth reported higher levels of affiliation-related aggression, and the researchers speculated whether cultural, social, or acculturation factors caused the differences. This is the first study to examine pro- and reactive aggression among unaccompanied minor refugees (UMR). They represent a vulnerable group of immigrant children due to disrupted family and peer relationships, in addition to substantial premigration trauma. Moreover, several structural factors preclude the establishment of new close adult and peer relationships after resettlement. The overall aim of this presentation is therefore to get knowledge about proactive affiliation-related aggression and its potential predictors among UMR based on the following hypotheses: 1) unaccompanied minors report more affiliation-related aggression than immigrant and non-immigrant-background youth; 2) the correlation between proactive and reactive aggression is similar across the groups; 3) social networks and acculturation-related hassles predict changes in affiliation-related aggression. Self-report questionnaire data were collected from 568 UMR, 613 immigrant-background and 421 non-immigrant high school students. We assessed proactive affiliation-related, proactive power-related, and reactive aggression. Acculturation-related factors involved discrimination, identity-crisis, outgroup and ingroup hassles. Social networks included number of and social support from friends. Preliminary analyses confirmed a significantly higher level of affiliation-related aggression among UMR than among immigrant and non-immigrant high school students. There was low to moderate correlations between affiliation and acculturation-specific hassles, while all social network correlations were non-significant. Acculturation hassles predicted over-time changes in affiliation-related aggression, in addition to power-related proactive and reactive aggression. The findings will be discussed in relation to the acculturation and refugee context

## sym301-7 Crossing The Line Between The Use And Abuse Of New Technologies

The symposium focuses the attention on new technologies' controversial effects in wellbeing. Given the importance of the new technologies in contemporary life, those who are unfamiliar are often considered as disadvantaged (Anderson, Steen & Stavropoulos, 2016). However, significant numbers of individuals tend to overuse and/or abuse new technologies (Block, 2008). The objective of this symposium is to carefully examine both negative and positive aspects of the use of new technologies. To achieve this, four presentations of different methodological background, embracing cross-sectional, longitudinal, online and offline measurements performed in four Countries (United Kingdom, South Korea, United States, Australia) are combined. The presentation of Nottingham Trent University underlines factors related to problematic smartphone use and smartphone addiction. The presentation of the University of Palo Alto emphasizes the role of gaming initiation age in the development of Internet Gaming Disorder Symptoms. The presentation of the Korean Advanced Institute of Science and Technology emphasizes the differences in the perception of digital media experience in parent-child dyads. Finally, the presentation of Federation University Australia examines the contribution of telepresence and user-avatar relationship on excessive internet gaming behaviors. The role of new technologies as a causal and protective factor of the user's wellbeing will be discussed in the light of emergent international literature.

### sym301-7.1 Problematic smartphone use and smartphone addiction

Daria Kuss

*Nottingham Trent University, United Kingdom*

**Aim:** The present day and age has witnessed an exponential rise in the use of mobile technologies, with recent trends suggesting that the UK has become a "smartphone society" (Ofcom, 2016) as 93% of UK residents use smartphones and spend approximately twenty hours per week engaged in activities on their smartphones. Smartphones have become an integral part of our everyday culture, and increasing use has led some to raise concerns over problematic and possibly addictive smartphone use. Accordingly, this talk will deliver an introduction into contemporary knowledge and understanding of problematic smartphone use and smartphone addiction.

**Methods:** Relevant topical research from various disciplines (i.e., psychology, computer science and cultural studies) will be presented and considered.

**Results:** Psychological research suggests stress, and not depression- or anxiety-related symptoms, predict problematic smartphone use, whilst there exist age differences (Kuss et al., 2017). Computational research indicates the volume of notifications received on smartphones predicts negative affect (Kanjo et al., 2017). From a cultural perspective, Northern and Southern Europeans appear to use their smartphones more than Eastern and Western Europeans (Lopez-Fernandez et al., 2017).

**Conclusions:** Relevant cross-disciplinary research suggests problematic smartphone use is distinguished by specific phone usages, and is related to several psychosocial and demographic factors, which contribute to a higher risk of experiencing symptoms traditionally associated with substance-related addictions. In addition to this, cultural factors add to divergences in usage patterns. It is concluded that the field of smartphone research is only just emerging, making it necessary to produce additional research support and to appreciate interdisciplinary perspectives which pay respect to cultural differences.

### sym301-7.2 Age of initiation in Internet gaming disorder: The role of self-esteem

Charlotte Beard

*Palo Alto University, United Arab Emirates*

**Background:** The link between early initiation and problematic use has been observed across a range of substances (i.e., alcohol, marijuana; Coffey et al., 2003; Moss, Chen, & Yi, 2014; Guttmannova et al., 2012; Rossow & Kuntsche, 2013); however, this link has not been as clearly established for Internet Gaming Disorder (IGD). Self-esteem staked on the gaming environment is one such risk factor related to severity of play. The present study aims to explore the relationship between age of gaming initiation, gaming-contingent self-worth (GCSW), overall self-esteem, and IGD.

Method: Age of initiation of Internet gaming, IGD severity and GCSW were evaluated from international samples. A cross-sectional United States online sample (1056 adults) and an offline Australian sample (61 adults) from a three-wave longitudinal analysis were used. Structural equations modeling and growth curve modeling were used to examine the effect of age of initiation and GCSW on IGD.

Results: Latent growth curve analysis of the longitudinal study revealed that age of initiation predicted IGD both directly, and indirectly through GCSW ( $b = -0.10$ , 95% CI:  $[-0.15, -0.04]$ ) and global self-esteem ( $b = -0.05$ , 95% CI:  $[-0.07, -0.02]$ ). In the growth model, Gaming-contingent self-worth predicted IGD starting point ( $\beta = 0.06$ ,  $z = 10.94$ ,  $p < .001$ ) but failed to predict changes trajectory ( $\beta = -0.01$ ,  $z = -0.873$ ,  $p = 0.383$ ). Age of gaming initiation, however, predicted both starting point and trajectory, as younger age of initiation was associated with greater IGD at baseline ( $\beta = -0.04$ ,  $z = -3.37$ ,  $p < .01$ ), and was inversely associated with rate of change.

Conclusions: Earlier use of Internet games is related to IGD symptom endorsement. Furthermore, staking one's self-esteem on the gaming environment (GCSW) is one risk factor linked to increased endorsement of IGD, while global self-esteem serves as a protection between initiation and addiction.

### **sym301-7.3 Differences in the Perception of Digital Media Experience in Parent-Child Dyads**

Young Yim Doh

*Korean Advanced Institute of Science and Technology, Korea, South*

Aim: This study examines the differences in the perception of digital media experience in parent-child dyads. Because of rapidly changing digital media environments, the generation gap between parent and child in the perception of media usage behavior has increased and sometimes caused conflicts in family. To solve this problem, we need to identify the factors that construct the perception of digital media experience, and in particular, what factors make a difference in parent-child dyads.

Methods: The dyadic survey was conducted among 1000 pairs of middle school students and parents through nationwide sampling in 7 major cities of Korea from February to March in 2015. Digital media experiences perception scale was consisted of 30 statements extracted from the previous studies. Principle components factor analysis with varimax rotation was performed to ascertain factor structure. Paired t-test examined the parent and child differences in scores of each factor of digital media experience perception scale.

Results: Six factors of the perception of digital media experience were identified: 1) need for cultivating healthy digital culture, 2) need for usage regulation, 3) concern for addiction, 4) awareness of positive effects 5) awareness of negative social impacts, and 6) connectedness between digital media and real life. Parent rated significantly higher scores in need for cultivating healthy digital culture, need for usage regulations, concern for addiction and awareness of negative social impacts factors. On the other hand, child showed significantly higher score of the awareness of positive effects. There was no statistically significant difference in the perception of the connectedness between digital media and real life.

Conclusions: The results of this study reveal the factor structure of the perception of digital media experience and discover key differences in parent-child dyads.

### **sym301-7.4 Presence and Self-Presence in the Virtual World: Understanding Internet Gaming Disorder Symptoms**

Vasileios Stavropoulos

*Federation University Australia, Australia*

Aim: Internet Gaming Disorder (IGD) has been introduced as a condition requiring further study (APA, 2103). Presence defines the level one is absorbed in his/her virtual environment and Self-Presence refers to the level of identification of the gamer with his/her avatar (figure of representation in the world of the game). The aim of this study was twofold: (a) to test whether and how Presence and Self-Presence may contribute to IGD behaviors and; (b) to examine over time differences in IGD according to their interplay.

Methods: One hundred and twenty four internet players aged 18 to 29 years completed either: (i) three face-to-face assessments (one month apart, over three months) or (ii) an online assessment. Presence was assessed using the Presence Questionnaire (Faiola, Newlon, Pfaff, & Smyslova, 2013), and Self-Presence with the Self-

Presence Questionnaire (Ratan & Hasler, 2010). Growth modeling, Regression, moderation and growth analyses were conducted.

Results: Findings revealed that the level of Presence and Self-Presence related to IGD symptoms but not to their linear change across over a period of three months.

Conclusion: Emergent adults, internet players are likely to develop higher IGD behaviors, when they experience a higher sense of being there (presence) and a higher sense of connection/immersion with their avatars (self-presence). Clinical implications in regards to prevention and intervention initiatives will be discussed in the light of recent developments in the international literature.

## sym301-8 Managing educational and work-related transitions: Young people's well-being and identity as resource and outcome

Sabine Walper, Chair

*German Youth Institute, Germany*

Ingrid Schoon, Chair

*University College London, United Kingdom*

Changing labor markets impact on how young people navigate the transition into work. While research points to the importance of personal resources for managing this transition successfully, less attention has been paid to personal outcomes of different pathways young people take. Employing short- and long-term longitudinal approaches, this symposium addresses the role of well-being and identity development in transitions during adolescence and young adulthood, paying attention to mutual links between well-being and the pathways young people take. It brings together research from Germany, Greece, Finland, the Netherlands, and the UK to discuss similarities and differences in findings from diverse national contexts with different conditions for navigating this transition.

The first two papers investigate mutual links between well-being and school-to-work transitions across several years. Findings from the UK and Germany compared distinct patterns of transition showing that initial subjective well-being predicted more successful trajectories, while less successful paths in turn predicted lower later well-being. Despite overall similarities, the findings also point to differences in the significance of certain tracks for young people's emotional well-being. The third and fourth paper focus issues of identity formation. Employing an intensive longitudinal approach, a study from Greece investigated how students decide about the academic track in grade 10. Self-esteem was found to be an asset of identity evaluation while depression undermined their certainty about commitments. The study from Finland compared young adults' identity profiles regarding their links to the changing life situation and personal goals across two years, suggesting that identity diffusion is a major risk factor for decision making and low academic engagement. Finally, a multi-wave Dutch study focused on self-concept clarity across nine years showing that low self-concept clarity was linked to early entry into cohabitation, marriage, and employment. Interdependencies between individual adjustment and transition experiences will be the topic of the discussion.

### sym301-8.1 Subjective wellbeing as a predictor and outcome of school-to-work transitions

Ingrid Schoon, Mark Lyons-Amos, Terry Ng-Knight

*University College London, United Kingdom*

Does subjective well-being (SWB) drive school-to-work transitions, or is it an outcome of it? In this paper we examine whether SWB is significantly associated with the pathways young people follow after completing compulsory schooling, and/or if it is an outcome of their transition experiences. We use data collected for the nationally representative Longitudinal Study of Young People in England (LSYPE), following their development from age 14 to 20. Sequence analysis is used to identify patterns of school-to-work transitions, linking these patterns to indicators of SWB measured at age 14 and again at age 20. We identified 6 transition patterns, differentiating between an academic track, three pathways involving further education and training, as well as a work-focused transitions, and two patterns indicating a problematic school-to-work transition and prolonged period of being not in education, employment or training (NEET). Linking transition patterns to levels of SWB before and after the transition, we find that SWB was associated with selecting into distinct pathways, i.e. opting for an academic track and avoiding early school leaving, and that it was in turn shaped by different transition experiences. There was no significant difference in SWB among young people on the academic track, those in apprenticeships and employment after some further education, while we found significantly lower levels of wellbeing among those who experienced a problematic transition with prolonged periods of being NEET. The findings suggest that millennials who chose an apprenticeship or employment over university are just as happy with their lives. The findings support assumptions of selection theories, i.e. young people select into pathways that enable them to feel good about themselves, yet there is more than one pathway to a satisfied life, pointing to the importance of meaningful work for young people, leading to social integration and avoidance of social isolation associated with unemployment.

### **sym301-8.2 Mutual links between young people's well-being and their pathways after leaving school**

Sabine Walper, Gabriela Gniewosz  
*German Youth Institute, Greece*

The differentiated educational system in Germany makes school-leaving certificates a key factor in the transition from school to job training, higher education and employment. However, given that this transition requires far-reaching decisions and coping with new demands, personal resources are also likely to influence how young people navigate this transition. Focusing emotional well-being, this study investigates how young people's emotional resources shape their educational and occupational pathways after leaving school and how emotional well-being is in turn affected by these different pathways.

Longitudinal data of 1.532 German adolescents (born 1991-1993) who participated in the annual assessments of the German Family Panel "pairfam", were reorganized to start with T0 in the year prior to school graduation and include three additional waves up to three years after school graduation (T3). Based on these data, we sought to (1) identify different pathways of educational and professional activities by using latent class analysis (2) predict these pathways by emotional well-being prior transition (controlling for individual demographic factors and educational background), and (3) link the pathways to young people's emotional well-being at T3 using a structural equation framework (controlling for the stability).

Five different pathways could be identified: academic track, further school education track, vocational training track, mini-job track (minor employment of low pay) and a track of unsteady workers changing between periods of employment and unemployment. Controlling for gender, immigrant background, and level of school education, higher levels of negative affect at T0 increased the likelihood of being in the unsteady working track or the vocational training track. Furthermore, the results confirm beneficial effects of following the academic track for young people's emotional well-being three years after school-leaving when compared to the other tracks. These findings including further mediation analyses are discussed with reference to the benefits of higher education.

### **sym301-8.3 Greek students' identity and well-being: Longitudinal relations during academic decisions**

Stefanos Mastrotheodoros, Frosso Motti-Stefanidi  
*National and Kapodistrian University of Athens, Greece*

Background: Personal identity lies at the core of what makes people feel unique. It includes among other things, goals that people set and possible future paths. According to Erikson, identity is a core developmental task during adolescence, when, ideally, youth must explore different alternatives, and commit to pursuing some of them. Previous research has investigated the role that psychological well-being plays in identity formation, but the direction of effects remains unclear. Furthermore, psychological well-being is an important asset when making educational transitions. This longitudinal study used within-person models to investigate the cross-lagged relations between identity processes, on the one hand, and self-esteem, depressive symptoms, and symptoms of anxiety, on the other, before and after students had to choose their academic track.

Method: Grade 10 students (N = 521, Mage = 15.8, SD = .76), were assessed three times in 12 months during a period when they need to decide on their academic track. Identity was measured with the Dimensions of Identity Development Scale (DIDS, Luyckx et al., 2008); self-esteem was measured with the Rosenberg Self-Esteem Scale (Rosenberg, 1965); depressive and anxiety symptoms were assessed with the Symptom Checklist 90 – Revised (Derogatis et al., 1992).

Results: Random-Intercept Cross-Lagged Panel Models (Hamaker, 2015; Keijsers, 2015) for each identity dimension separately revealed significant within-person cross-lagged effects. Although instances of circular causality between identity and well-being were found, self-esteem appeared to be an important asset for identity evaluation. Depression hindered feeling certain about commitments, and was exacerbated by reconsidering commitments.

Discussion: With the use of newly-developed statistical tools, this study sheds more light on the longitudinal interplay between processes of identity development and psychological well-being, before and after adolescents choose an academic track.

## sym301-8.4 Identity and well-being during the transition from school to work in Finland

Elina Marttinen, Julia Dietrich, Katariina Salmela-Aro  
University of Jyväskylä, Finland

This longitudinal study examined how young adults' identity profiles are linked to their life situation (education, employment, partnership), personal goals, academic and overall well-being across time from age 23 to 25. Based on a sample of 577 (56 % female) young Finns, Latent profile analysis revealed five profiles: moderate achieved identity (44 %), moderate diffused identity (30 %), achieved identity (14 %), diffused diffusion identity (9 %) and reconsidering achieved identity (3 %) profiles. Young adults with the reconsidering achieved profile were more likely to study for university entrance examination. Those in the achieved identity group were more likely to study and work at the same time which was less common in moderate diffusion profile. Furthermore, those in the moderate diffusion group were more likely to be either working or unemployed at age 23 suggesting that they had finalized the transition from school to work at an early age. Among young adults with diffused diffusion profile self-focused ruminative personal goals were typical, they were had a clinically significant number of depressive symptoms and their life satisfaction was the lowest. Those in the moderate diffusion profile also had low life satisfaction and elevated number of depressive symptoms. Both groups reported low academic engagement and high academic burnout. In conclusion identity profiles are clearly linked to young adults' educational trajectories and employment status as well as to their well-being. Diffused diffusion identity proves a major risk factor which is associated with poor wellbeing as well as longitudinally with ruminative self-focused contents in personal goals. These results suggest that personal goals and their content play an important role in identity development during the transition to adulthood.

## sym301-8.5 Developing a clearer self: Links between self-concept clarity and transitions to adulthood

Marloes P. A. Van Dijk, William W. Hale, Wim H. J. Meeus, Susan J.T. Branje  
Utrecht University, Netherlands

The development of a clear and stable self-concept (i.e., self-concept clarity; SCC; Campbell, 1990) is a key task in adolescence and young adulthood (Erikson, 1963). Developing a clearer sense of self may be linked to transitions youth experience in the same period of life, such as leaving the parental home, starting first jobs, and starting to cohabit or getting married. SCC may predict who navigates when through different life transitions, because individuals with a clearer self-concept are thought to be more flexible in responding to the social environment (Campbell, 1990). On the other hand, experiencing a life transition might foster the development of SCC, because life transitions may require to explore and reconsider current identity commitments (Luyckx et al., 2006). We longitudinally examined SCC from age 12 to 25 and associations with incidence of first romantic relationships, leaving the parental home, starting the first job after finishing education, and cohabiting or marrying. Dutch youth from two cohorts ( $n=683$ , mean age  $T1=12.70$ ,  $SD=.49$ ;  $n=268$ , mean age  $T1=16.87$ ,  $SD=.69$ ) reported on SCC six times covering nine years, and retrospectively on life transitions. Results of LGCA's showed linear increases in SCC, indicating that youth develop a more coherent sense of self. Furthermore, youth with lower SCC more often made transitions to first jobs and cohabitation or marriage than those with higher SCC. Differently, individuals who experienced their first romantic relationship had a stronger increase in SCC than youth who did not. In subsequent analyses we will examine between- and within-person changes between SCC and life transitions during each wave from age 16 to 21 (see Figure 1), using cross-lagged path models and random intercept cross-lagged path models. Detailed results and implications will be discussed.

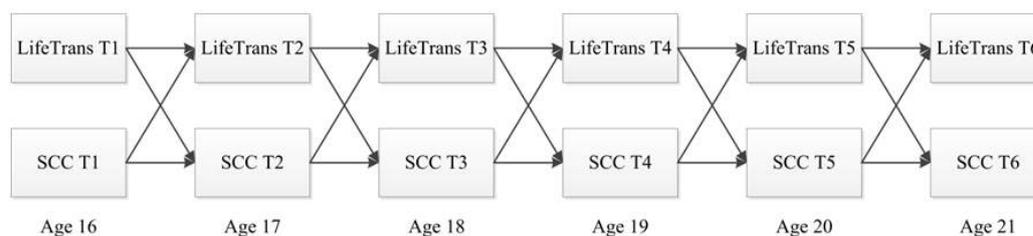


Figure 1.

General overview of the model to be tested with cross-lagged path models and random intercept cross-lagged path models

## sym301-9 Factors affecting development of reasoning abilities in children

Sayuri Takahira, Chair  
*Tamagawa university, Japan*

Development of reasoning abilities is one of the crucial aspects of children's cognitive development. In this symposium, we will explore the underlying factors that influence development of various aspects of children's reasoning abilities, such as arithmetic reasoning abilities, spatial reasoning abilities, and the reasoning abilities of children with developmental delay.

The first talk by Yukari Okamoto (co-authored by Brake-Avant & Romo) will provide us findings from their study on spatial transformation and visualization. Their finding illustrates familiarity and some demographic factors as affecting children's reasoning abilities especially on spatial transformation and visualization.

The second talk by Shinichiro Sugimura will present effects of action as a factor that affect children's spatial reasoning ability. He conducted two experiments on rotation tasks with children aged 3 to 6. He illustrates the effect of manual rotation on the anticipatory image of object location and the effects of action and anticipation on the children's mental image of trajectories.

The third talk by Mitsuru Noda will describe importance of physical movement as the factor that affecting the processes of spatial reasoning. He examined 95 primary school children using mental rotation tasks and found that physical movements may involve in reasoning process of target transformation convergence in terms of coordination.

The fourth talk by Atsushi Asakawa will show the evidence of how the fine motor abilities related to arithmetic reasoning abilities in preschool children. He examined 48 preschool children and reported that the number concepts mediate between fine motor abilities and arithmetic abilities.

The fifth talk by Shu-hsien Tseng explores the factors affecting development of reasoning abilities of the children with developmental delays. She will investigate the changing process of reasoning ability of preschool children with developmental delays through an intervention according to a curriculum based on the theory by Vygotsky.

### sym301-9.1 Preschoolers' reasoning about spatial transformation and visualization

Sherice Brake-Avant, Laura F Romo, Yukari Okamoto  
*University of California Santa Barbara, United States*

The spatial reasoning literature has focused much attention on how older children and adults reason about block configurations when they are rotated. Uttal et al. (2013) confirmed this trend in the literature and at the same time called to attention the multi-dimensional nature of spatial reasoning. The current study aimed to examine (1) preschoolers' understanding of mental rotation; (2) how this understanding relates to their spatial-visual reasoning skills; and (3) if particular demographic factors are related to the development of these reasoning skills.

Available literature on young children's mental rotation reasoning found the developmental trajectory to follow a U-shaped pattern in which reasoning abilities emerged in infancy temporarily disappear at around age 3 or 4, and re-emerge after 5. Why is it the case? One possible explanation is that available mental rotation tasks use unfamiliar shapes and contexts to young children. We thus developed tasks that use shapes and contexts familiar to children's everyday experience. We also included in our tasks features from embedded figures to see how young children respond to tasks that vary along these dimensions.

Based on the data from 45 four-year-olds, we found that children showed more competence when the task used familiar shapes (e.g., triangles) or contexts (e.g., puzzles) than the standard measures of mental rotation and embedded figures. As expected, we found that these two standard measures to be statistically unrelated but our measures shared some communality with each of the measures. Furthermore, we found some demographic factors to impact young children's spatial reasoning abilities. This includes bilingual children and girls outperforming their counterparts on the hybrid measure of mental rotation and embedded figures. These findings suggest that young children rapidly develop spatial reasoning in early years in their familiar everyday context. Implications of the current findings for theory and practice are discussed.

### **sym301-9.2 Effects of action and anticipation on children's mental imagery**

Shinichiro Sugimura

*Hiroshima University, Japan*

The recent introduction of embodiment into cognitive science has encouraged developmental studies on the relationship between actual action and mental imagery. However, most studies compare differences in the obtained results between cases when mental rotation tasks are given with or without action, instead of clarifying what action would be important. Moreover, in previous studies, because action is accompanied by anticipation, little is known about the simple effect of anticipation. Thus, we conducted two experiments with children aged 3-6 years. Development of mental imagery was examined by asking children to draw the positions and trajectories of three beads fixed on a rod, which rotates 180 degrees.

In Experiment 1, three training conditions were set to investigate the effects of observation and two types of action: a child observes while an experimenter rotates the tube with beads inserted, holds the center of the tube and rotates it, and holds an end of the tube and rotates it. Two-factor ANOVA showed a significant effect of training, but no interaction between training and the conditions. However, the effect size from the two rotational conditions was greater than that from the observation condition. The results suggest that manual rotation facilitates anticipatory imagery of object locations and holding an end of the tube instead of the center generated awareness about ball trajectories.

In Experiment 2, children were assigned to one of three training conditions: (1) anticipating the trajectories while observing a circular table rotation conducted by experimenter, (2) rotating a table using their hand, and (3) anticipating the trajectories while rotating a table using their hand. Two-factor ANOVA showed a significant effect of training, but no interaction effect. These results suggest that anticipation facilitates the mental image of the trajectories in the same way as action.

### **sym301-9.3 Study of children's physical coordination on the mental rotation task**

Mitsuru Noda

*Edogawa University, Japan*

It has been inferred that physical movements play a major role in solving problems, as children tilt their bodies according to the inclination of an object or move an object with their hands (Noda, 2010, 2011). The question is how the coordination of each body part affects imagery transformation.

Ninety-five Japanese children attending public primary school (1st: N=31, 2nd: N=33, 3rd: N=31) participated in this study. We used the mental rotation task and the determination coefficient as an index of the response compatibility to the orientation. Two picture conditions were prepared: flag conditions (a geometric shape) and gee conditions (a girl riding on a white horse). To measure physical movement, we tried to obtain acceleration data for each child's right hand, left hand and occipital head.

Using the variance of the acceleration assumed to express the fluctuation of the body from the previous study, a two-way ANOVA was conducted with grade and physical parts. For the flag conditions, significant differences in the main effect were obtained for grade and body, and interactions showed a significant trend. For the gee conditions, a significant trend was noted in the grade. The main effect of the body part was significant, and an interaction was also observed. From this, it was shown that the fluctuation range of the motion of each part gradually decreases according to grade. Children were classified into four quadrants based on the degree of the transformation and the coordination of body parts.

We conclude that the physical movements tend to be involved in the target transformation convergence in terms of coordination among young children. Based on the relationship between the extent of convergence of the fluctuation and the imagery transformation, the possibility to extract the dimension of the child's involvement cognitive development was shown.

#### **sym301-9.4 How does fine motor abilities relate to arithmetical abilities in early childhood**

Atsushi Asakawa,

*Kanazawa University, Japan*

Fine motor abilities and number is closely related. Asakawa & Sugimura (2009) has suggested that arithmetical abilities were related with fine motor abilities than working memory. Asakawa & Sugimura (2011) has found that arithmetical abilities was strongly related fine motor abilities than other movement abilities. Asakawa & Sugimura (2014) showed that fine motor abilities predicted arithmetical abilities a year and a half later. In this study, an experiment was conducted on 48 children, aged 5-6 years, to clarify mediation process between their arithmetical abilities and fine motor abilities. We studied whether number concepts mediated relationship between fine motor abilities and arithmetical abilities. Number concepts at young children divided into counting schema which allowed us to accurately count number and global quantity schema which allow us to adequately recognize number magnitude (Case & Okamoto, 1996).

As a result of covariance structure analysis showed that the performances of 5-6 year old children in arithmetic tests is related with fine motor abilities( $\beta=.22$ ,  $p<.05$ ), finger recognition( $\beta=.35$ ,  $p<.01$ ), and counting schema( $\beta=.44$ ,  $p<.01$ ). In addition, Counting schema was related with fine motor abilities( $\beta=.33$ ,  $p<.01$ ) and working memory( $\beta=.60$ ,  $p<.01$ ), and global quantity schema was related with finger recognition( $\beta=.35$ ,  $p<.01$ ) and working memory( $\beta=.53$ ,  $p<.01$ ).

From the above result, fine motor abilities were associated with arithmetical abilities by the intermediate of counting schema. If children will be able to operate the fingers properly, they will be able to correctly count the number and then improve arithmetical abilities. Although fine motor abilities were not associated with the global quantity schema, finger recognition was associated with the global quantity schema. On the contrary, finger recognition was not related to the counting schema. In sum, numerical abilities and finger are involved in multiple aspects.

#### **sym301-9.5 Exploring children's reasoning ability and related intervention in developmental delays**

Min-Zhen Hsu, Shu-hsien Tseng

*Chung Yuan Christian University, China, Republic of (Taiwan)*

Children with developmental delays have difficulties across several areas such as communication, social emotion, or cognition. Effective interventions are critical to prevent further substantial lags. This study aimed to investigate the changing process of reasoning ability of preschoolers with developmental delays through an intervention according to a curriculum based on the Vygotsky's theory (1978). Intervention strategies were designed to improve delayed preschoolers' performance in an inclusive classroom in a public preschool in Taiwan. This study adopted an action research approach. Besides the reasoning ability of preschoolers with delays, it also explored the challenges and teachers' coping strategies during implementation of the intervention.

Participants included two early childhood teachers and two preschoolers with developmental delays in the classroom. Intervention lasted for eight weeks, five days a week, during corner time of daily routines in the classroom. During the intervention, teachers set up initial intervention strategies and taught them to the two delayed preschoolers. Then, the process of how preschoolers reasoned, adopted, and adjusted the strategies during corner time was observed and recorded.

Results showed the efficacy of the intervention to improve the reasoning ability of the delayed preschoolers. We found that teachers only needed to play a leading role in the beginning. After preschoolers learned and acquired the strategies, they became totally independent in applying and expanding the strategies.

We also verify that there are stages for preschoolers to reason and to apply the strategies. The stages are mostly consistent with four stages proposed by Vygotsky. However, an extra stage is found before they could use the strategies independently. That is, when the preschoolers start to become more and more careful to use the strategies before they are totally independent. Finally, it is found that preschoolers' abilities were improved in multiple aspects, including reasoning, working memory, and cognitive flexibility after intervention.

## Paper sessions 301, Friday September 1, 09:30 – 11:00 hrs.

### pap301-10 Emotion Comprehension, Regulation and Socialization

#### pap301-10.1 Emotion Comprehension and Theory of Mind: a longitudinal study based on SEM

Renata Sarmiento, Beatriz Lucas-Molina, Patricia Recio, Laura Quintanilla, Marta Giménez-Dasí  
*University of Valencia, Spain*

Emotion Comprehension (EC), Theory of Mind (TM) and language are aspects of particular importance for child development. These three areas have been traditionally studied separately and mostly in preschool children. Although in recent years the relationships between them have been analyzed, there is no clear developmental map. The main objective of this study is to analyze the relationships between EC, TM and language through a longitudinal study. We selected a group of 106 children aged 3 and measured EC, TM and language skills until age 6. Children were evaluated in 3 different moments (age 3, 4 and 5). A structural equations modeling will be presented. It will provide empirical evidence of the temporal and mediational relationship among the three variables. Implications for early socio-emotional development, as well as clinical and educational purposes are discussed.

#### pap301-10.2 Was that intentional? Infants use others' emotional expressions to infer their goals

Peter Reschke, Daniel Dukes, Eric Walle  
*University of Neuchâtel, Switzerland*

During the second year of life, infants are able to re-enact others' intended actions (Melzoff, 1995). However, little is known about the role of infants' emotion understanding in their appreciation of others' intentions. This study examined infants' use of others' emotional cues to disambiguate the intentionality of others' actions. Eighteen-month-old infants ( $n = 14$ ) observed an experimenter try, but fail, to perform three unique goal-directed actions: (1) drop a beaded necklace into a cylinder, (2) pull a dumbbell apart at the center, and (3) press a buzzer on a ramp using a wooden dowel. Importantly, infants only observed the experimenter's failed attempt at performing the target actions. Infants were randomly assigned to view the experimenter express either frustration or neutral affect after each attempt. Infants were then given 20 seconds to interact with each object. Infants' re-enactment of the target action for each object was coded and a total score calculated based on the number of imitated target actions (possible range: 0-3).

Infants imitated significantly more target actions in the Frustration condition ( $M = 1.78$ ) than the Neutral condition ( $M = 0.50$ ),  $t(13) = 2.42$ ,  $p = .03$ ,  $d = 1.46$ , 95% CI [0.14, 2.42] (see Figure 1).

These findings provide evidence that 18-month-old infants use others' emotions to clarify whether their actions were intentional or accidental. These results extend previous work on infant imitation suggesting that emotion may indeed play a role in disambiguating others' actions (Carpenter, Akhtar, & Tomasello, 1998; Hoicka & Gattis, 2008). Implications for the role of emotion understanding in appreciating others' goals will be discussed.

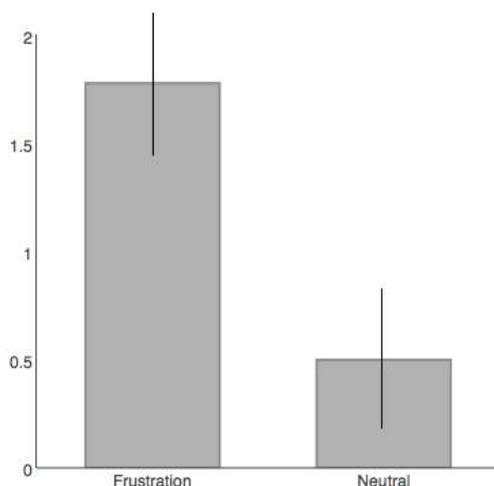


Figure 1: Mean Number of Imitative Actions as a Function of Condition. Note: Error Bars represent +/- 1 SE.

### **pap301-10.4 Parent Emotion Socialization and Children's Socio-emotion Development: Results from Three African Countries**

Manasi Kumar, Ama de-Graft Aikins, Janet Nakigudde, Ernestina Dankyi, Gloria Abura, Keng-Yen Huang  
*University of Nairobi, Kenya*

Children in Sub-Saharan-Africa grow up in environments characterized by extreme poverty and violence and many are victims of abuse and neglect. However, little is known about the underlying developmental mechanisms including the influence of stressors on the emotional context of parenting, and influence on children's socio-emotional development.

**Aim.** This study examines: 1) patterns of parents' emotion socialization (e.g., expressivity, discussion, and reaction to children's emotion) in three African countries; 2) influence of family stressors on parent emotion socialization practices, and children's socio-emotional development.

**Method.** The conceptual model is guided by the Family Stress Model, which posits that the environmental-related pressures influence parenting, which further influence child development. This study included 175, 425, and 225 families from Uganda, Kenya, and Ghana, respectively. The Responses to Children and Emotion Questionnaire (O'Neal & Magai, 2005) assess parent emotion socialization practices. Family stressors, including education level, food insecurity, parental health, unemployment, depression, social support, and number of children were assessed using multiple measures. Child outcomes were assessed using PROMIS pediatric measures (NIH, 2016) and Child Behavior Checklist (Achenbach, 1991).

**Results:** We found no country difference on parents' practice in discouraging negative emotions, but there were country differences on encouragement of negative emotion. Kenyan parents showed significantly higher practices on encouraging children to express sadness and anger in comparison to Ugandan and Ghanaian parents. Consistent with the Family Stress Model and cross cultural literature, family food insecurity, poor parental health, and parental depression were associated with higher parent discouragement of child expression of negative emotions. High family social support was associated with high parent encouragement of child expression of negative emotions. Across all three countries, higher parental discouragement of negative emotion was associated with higher problem behaviors.

**Conclusions:** Findings support cross cultural consistency in the developmental mechanism. Implications for intervention will be discussed.

### **pap301-10.5 Attachment to psychosis specific distress: emotion regulation & metacognition as mediators**

Melissa Akoral, Karen Goodall, Robert Rush, Chris McVittie, Sean Harper  
*Queen Margaret University, United Kingdom*

Psychosis is a severe and enduring mental health difficulty that affects ones' cognition, behaviours and affect. Psychosis is understood to be on a continuum with normality. Research suggests that what determines where someone is on that continuum is how distressed they feel by their experiences. Attachment is a theory of distress regulation. Research suggest that insecure attachment patterns contribute to the development and maintenance of psychological difficulties, including psychosis. This research project investigated the relationship attachment has with psychosis specific distress in relation to psychological factors.

Sixty people living in the community with a diagnosis of schizophrenia spectrum disorder completed self-report questionnaires. The scales measured attachment, emotion regulation difficulties, implicit beliefs about emotions, metacognition skills, and a psychosis specific distress measure, comprising positive, negative and depressive distress scores.

The results indicated that both attachment avoidance and anxiety predict psychosis specific distress. Simple mediation analyses indicated that there are significant indirect effects of attachment anxiety on psychosis specific distress through emotion regulation, metacognition and implicit beliefs about emotions. An investigation of the subscales suggest that all dimensions of emotion regulation mediate the relationship. From the metacognitive subscales, negative beliefs about worry, cognitive beliefs about worry and the need for control were significant mediators.

This study sheds novel light on psychosis specific distress by establishing its association with psychological factors within an attachment framework. Further understanding of the specific emotional and metacognitive pathways that mediate the relationship between attachment insecurity and psychosis related distress have implications for the maintenance of psychosis and for associated interventions.

### **pap301-10.6 The Mediator Roles of Emotion Socialization Behaviors Between Parenting and Children's Behaviors**

Dilek Saritas Atalar, Ayse Vildan Acar Bayraktar, zeynep Cakmak  
*Ankara University, Turkey*

Aim: It is known that parenting is a key factor to develop prosocial and problem behaviors in middle childhood. However, the mechanism through which this relation may occur is the question. Parents' emotion socialization practices their reactions to children's emotions, emotion related parent child discussion and emotion expressivity are important for children's social and emotional development. However, most research has been conducted with preschool children. Therefore, the purpose of the study was to investigate the mediator roles of mothers' emotion socialization behaviors on the relation between parenting and children's prosocial and problem behaviors. Further, gender was considered as moderator. Method: Participants were 228 mothers of 6 to 11 year old children from three primary schools located in Ankara, Turkey. Mothers completed Alabama Parenting Questionnaire, Coping with Children's Negative Emotions Scale and Strengths and Difficulties Questionnaire. Results: The data was analyzed using the SPSS program PROCESS (Hayes, 2013). Results revealed that supportive emotion socialization behaviors fully mediated the relation between positive parenting behaviors and both boys' and girls' prosocial behaviors. On the other hand, nonsupportive emotion socialization behaviors partially mediated the relation between inconsistent parenting behaviors and only girls' total difficulties. Conclusion: According to the results, mothers' emotion socialization behaviors have differential effects on child outcomes.

**pap301-11.2 Preventing cruelty and unsafe child-pet interactions with an educational iPad intervention**

Roxanne Hawkins, Joanne Williams  
*The University of Edinburgh, United Kingdom*

**Aim:** Pets have an impact on children's social, emotional and cognitive development (theory of mind and understanding of biology), and have a role in child and adolescent mental health, well-being and quality of life. However, children lack knowledge about animal welfare needs and about appropriate and safe behaviour towards pet animals. The aim of this study was to design, develop, and conduct an evaluation of a novel educational iPad intervention for children to teach them about fundamental aspects of animal welfare including animal emotions, sentience and welfare needs.

**Methods:** The study is a pre-test, intervention, post-test design, including an intervention and control group. Participants included 92 test and 65 control (46% boys, 54% girls) primary-school children aged 7-11 from schools in Scotland, UK. Children were pre-tested using a short questionnaire administered in the class that included measures of compassion, attitudes to cruelty, sentience, welfare knowledge and knowledge about appropriate behaviour towards pets. Children in the intervention group then played the 'Pet Welfare' iPad game, which was designed to teach children about animal sentience, the five animal welfare needs, and about appropriate and safe behaviours towards pets. Children then completed the post-test questionnaire.

**Results:** There were significant effects of the game on: compassion towards animals ( $F(1,91)=5.4$ ,  $p=.022$ ,  $n2=.06$ ), beliefs about animal minds ( $F(1,88)=61.17$ ,  $p=.000$ ,  $n2=.41$ ), knowledge about appropriate behaviour towards pets ( $F(1,87)=106.7$ ,  $p=.000$ ,  $n2=.55$ ), safe behaviour towards pets ( $F(1,88)=34.38$ ,  $p=.000$ ,  $n2=.28$ ), attitudes towards cruelty to pets ( $F(1,87)=31.14$ ,  $p=.000$ ,  $n2=.26$ ), and knowledge about cat welfare needs (but not dog or rabbit needs) ( $F(1,87)=9.53$ ,  $p=.003$ ,  $n2=.1$ ).

**Conclusions:** This study demonstrates the positive impact of interactive digital educational interventions that enhance knowledge of animal welfare and understanding of animal behaviour and emotions. These changes are likely to be important in improving children's behaviour towards animals and reducing cruelty.

**pap301-11.3 Physical activity contexts and positive outcomes**

Nora Wiium, Reidar Säfvenbom  
*University of Bergen, Norway*

Participation in organized leisure-time activities is found to be associated with positive developmental outcomes such as better physical performance, academic achievement, psychological adjustment, and enhanced youth identity. Studies also suggest that the spontaneous free play that characterises unorganized physical activity (PA) may provide young people with opportunities to learn social skills such as independence, self-regulation skills, and conflict resolution skills. In the present study, we assess how organized and unorganized PA among young people, either in combination or alone are associated with positive outcomes such as healthy physical development (BMI), perceived academic competence, and perceived social competence. Data was collected from a representative sample of 2055 students from 38 different schools in Norway (ages 13 to 18; mean age: 15.3years). About 52% were females. From the results, BMI and perceived social competence were significantly related to organized PA ( $\beta = -.09$ ,  $p < .01$ ; and  $\beta = .17$ ,  $p < .01$  respectively) while only perceived social competence was associated with unorganized PA ( $\beta = .13$ ,  $p < .01$ ) after control for age and gender. Furthermore, participants who engaged in both organized and unorganized PA were more likely to report healthy scores on BMI and higher scores on perceived social competence than those who only engaged in unorganized PA (OR = 0.57, 95% CI 0.40 – 0.82; and OR = 1.55, 95% CI 1.18 – 2.04, respectively). However, participants who engaged in both organized and unorganized PA did not differ on the predictors from those who only engaged in organized PA. Whilst organized PA is associated with both physical and social developmental benefits, the social benefits associated with unorganized PA appear to be reinforced by the effect of the organized physical activities that are also engaged in by these participants.

#### **pap301-11.4 Understanding fathers' and clinicians' needs and preferences regarding father engagement in interventions**

Patrycja Piotrowska, Frances Doyle, Lucy Tully, David Hawes, Matthew Burn, Meryn Lechowicz, Daniel Collins, Mark Dadds

*The University of Sydney, Australia*

**Aim:** Previous research has shown the effectiveness of evidence-based parenting interventions in improving parenting and reducing child externalising problems. Moreover, enhanced child outcomes are found when fathers participate in these interventions. Yet rates of father participation in parenting interventions are often not reported, and when they are, participation rates are very low. In order to improve parent and child outcomes, it is therefore important to understand the experiences, needs, and preferences of fathers, as well as the practitioners who work with them.

**Methods:** These studies were conducted as part of the Like Father Like Son Project, which aims to investigate a range of innovative strategies for enhancing the engagement of fathers in evidence-based parenting interventions. Over 1000 fathers completed an online questionnaire investigating their experiences of, and preferences for, parenting interventions. Focus groups with over 40 fathers were also conducted. Over 200 practitioners who deliver parenting interventions completed a survey about their experiences and competencies in working with fathers.

**Results:** In this presentation, the results of the questionnaires and focus groups will be described. Results will include a discussion of fathers' attitudes to parenting programs; preferences for parenting program content and delivery methods; and perceptions of barriers and facilitators to participation in parenting interventions. Practitioners' experiences in working with fathers will also be reported. Practitioner results will include a discussion of practitioners' skills and confidence in engaging fathers; perceptions about the barriers and facilitators to father engagement; and practitioners' previous participation in training programs on father engagement.

**Conclusions:** The presentation will describe how the findings of the questionnaires and focus groups were used to inform the development of a national, online parenting intervention called ParentWorks, and a training program to improve practitioners' competence in engaging fathers.

#### **pap301-11.5 Engaging Fathers in Parenting Programs: Evaluation of a National Practitioner Training Program**

Frances Doyle, Patrycja Piotrowska, Lucy Tully, David Hawes, Matthew Burn, Meryn Lechowicz, Daniel Collins, Mark Dadds

*The University of Sydney, Australia*

**Background:** Researchers have shown that enhanced child outcomes are achieved when fathers participate in evidence-based parenting interventions. Yet there are currently low rates of father participation in evidence-based parenting programs. This highlights the need for continued improvements in strategies to enhance father engagement. Practitioners who work with families are an important target for interventions to increase rates of father engagement, especially as surveys of practitioners indicate they have low levels of competence in engaging fathers. Thus, the provision of practitioner training to enhance competencies in engaging fathers may be one avenue to increase the involvement of fathers in parenting interventions.

**Aim:** The aim of this study was to develop and evaluate a training program to enhance practitioner competencies (confidence and skills) in engaging fathers in Australia.

**Methods:** The 'Engaging Fathers in Parenting Programs: National Practitioner Training' was developed as part of the Like Father Like Son Project, a national research collaboration that aims to increase the engagement of fathers in evidence-based parenting interventions. The training was delivered to practitioners either individually online, or in face-to-face groups. Practitioners completed questionnaires at pre, post, and two months following training. Measures included practitioner confidence, father engagement skills, and organisational policies and practices regarding father inclusion.

**Results:** Preliminary data from the first six months of program implementation will be presented and will include data on the effectiveness of the training program across all outcome measures. To help contextualise study findings, the results of a national benchmarking study that outlines the current rates of father engagement in a range of Australian child and family services will also be described.

Conclusions: The findings will be used to inform policy and practices regarding the enhancement of father engagement in parenting interventions. Implications of these findings will be discussed.

### **pap301-11.6 Training Behavioral Control in Adolescents using a Serious Game**

Wouter Boendermaker, Remco Veltkamp, Robbert Jan Beun, Rens van de Schoot, Margot Peeters  
*Utrecht University, Netherlands*

**Aim:** Heavy alcohol use among adolescents is a severe societal problem. Impaired behavioral control is a strong predictor of alcohol use. Several cognitive training paradigms have been developed that can increase behavioral control, and help adolescents control their drinking behavior. However, these paradigms tend to be long and boring, and adolescents may not have sufficient motivation to complete the training. To motivate them to sustain their performance during training, we integrated a response inhibition training into a Serious Game.

**Methods:** The gamified training was tested in a randomized controlled trial among Dutch adolescents between 15-18 years in mainstream and special education. The training lasted for four sessions over a period of four to six weeks. We are currently finishing data collection; at present, 185 adolescents have completed either the gamified training (n=70), a non-gamified training (n=60), or a placebo game without active training elements (n=55). In each condition we evaluated changes in participants' behavioral control and drinking behavior, as well as whether the game was more fun to play.

**Results:** First results indicate the gamified versions were rated more positively than the non-game training. Inhibition improved over time, but this occurred in all conditions, suggesting that the placebo version of the game was still strong enough to affect inhibition. Finally, drinking levels were moderate at baseline and we not affected by the training.

**Conclusions:** As a first pilot among moderately drinking youth, this study shows promising results with respect to the new training game's potential to both motivate and effectively train adolescents. Further studies are necessary to fine tune the game and to test the effects in a heavier drinking sample.

**pap301-12.1 Preschoolers' gender-based reasoning about toys: categorisation skills and parental gender norms**

Virginia Lam, Philippa Samba, Felicity Emmerson  
 University of East London, United Kingdom

**Aim:** One of the key sources of gendered childhood experiences is toys. Not only do children prefer, and explore more, new yet same-sex-labelled toys, even without gender labelling, children by age 4 selectively generalise to same-sex others their own novel toy-liking until at least age 9 (Lam & Leman, 2003). This talk will present ongoing research that tests preschoolers' gender-based toy choice with two contributing variables: categorisation skills and parents' gender norms.

**Methods:** Children (N=44; 23F) aged 2-4 years (M=40mo), split into two groups (<36mo; 36+mo) based on entry to preschool class (structured learning), were shown pictures of six toys (2 gender-stereotypic; 4 gender-neutral/novel) and asked to indicate their own toy-liking and infer about four (2M; 2F) target others. Children's classification skills (sorting physical and human objects) were assessed at another session. Parents (N=44; 33F) self-reported gender norms on language use and behavioural expectations.

**Results:** A 2 (target sex) x 2 (own sex) x 2 (age group) mixed ANOVA on target novel-toy liking found a 3-way interaction ( $F(1,40)=4.15, p<.05$ ); 36+mo boys inferred that other boys (M=3.07, SD=1.33) would like novel toys more than other girls (M=1.71, SD=1.76). Analysis comparing the differences between own toy-liking and inferences about same- versus opposite-sex targets (gendercentric reasoning) found a gendercentrism x own sex x age group interaction ( $F(1,40)=4.87, p<.05$ ); 36+mo boys inferred that other boys would like novel toys more similarly to how they did compared to girls (see figure 1). Parents' behavioural expectations, not language use or children's categorisation skills, were related to children's gendercentric tendency.

**Conclusions:** The study has hitherto shown that stereotype creation for and gendercentric reasoning about new objects are evident from as young as 3 years, particularly in boys (study continuing; full results to be presented at conference). Results will be discussed in relation to social-learning and cognitive-developmental factors.

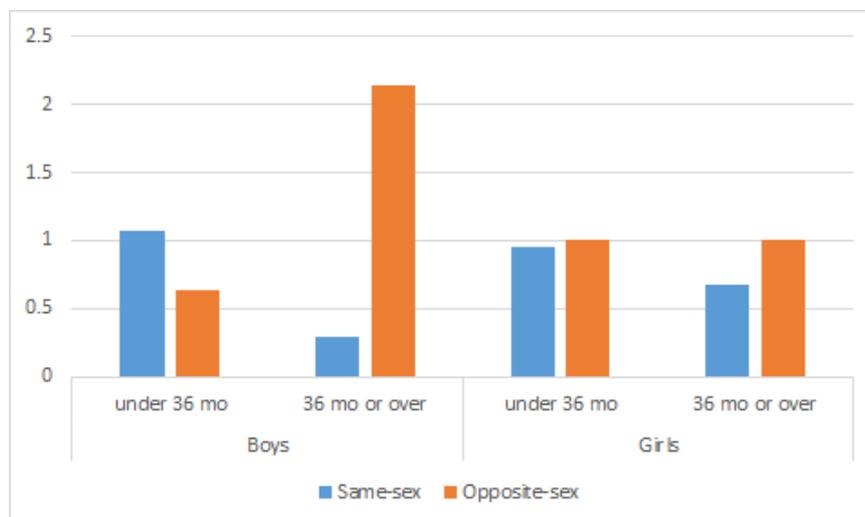


Figure 1. Mean absolute differences between own novel toy-liking and same-sex vs. opposite-sex others by age group in boys and girls

### **pap301-12.2 Reintroducing gender in developmental psychology education: Lessons learned and visions revisited**

Elizabeth Hallers-Haalboom, Marrie Bekker  
*Tilburg University, Netherlands*

The increasing equality between men and women in Western society seems to have led to a decreased interest towards gender in developmental psychology and its corresponding (academic) education. However, many sex differences that are relevant to psychotherapy still exist. Numerous studies have shown important sex differences in symptomatology, risk factors, and diagnostic artefacts of psychological disorders during childhood and adolescence, including depression, anxiety, autism spectrum disorder, and attention deficit hyperactivity disorder. We argue that gender should be seen as a component of diversity, which, if not addressed in developmental psychology education, may lead to gender bias in diagnostics and treatment. Gender competent therapists should possess relevant knowledge on sex and psychopathology and be able to reflect upon the influence of their own gender (among other diversity aspects) and on their perceptions of and interactions with male and female patients.

As part of a national project on gender and health, we have been integrating gender-sensitive knowledge into academic developmental psychology education in the Netherlands. In our experience, many teachers had not incorporated gender into their courses, because they lacked knowledge on the topic or did not recognize its relevance for diagnostics and treatment. Yet, when we discussed findings on gender and psychopathology, we often (though not always) found that teachers and therapists were interested and open to collaboration. The current presentation will describe our experiences within the education project, and depict recent and remarkable findings on gender and psychopathology. In doing so, we will highlight the importance of gender within the context of diagnostics and treatment. Although we encountered some resistance within the project, we believe that a gendered approach of developmental psychology may offer many benefits for future psychologists and their patients.

### **pap301-12.3 Investigating mother-adolescent pairs' gender schemas in Turkey**

Hatice Işık-Baş, Basak Sahin-Acar, Ayça Özen-Çıplak, Buse Gönül, Huri Gül Bayram-Gülaçtı, Nur Elibol-Pekaslan, Pelin Deniz  
*Middle East Technical University, Turkey*

Adolescence is defined as a conflicting process, which is dominated by identity acquisition and role confusion. In this period, adolescents start to think about gender roles along with rapid physiological and emotional ongoing development. Considering that children spend more time with their mothers (Tennenbaum & Leaper, 2002), it can be said that mothers play important role on the learning process of stereotypical gender roles. The aim of the current study is to investigate mother-adolescent pairs' social gender schemas with the content analysis in a qualitative way.

With this aim, 61 mother-adolescent pairs ( $M_{\text{mother}} = 44.24$ ,  $M_{\text{adolescent}} = 14.70$ ; 30 male adolescent) were recruited. Semi-structured and individual interviews were conducted with participants in the laboratory settings. In the interviews, adolescents were asked what kind of a woman/ man they wanted to be in the future and their mothers were asked what kind of a woman/ man they wanted to view their daughter/son as in the future. After each participant's answer was transcribed, their answers were examined qualitatively. Thematic units in their answers were coded, which were placed under three categories: Femininity, Masculinity, and Natural (Bem, 1983). In addition, participants' answers were tested with a non-parametric statistical test (chi-square) in order to compare the frequency of categories that is used by a) mother-adolescent pairs b) girls-boys c) girls' mothers-boys' mothers. The results indicated almost perfect harmony between mothers and adolescents in terms of thematic units and significant differences in the frequency of three different categories used by girls' mothers-boys' mothers and girls-boys. Findings were discussed in light of social gender role theories and value of children in Turkey.

## pap301-12.4 Can Gender Counterstereotypic Models in Children’s Magazines change attitudes and toy preferences?

Lauren Spinner, Lindsey Cameron, Rachel Calogero  
*University of Kent, United Kingdom*

Extensive evidence has documented the gender stereotypic content of children’s media, and media is recognized as an important socializing agent for young children. Yet, the precise impact of children’s media, specifically children’s magazines, on the endorsement of gender-typed attitudes has received less scholarly attention. We investigated the impact of stereotypic and counterstereotypic models presented in children’s magazines on children’s gender flexibility around toy play, playmate choice, and social exclusion behaviour (N = 82, age 4-7 years). Children were randomly assigned to view a boy and girl model of a similar age on a magazine page playing with either a gender stereotypic or counterstereotypic toy. In the stereotypic condition, girl models were portrayed with a toy pony and boy models were portrayed with a toy car; these toys were reversed in the counterstereotypic condition for the girl and boy models (see Figure 1). Results revealed significantly greater gender flexibility around toy play and playmate choices among children in the counterstereotypic condition compared to the stereotypic condition. However, there was no difference in children’s own preferences for gender-typed toys between the stereotypic and counterstereotypic condition, with children preferring more gender-typed toys overall. This study demonstrates that even brief exposure to counterstereotypic models in the media can have a positive effect on children’s attitudes, but not preferences.

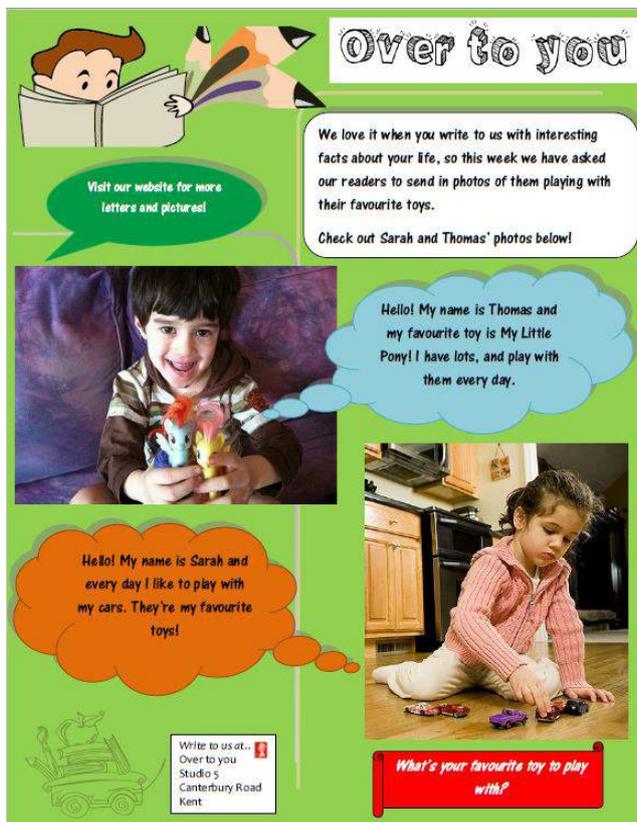


Figure 1: Stimuli used in counterstereotypic condition

## pap301-12.5 Emerging adults gender-identity typologies are related to gender-typing, friendships, and social-emotional adjustment

Joyce Endendijk, Naomi Andrews, Carol Martin  
Utrecht University, Netherlands

**Aim:** Little is known about gender identity in emerging adulthood, even though this is an important developmental period for identity formation. Therefore, the current study examined emerging adults' gender identity and its link with several gender-related and social outcomes, by using a novel dual-identity approach that was originally developed in children. **Methods:** Dutch emerging adults between 18 and 25 years old ( $n = 318$ ,  $M_{age} = 21.73$ ,  $SD = 2.02$ ; 51% female) indicated their similarity to the own-gender group and the other-gender group on a graphical measure to assess gender identity. They also completed questionnaires assessing gender-typed behavior and attitudes, friendship efficacy and ability, and social-emotional adjustment. **Results:** Cluster analysis on the gender-identity items revealed four gender-identity types (Fig.1); 1) feeling similar to own gender, but not to other gender (Own-GS), 2) feeling similar to both own and other gender (Both-GS), 3) feeling dissimilar to own gender (Low-Own-GS), 4) feeling similar to neither gender (Low-GS). Own-GS and Low-GS adults were most gender-typed in their behavior and attitudes. Both-GS adults were highly able and efficacious to relate to friends of both genders, whereas the other groups were able and efficacious to relate to own-gender or other-gender friends only (Own-GS, Low-Own-GS), or to neither gender (Low-GS). Low-Own-GS and Low-GS were least well-adjusted social-emotionally. **Conclusions:** Identifying with one's own gender appears to be essential for good social-emotional adjustment. However, also identifying with the other gender has the advantage of flexible social and interpersonal skills and egalitarian gender attitudes. The conceptualization that gender identity involves a connection to one's own gender as well as to the other gender and the graphical measure to assess dual gender identity appears to be appropriate for emerging adults from different educational levels. With this approach it is possible to capture a fuller range of gender identities.

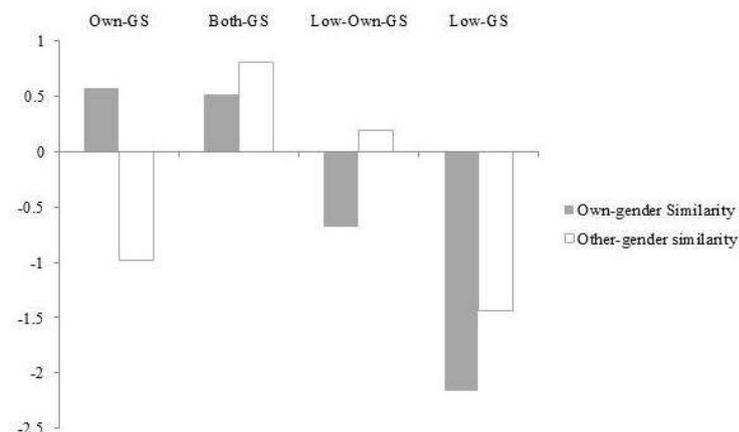


Figure 1. Differences between clusters in similarity to own- and other-gender people. Note. Standardized scores are used. Abbreviation NS represents Non-Significant contrast. Only non-significant differences between groups are labelled, all other differences are significant.

## pap301-12.6 An Investigation Of Parents' Social Gender Roles In Terms Of Children's Views

Nevra Atış Akyol, Selda Ata, Neslihan Güney Karaman  
Hacettepe University, Turkey

The concept of gender, which can be described as the most visible and basic classification of people, is shaped and differentiated by biological sex and gender differences through the influence of one's social life. Social gender roles are learned latently in early childhood years through social learning theory. These learnings are thought to lay the foundations of gender stereotypes for children. In this study, it has been aimed to review parents' social gender roles at their home in the eyes of their children. During the process of choosing the research group, the case of active participation of mother in business life, which could affect and alter the

experiences of children on social gender roles in their home, has been taken into consideration. For this purpose, homogeneous sampling, one of the purposive sampling methods, has been benefited in this research. In the process of choosing the research group, gender differences have been taken into consideration in a way that a research group which is composed of 32 five years-old children (eight boys with employed mothers, eight boys with unemployed mothers, eight girls with employed mothers and eight girls with unemployed mothers) have been defined. Data has been collected through 'Parent's Social Gender Indicator Pictures, Semi-structured Interview Questions and Parent Demographic Information Form' prepared by researchers. While creating data collection tools, researchers had gotten support from literature and field experts. The collected data are analyzed using descriptive analysis method. At the initial result of the research, it has been reached that the expressions towards social gender roles are differentiated in accordance with business participation of mothers and genders of children. The analysis of the data is still in progress.

**pap301-13.1 Am I a poor child?: Development of social class self-categorization in childhood.**

Leonor Pereira da Costa, Ricardo Borges Rodrigues, Sven Waldzus  
 ISCTE-Instituto Universitário de Lisboa, Portugal

Notwithstanding the prevalence of poverty in contemporary societies and the impact in children’s lives itself, research on how children perceive social class self-categorization is scarce. This study aims to investigate children’s implicit and explicit social-class self-categorization and the moderating role of age and socio-economic status (SES). We interviewed 532 6-to-12-years-old ( $M=9.03$ ,  $SD=2.19$ ) children from five Portuguese public schools. A Child Implicit Association Test was used to measure implicit social-class self-categorization, assessing associations of ‘me’ with ‘poor’ vs. ‘non-poor’ child categories. Explicit social-class self-categorization was measured asking children to report in what extent they belonged to these two categories.

The results show that all children explicitly self-identified with the non-poor category, but the scores were lower for older children. Lower SES children (financial support receivers) also self-categorized as non-poor, but less so compared to children with higher SES. At the implicit level, a similar pattern emerged regarding SES, but no age differences were found. Although, across age groups, children explicitly and implicitly self-identified with the non-poor category, the implicit measure scores indicate a significantly weaker self-categorization as non-poor. A significant correlation between the implicit and explicit self-categorization scores was found, except for younger children.

The results of this study are consistent with the hypothesis that lower SES children are motivated to manage a social identity threat posed by stigmatized social-class membership by distancing themselves explicitly from the poor category. Interestingly, the mismatch between the explicit and implicit social-class self-categorization becomes weaker with increasing age, possibly as children’s reasoning and experience with social class self-categorization develops further. This study contributes to the scarce literature on the development of implicit and explicit self-categorization in childhood, and to a better understanding of how these processes unfold in intergroup contexts where group boundaries are more diffuse.

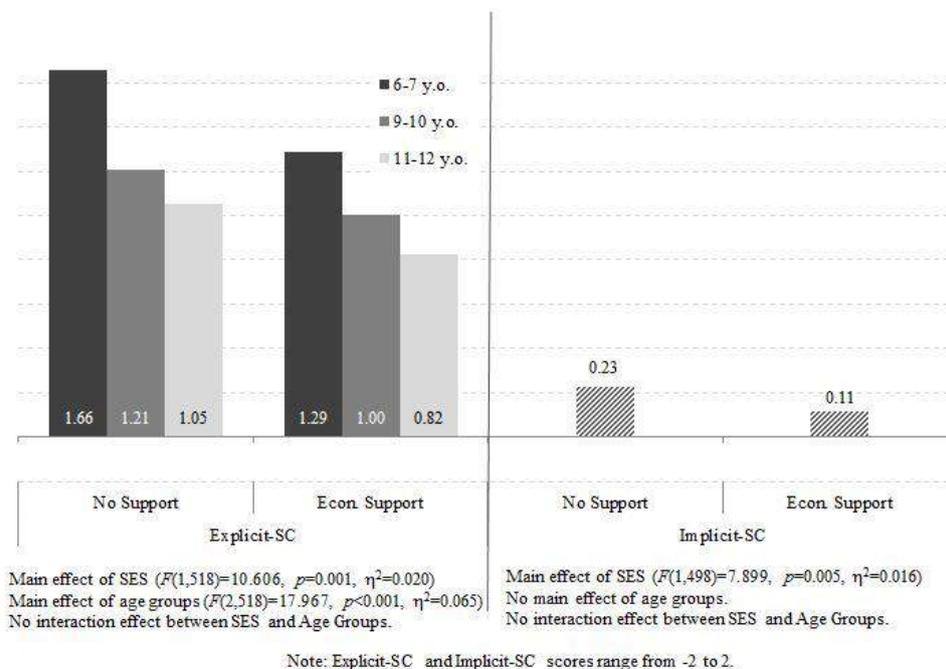


Figure 1: Explicit and implicit social-class self-categorization by age and financial support

### **pap301-13.2 Social skills in Estonian preschool children according to their teachers and parents**

Astra Schults

*Institute of Psychology, University of Tartu, Estonia*

The aim of the study was to compare the teachers' and the parents' evaluations of preschool aged children's social skills. The data were gathered about 100 children at the age of 3 to 6 years. The children spent on average eight hours per day and five days a week in preschool. Parents and teachers filled in two questionnaires for each child - Estonian Social Skills Questionnaire and Strength and Difficulties Questionnaire. Estonian Social Skills Questionnaire has been developed to include as many different observable social skills as possible and the evaluator has to indicate the frequency they have witnessed a child to use each of the skills. The main part of the questionnaire includes 41 statements about social activities. From the evaluations by the teachers we have been able to distinguish a group of children with lower levels of learning related social skills (including speech development and self-regulation skills). In addition, considering the background information we found that children from families with low income seem to have lower evaluations of social skills given by the teachers. Preliminary results from the parents' data indicate that their evaluations to children's social skill differ from the teachers evaluations regarding the activities that are dependent on involvement of a group of children. Also, some of the difficulties that children experience are context dependent as the teachers and the parents have given different evaluations on these. Children's social skills development as well as their use of social skills is dependent on their experiences as well as on the opportunities to practice the skills.

### **pap301-13.3 Developmental Competence of Young Adult Adoptees**

Haylee DeLuca, Logan Stigall, Elizabeth Baker, Manfred van Dulmen

*Kent State University, United States*

Most research on the outcomes of adoptees focuses on behavioral problems in childhood and adolescence (Levy-Shiff, 2001). In contrast, few studies have examined the long-term impact of adoption on young adult outcomes in developmentally salient tasks, such as educational attainment, employment and income, and marital status and quality. The current study extends the existing literature by examining these outcomes while accounting for relevant confounds (i.e., age, gender, mother's education, internalizing and externalizing behaviors, substance use, and the quality of parent-child, peer, and romantic relationships). Data were derived from the U.S. National Longitudinal Study of Adolescent to Adult Health (Add Health), a longitudinal study from a nationally representative sample of adolescents with four waves of data: wave 1 occurred during early adolescence (Mage = 16.03), wave 2 occurred one year later (Mage = 16.52), wave 3 occurred in late adolescence (Mage = 22.32), and wave 4 occurred during young adulthood (Mage = 28.86). Control variables were assessed during the first three waves of data, whereas the young adult outcomes were assessed at wave 4. Regression analyses were used to examine whether adoption status predicted young adult outcomes above and beyond the impact of the control variables. Adoption status did not predict education ( $p = .07$ ), employment ( $p = .32$ ), or income ( $p = .21$ ) after controlling for relevant confounds. However, adoption status did predict marital status ( $p = .02$ ) and marital quality ( $p = .01$ ) after controlling for relevant confounds, such that adoptees were 1.42 times more likely to be married, but reported lower levels of marital quality than non-adoptees (Madoptee = 13.73 and Mnon-adoptee = 14.00,  $d = .08$ ). These results suggest adoptees differ from non-adoptees in certain young adult outcomes, but not others. For the conference, these regression findings will also be compared to propensity score analyses.

### **pap301-13.5 Media Multitasking and Socioemotional Functioning among Adolescents: A Step towards Understanding Causality**

Winneke van der Schuur, Susanne Baumgartner, Sindy Sumter

*University of Amsterdam, Netherlands*

Adolescents frequently use multiple media simultaneously (i.e., media-media multitasking, MMM) and use media during their offline interactions (i.e., media-social multitasking, MSM). These forms of multitasking are expected to hinder adolescents' socioemotional functioning. Although studies have provided support for the

negative relationship between both types of media multitasking and socioemotional functioning, evidence on the causality is limited. Therefore, we conducted a three-wave longitudinal study to explore if MMM and MSM influence adolescents' socioemotional functioning.

**Method:** In total, 1,441 adolescents (11–15yr, 51% boys) from seven Dutch secondary schools completed an online questionnaire in at least one of three waves. The MMM and MSM measurements were based on the Media Multitasking Index. While the MMM-items loaded on one factor, the MSM-items loaded on two factors: low disruptive MSM (L-MSM) and high disruptive MSM (H-MSM). L-MSM reflects media use that is less likely to disrupt offline interactions (e.g., watching television, sending text messages), whereas H-MSM reflects media use that is more likely to disrupt offline interactions (e.g., gaming, watching online videos). Socioemotional functioning was measured with the sub-scales prosocial behavior and emotional problems from the Strengths and Difficulties Questionnaire. Data were analyzed with three random intercept cross-lagged panel models.

**Results:** For the overall sample, L-MSM and H-MSM were related to lower subsequent prosocial behavior. Additionally, prosocial behavior was marginally related to subsequent L-MSM. For boys, we found that MMM, L-MSM, and H-MSM negatively predicted subsequent prosocial behavior, and that prosocial behavior was negatively related to subsequent MMM and L-MSM. For girls, L-MSM was marginally related to more subsequent emotional problems. See Table 1 for all findings.

**Conclusion:** This is the first study to show that MMM and MSM may hinder adolescents' socioemotional functioning, especially prosocial behavior. However, the longitudinal relationships differ for the type of media multitasking and for boys and girls.

Table 1

The Standardized Within-Person Cross-Lagged Correlations between Media Multitasking and Socioemotional Functioning.

	Overall Sample		Boys		Girls	
	W1-W2	W2-W3	W1-W2	W2-W3	W1-W2	W2-W3
<b>Model 1: MMM</b>						
MMM → PS	-.10	-.09 <sup>†</sup>	-.19*	-.22*	.01	.01
MMM → EP	.02	.02	-.06	-.04	.08	.09
PS → MMM	-.06	-.07	-.18**	-.20**	.06	.06
EP → MMM	-.01	-.01	-.04	-.04	.00	.00
<b>Model 2: L-MSM</b>						
L-MSM → PS	-.11*	-.10*	-.13*	-.14*	-.08	-.06
L-MSM → EP	.06	.05	.01	.01	.12 <sup>†</sup>	.12 <sup>†</sup>
PS → L-MSM	-.07 <sup>†</sup>	-.08 <sup>†</sup>	-.11*	-.13*	-.02	-.02
EP → L-MSM	-.02	-.02	-.07	-.08	.07	.07
<b>Model 3: H-MSM</b>						
H-MSM → PS	-.11*	-.11*	-.13*	-.12*	-.07	-.06
H-MSM → EP	.06	.06	.09	.08	.04	.04
PS → H-MSM	-.06	-.07	-.08	-.09	-.04	-.05
EP → H-MSM	.03	.03	.04	.04	-.01	-.01

Note. \*\*  $p < .001$ ; \*  $p < .05$ ;  $p < .10$ . L-MSM = low disruptive media-social multitasking; H-

MSM = high disruptive media-social multitasking; MMM = media-media multitasking; PS =

prosocial behavior; EP = emotional problems

Table 1

### **pap301-13.6 Exploring the social understanding of professional poker players**

Sara Del Prete Panciera, Juliana de Menezes Cardoso, Marianna Domingues Spina, Talita Rodrigues Silva, Erica Teixeira Medeiros, Leticia Barbosa Kaubatz, Renan de Almeida Sargiani  
*Federal University of São Paulo, Brazil*

In the study of adult social cognition, "Reading the Mind in the Eyes" Test has been widely used because of its power to detect subtle individual differences in social sensitivity, which makes it possible to investigate how accurately adults understand the social world. This is an exploratory study that aims to investigate the social cognition of professional poker players. Participants included 17 top international Brazilian players, who were assessed through this theory of mind task ("Reading the Mind in the Eyes" Test). The poker players showed an average score similar to the original "The Eyes" test study, with a moderate difference ( $d=0,54$ ), even the frequency analysis of the test items indicating that poker players performed poorly when compared to a British normal adults sample from a previous standardization study, which may be linked to cultural or linguistic differences, test adaptation, or specific characteristics of the adults studied. The analyses about the emotional valence of the judgments also indicated that the players performed better in the positive items than in the negative ones. A large variance of correct answers was observed in the test general performance, which allowed a subdivision resulting in two subgroups (a group with a higher level of theory of mind and a group with a lower than average level), and may lead to hypothesis of different profiles of professional poker players, regarding the comprehension about the social world. These results indicate the need for deepen research on the use of "The Eyes" Test in the Brazilian population, but also reveals some important findings to explore the understanding of the social world of typical adults in different contexts.

## Keynote 5, Friday September 1, 08:30 – 09:15 hrs.

### key05 Applied games for increasing emotional health in youth: Opportunities and challenges

Rutger Engels

*Utrecht University, Netherlands*

A zeitgeist has emerged in the medical and educational fields for applied games as learning tools, and the mental health field is primed for a similar revolution; however, validated games for mental health are virtually nonexistent. This talk will (1) provide an overview of the games that have been designed to promote mental health; (2) address the current challenges and barriers in clinical practice and the game industry that limit the development as well as the large-scale implementation of games for mental health; and (3) present first empirical evidence of the mental health benefits of a few specific games.

Anxiety disorders are the most frequently diagnosed mental health problem in youth, affecting up to 17% of children and adolescents. Likewise, depression is one of the three leading causes of global disease burden for young people. In 2014, we published a review in the *American Psychologist* of the benefits of games for youth development, with special attention paid to the potential that games hold for improving mental health outcomes. Unfortunately, there are very few (engaging) games for mental health.

What is critical at this early stage of innovation is to have a theoretical framework that can offer best practices recommendations for both the research and implementation of games for mental health. I will present a multidisciplinary research, development and dissemination (RD&D) model that is crucial at this early stage to establish best practices for games for mental health. This model puts a heavy emphasis on testing the efficacy of these games with rigorous scientific designs so that a compelling case for games as prevention and intervention tools for mental health can be made to the public. I will summarize the findings from our recent studies with children and youth in clinical and school settings and present several new, ongoing projects. Lastly, crucial for universal dissemination and large-scale impact is the commercial distribution of games for good. I will discuss how stealth approaches can be used through games to promoting mental health.

## Symposium sessions 302, Friday September 1, 13:45 – 15:15 hrs.

### isym302-1 Bullying in different cultures

School bullying is recognised as a significant problem internationally. However, the majority of studies have been carried out in western countries. In this symposium we explore the topic of bullying in Arabic countries, and in Japan, with a final paper examining reasons for similarities and differences in the phenomenon. The first paper by El Asam and colleagues examines the terminology used for bullying, in Arabic countries. Terminology is an important issue in gathering data and in comparing across countries, and this paper questions whether the officially used term, *tanamor*, is the best, especially for certain communities. The next paper, by Samara colleagues, uses comparative data from European and Arabic countries. It discusses an important but rather neglected issue, the extent to which sibling bullying in the home interacts with peer bullying at school. Moving to Japan, the third paper by Nishino and colleagues discusses the issue of bully/victim ratio within a class, which is known to be higher in eastern countries such as Japan, than in western countries. The importance of this index for measurement and intervention is discussed. The next paper, also from Japan, by Kanetsuna and colleagues, examines cyberbullying. It considers the role of anonymity beliefs and the differences between traditional and cyberbullying. The final paper by Smith and colleague summarises what is known about some differences in cyber bullying between cultures, and drawing upon the EU Kids Online model, suggests how differences in forms and prevalence between countries might be explained.

#### isym302-1.1 The terminology used to describe bullying acts in Arabic speaking countries

Susanne Robinson, Anke Goerzig, Aiman El Asam, Muthanna Samara  
*Kingston University, United Kingdom*

We investigated which terms are used amongst Arabic speakers to refer to bullying; to what extent are people aware of distinguishing bullying from incidents according to the criteria of imbalance of power, intention, and repetition; and how children perceive bullying as well as the different types and forms of bullying amongst different Arabic groups as well as different types of schools. In the first study 36 participants took part representing diverse Arab nationalities. Age varied between 9 years old (children) and 50 years old (their parents). In the second study 117 participants took part (11–15 years) from 46 general national schools and 71 international schools. The studies took place amongst families and social workers in Qatar. Study one was based on three scenarios; participants were asked to provide a term for each bullying scenario including direct and relational bullying. They were then asked in focus groups to explain their perception about it and whether it was an acceptable behavior or not. In a second phase, they were asked to select from a list of commonly used terms for bullying behaviours in Arabic, the most appropriate word to describe the three scenarios, or if none of the words adequately described the behaviours, they were encouraged to use their own. The second study was similar but based on six scenarios. The findings found some diversity due to the differences in cultures with regards to the terminology used to describe the term bullying in Arabic. The word *tanamor* in Arabic (usually used in the literature) was not widely used. The results of the focus groups will be described, and the perception of the terms for bullying in Arabic, taking into account the different bullying forms, the three criteria of bullying, and differences between different ethnic groups and schools.

#### isym302-1.2 Cross cultural study on cross-over effects from sibling to peer bullying

Muthanna Samara, Aiman El Asam, Mairead Foody, Mahitab Sherif, Peter Smith, Azhar Khattab, Hisham Morsi  
*Kingston University, United Kingdom*

Bullying affects children's and adolescents' mental health and psychological wellbeing. However, only a handful of studies have investigated the effects of sibling bullying and its relationship to peer bullying and emotional and problematic behaviours. This cross-cultural study investigates the cross over effect from sibling to peer bullying and/or victimisation and the relationship to psychological, social and emotional problems amongst 6000 children (7-15 years) in Cyprus, Greece, UK, Qatar, Palestine, and Israel. Questionnaires included the bullying between peers and siblings questionnaire, the Strengths and Difficulties Questionnaire, and the Psychosomatic and the Health Problems Questionnaire.

Results demonstrated a significant association between sibling and peer bullying and psychosomatic and physical problems for bullies and bully-victims and significant relationships between victimization and behavior problems. There was also a significant carry over effect from peer to sibling bullying. In addition, those who were bullied by peers and siblings were more likely to have behavioral and emotional problems compared to those who were bullied by peers only, siblings only or neutrals. Cyber and traditional bullying related to sibling bullying differently. Also, sibling bullying was predicted by different factors (e.g., family size, number of siblings, cultural differences) in the different countries and amongst different ethnic groups. Results of the differences of the above factors in relation to bullying between countries and different ethnic groups within each country will be shown and discussed. The results of this study indicate that intervention programs should be directed towards those who are at the same time victims of traditional and cyber bullying by peers and/or siblings, and should be cultural specific.

### **isym302-1.3 Which class is the most urgent to be intervened? Bully/victim ratio comparison**

Yasuyo Nishino, Tomoyuki Kanetsuna, Yuichi Toda  
*Hiroshima Shudo University, Japan*

School bullying is a pervasive problem worldwide, with negative health and psychosocial consequence. Some studies have linked bullying to negative school (or classroom) climate. In Japan, as well as in some other countries, children remain in a single classroom whole school daytime with their classmates. Social groups in Japanese classrooms often show a much closed relationship structure, and if socially excluded, it could be difficult for children to make new friends as intervenors/supporters. Given that serious victimization which may lead to suicide could be reduced through effective interventions, it is important to screen which class is the most urgent to be intervened. Toda, Strohmeier, & Spiel (2008) introduced new index to assess the severity of ijime (bullying) by calculating the ratio of bullies and victims within a class (B/V ratio). We propose that B/V ratio comparison could offer a parameter of seriousness of ijime. We examined whether it could allow us to identify the severity of ijime within a class, and whether classroom climate would explain gravity in victimization. The sample consisted of five hundred and forty-five Japanese junior high school students (mean age=13.7 years), who were nested within twenty classrooms. The results from multilevel analyses show that bullying, victimization and school climate have statistically significant intra-class correlations, and that classroom climate might predict bullying and victimization. The findings applying B/V ratio comparison suggest that eighth grade students might be in more urgent need of intervention than other grades. Implications of these findings and the need for further cross-national comparison are discussed.

### **isym302-1.4 Anonymity beliefs concerning the Internet and its effects on cyberbullying**

Tomoyuki Kanetsuna, Akihiko Ieshima, Yuichi Toda  
*Koshien University, Japan*

Rapid growth of mobile devices and various online services have made internet become one of the necessary lifeline of our daily lives. While many children and adolescents are blessed with its conveniences and entertainments, many of them are ignorant about the risk of using such services. One of the factors considered to be related with their lacking of sensitivity to the risk of using internet is the beliefs about the anonymity of the internet. The anonymity belief was considered to desensitize the risk of victimization, and to make them morally disengaged and to become more aggressive to others online. This study, therefore, aimed to examine the levels of anonymity beliefs about internet among young adolescents and how their beliefs affect their risk perception of online victimization and the levels of moral disengagement about online perpetration. An anonymous self-report questionnaire was applied 250 high school students. Although the levels of anonymity beliefs were found to be relatively low in general, those who had higher levels of anonymity beliefs were found to have significantly lower risk perception of online victimization, and to have higher levels of moral disengagement. This suggests that those who have higher levels of anonymity beliefs were more likely to become both victims as well as perpetrators online. How these levels of anonymity beliefs and its affects to the risk perception and moral disengagement might differ between traditional and cyberbullying, and between different cultures and countries will be discussed.

## isym302-1.5 Cyberbullying in schools: Cross-cultural issues

Peter Smith

*Goldsmiths, University of London, United Kingdom*

Although the great majority of research studies on cyber bullying have been carried out in western countries (Zylch, Ortega & del Rey, 2015), the issue is recognised to be an international one. There has been a tradition of research in the Asian Pacific Rim countries (Smith, Kwak & Toda, 2016), and growing research in other areas such as South-East Asia (Sittichai & Smith, 2015). These studies raise important methodological issues. How similar, or different, is the phenomenon of cyber bullying in different countries? What are the challenges in making comparisons and comparing rates in different countries? Finally, how can such differences be explained? This paper seeks to explore societal and cross-national variations in bully and victim rates, and characteristics (such as age and gender differences, types of cyber bullying), across a wide range of countries. Explanations of cross-national differences will be sought in terms of the five factors in the EU Kids Online model: Cultural values [e.g. Hofstede], Education system [schools, colleges], Technological infrastructure [penetration of mobile phones, smart phones and internet], Regulatory framework [policies, legal aspects] and Socio-economic stratification [GDP, socioeconomic inequality].

## sym302-2 Self-regulation: assessment, outcomes, parenting strategies, and intervention opportunities

Jelle Jolles, Discussant

*VU University - Faculty of Behavioral and Movement Sciences, Centre for Brain and Learning, Netherlands*

Self-regulation is a complex multicomponent construct involved in regulating one's emotions, cognitions and behaviour. Behavioral self-regulation, its underlying neurocognitive self-regulation processes, such as inhibition, attention, working memory, speed of processing, fluency and cognitive flexibility, as well as aspects of motivation are known to have an impact on children's functioning at school and at home. In this symposium we will focus on those behavioural and underlying cognitive processes in primary school-aged children. We will present empirical results on self-regulation from various research projects and in our discussion we will search for ways to apply these scientific findings to interventions in everyday life at school or at home. We will address the value of different ways to assess aspects of self-regulation, link them to child and environmental factors, show their impact on school achievement and behavioural outcomes, link self-regulation to parenting strategies, and we will present some intervention opportunities that we are testing for usability and effectivity at the moment, like BrainSquare! and the Leiden Curious Minds parent and teacher intervention programme

### sym302-2.1 The Role Of Self-Regulation To School Performances And Delinquency

Marielle Dekker

*Leiden University, Netherlands*

Individual children differ substantially in the pace at which their ability to evaluate their own behavior develops. The way children and adolescents evaluate their own behavior, and to what extent they believe they are able to regulate their own behavior, are important for how they behave in the society and for their learning motivation. Two studies were conducted in which the Amsterdam Executive Functioning Inventory (AEFI) was used to investigate the factors age, sex, level of parental education (LPE) and ethnicity on self-evaluation as important for school performances. The AEFI contains questions related to self-evaluation as important for daily life functioning.

In the first study (310 children aged 8-12 years), self-evaluation was evaluated by teachers. The factors age, sex and LPE have been shown to correlate with self-evaluation as perceived by teachers, and with school performances. Specifically, results revealed that teacher-judgements of self-evaluation of girls was higher than for boys. Second, the self-evaluation of children with higher educated parents was judged to be higher than that of children with lower educated parents. In addition, self-evaluation was evaluated higher by teachers for children with good school performance than for children with lower school performance. In the second study (3188 participants, aged 10-18 years), participants evaluated their own behavior. Results revealed sex-differences in self-evaluations. An important finding was that these sex-differences are age- and culture specific.

Knowledge about factors contributing to inter-individual differences in the development of self-evaluation creates the possibility to develop an educational strategy to a child's individual needs in order to take the strengths and weaknesses of a child into account. The Centre for Brain and Learning has developed the so called 'Brain Lessons' for students aged 8-14 in order to develop self-reflection; examples will be given in this symposium.

### sym302-2.2 Self-Regulation And School Achievement: Direct And Moderating Effects

Andrea Spruijt

*Leiden University - Department of Clinical Child and Adolescent Studies/LIBC, Netherlands*

Differences in children's school achievement have been linked to self-regulation, but little is known about the relative influence of cognitive performance-based self-regulation measures and behavioural self-regulation ratings. In addition, studies about the role of behavioural self-regulation on math abilities in children with mild

to borderline intellectual disabilities (MBID) are rare, as are studies on the differential influence of self-regulation on math achievement for boys and girls. In a study of 84 first and second graders, it was shown that both cognitive performance-based measures of self-regulation (Amsterdam Neuropsychological Tasks (ANT)) and behavioural ratings of self-regulation (Behaviour Rating Inventory of Executive Function (BRIEF)) had a complementary role in identifying working memory and shifting processes underlying spelling achievement. For math achievement behavioural measures of self-regulation did not add any unique variance. In a second study of 63 children attending a school for special education (age: 10-13 years; IQ: 50-85) it was shown that behavioural problems with working memory and flexibility assessed with the BRIEF-teacher had a direct negative effect on math outcome, while concurrently level of intelligence had a positive effect. Furthermore, in children with a clinical level of inhibition problems the positive effect of intelligence level on math performance was suppressed. Finally, in a study of 160 kindergartners, first- and second-graders results showed that gender moderated the relation of math achievement with working memory and verbal ability, but not for other measures of self-regulation (see Figure 1). The early identification of strengths and weaknesses of a child's working memory and flexibility using behavioural and cognitive measures, taking into account gender and verbal abilities, and in children with intellectual disabilities also including measures of inhibition and IQ, is an important first step to broaden the range of remedial intervention options to optimize school achievement.

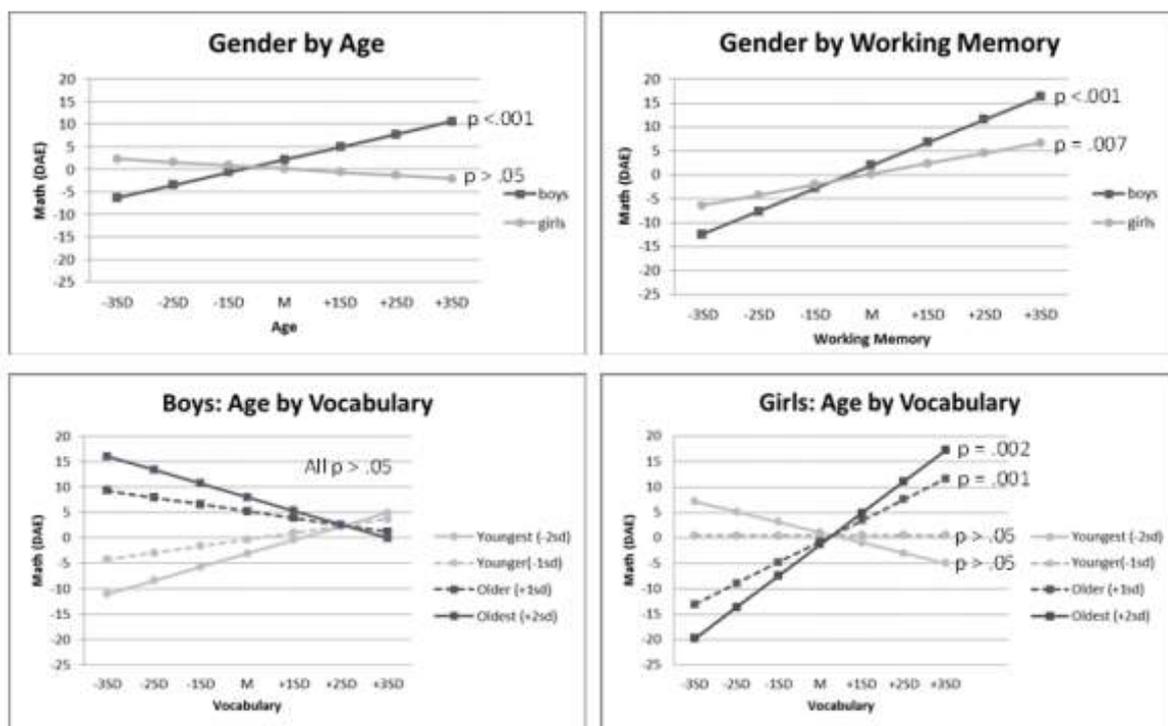


Figure 1: Results post hoc probing gender moderating effects for math achievement

### sym302-2.3 Linking Self-Regulation And Parenting Strategies

Marleen van Tetering

VU University - Faculty of Behavioral and Movement Sciences, Centre for Brain and Learning, Netherlands

Good parenting strategies can shape children's neurocognitive development, yet little is known about the nature of this relation in typically developing school-aged children and whether this association shifts with age. In this Leiden Curious Minds study of 98 four- to eight-year-olds, different aspects of parenting, observed during a home visit, were found to be related to performance-based attentional control and executive functioning (Amsterdam Neuropsychological Tasks (ANT)). Children of parents who were more supportive, less intrusive, and who asked more open-ended questions, displayed better inhibitory skills. In addition, children of parents who asked relatively more open-ended than closed-ended questions showed better performance on inhibition, working memory and cognitive flexibility tasks. Interesting findings regarding curvilinear associations between parenting strategies and child attentional control and executive functioning will be presented.

Furthermore, we will discuss how age mattered in the relations between parental strategies and attentional control or executive functioning. Our results suggest that young school-aged children's self-regulation skills could benefit from interacting with sensitive, non-intrusive parents who ask challenging and relatively more open-ended questions, and that susceptibility to certain parenting strategies may shift with age. Our findings underscore the importance of adaptive parenting strategies in the development of self-regulation skills.

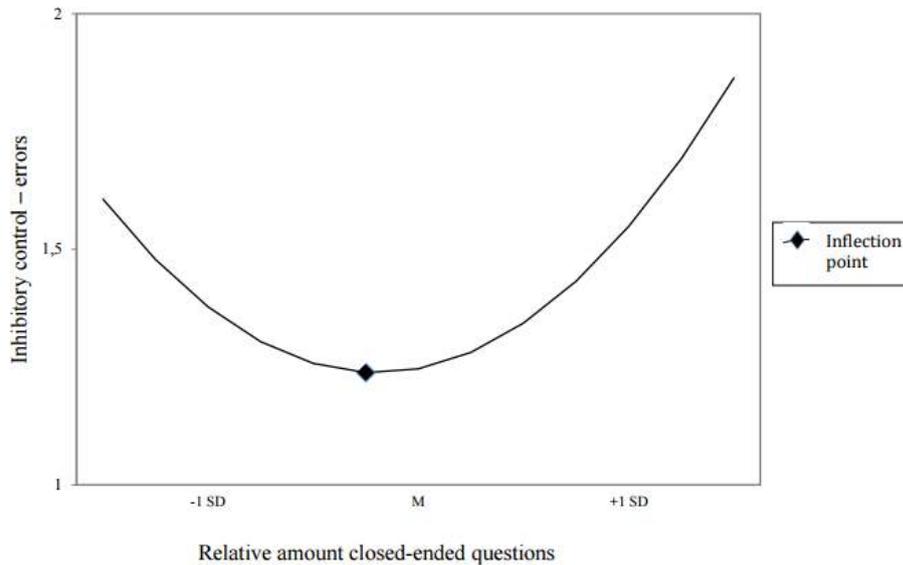


Figure 2: Curvilinear association between type of questions asked by parents and child inhibitory control

### sym302-2.4 Brainsquare! An Educational Intervention To Stimulate Curiosity, Spatial Abilities And Self-Regulation

Mathilde van Gerwen

*VU University - Faculty of Behavioral and Movement Sciences, Centre for Brain and Learning, Netherlands*

BrainSquare! is an educational program, which has been developed to stimulate curiosity, spatial abilities and self-regulation of children aged 7-12 years. BrainSquare! (in dutch: BreinPlein!, <https://www.breinplein.nl>) consists of construction materials, puzzles, and thinking-tasks with new instructions developed by neuropsychologists. They are aimed to stimulate the development of neurocognitive functions as important for performance at school. Self-insight and self-regulation are important for this process as well as experience in the execution of multi-domain tasks.

We conducted a study (310 children, aged 8-12 years) to assess intentional learning as important for learning at school with the aid of the Pictorial Verbal Learning Task (PVLT). The PVLT has the same procedure as classical verbal learning tasks, such as the Rey Auditory Verbal Learning Task. Results showed that children from lower educated parents have more difficulties in dealing with newly presented information and procedures – but we found no clear differences in their learning capabilities. At school, children are often required to deal with new procedures and information. We hypothesize that children with lower educated parents grow up in a learning environment, which offers less opportunities to gain experience in playing with new and unfamiliar tasks. As a consequence, these children have fewer opportunities to develop neurocognitive skills and they have less experience in self-reflection and self-regulation. BrainSquare! at school creates a learning environment in which children gain learning experiences, which stimulates the development of neurocognitive functions that are important for learning at school.

BrainSquare! is easy to use by teachers at school. In 2015, a large-scale implementation project has been conducted in collaboration with 10 primary schools. In a period of five weeks, more than 1600 children worked with BrainSquare! This collaboration and BrainSquare! has been evaluated ('practice-based evidence'); examples of BrainSquare! in the common practice in schools are given in this presentation.

## sym302-3 Parenting during adolescence: longitudinal studies exploring antecedents, and outcomes of parental behavior.

Stefanos Mastrotheodoros, Chair  
*Utrecht University, Netherlands*  
Loes Keijsers, Discussant  
*Tilburg University, Netherlands*

Parenting is what parents do to raise their children. It has been a field of intense empirical enquiry, mainly because of the effects it can have on children's adjustment. Furthermore, one of the most prominent theoretical models of parenting – Belsky's (1984) process model – focuses more on what determines parenting, rather than what the effects of parenting are. This symposium integrates research on both the determinants of parenting, and the effects it has for child adjustment. The papers offer longitudinal evidence for parenting across adolescence, and from different European countries (Belgium, Croatia, the Netherlands). State-of-the-art analytical techniques are applied (Random-Intercept Cross-Lagged Panel Models), while two of the studies are multi-informant, using data from both parents and adolescents. First, Dr. Mastrotheodoros presents the results of a study on one possible determinant of parenting: marital conflict. This study offers longitudinal evidence for the different between-, and within-family effects of marital conflict on parenting, using multiple reports of parental behavior. In the second paper, Dr. Merkaš presents a study on both what can affect parenting, and what effects can parenting have on adolescents. This study investigates the effects of parental work-life conflict on harsh parenting, and through the latter, to adolescent life satisfaction. In the third study, Dietvorst and colleagues try to clarify whether perceived invasive parenting longitudinally affects adolescence secrecy, or whether adolescent secrecy leads to more invasive parenting. Results of two different approaches are presented, and the different conclusion applying a novel technique, compared to the standard one, is discussed. Finally, Dr. Miklikowska investigates the longitudinal effects of need-supportive parenting on the two aspects of empathy development (empathic concern and perspective taking) during adolescence. In sum, the papers in this symposium investigate both antecedents and outcomes of parenting during adolescence, include different analytic approaches, and samples from different European countries.

### sym302-3.1 Marital Conflict and Parenting: between-families differences and within-family processes

Stefanos Mastrotheodoros, Jolien Van der Graaff, Maja Deković, Wim Meeus, Susan Branje  
*Utrecht University, Netherlands*

**Background:** Family system theories posit that the different family subsystems (e.g. the marital and the parent-child) affect each other in bidirectional ways. As an example, marital conflict has been shown to negatively relate to parenting. Research has supported the differential effects of varying aspects of conflict, e.g. maladaptive aspects vs adaptive aspects. However, most research remains cross-sectional. Longitudinal studies exist, but they hardly distinguish among the between-families differences and the within-family processes. This differentiation is important because effects located at the between-level have a different meaning than effects located at the within-level. Therefore, the processes that define relationships between different family subsystems remain unclear.

**Method:** In this longitudinal, and multi-informant study we employed a novel technique (Random-Intercept Cross-Lagged Panel Models) to study the effects of two dimensions of marital conflict (Conflict Engagement and Problem Solving), on three aspects of parenting: Support, Behavioural Control, and Negative Interactions. The sample consisted of 497 Dutch adolescents (Mage = 13.03, SD = 0.46 at T1), their mothers and their fathers, who were followed for six years. Marital conflict dimensions were composite scores of mother-, and father-reports. Separate analyses for parenting reported by mothers, fathers, adolescents-for-mothers, and adolescents-for-fathers were conducted.

**Results:** Results differed for the maladaptive and the adaptive aspects of conflict. The maladaptive aspect of conflict (conflict engagement) showed mostly within-family effects, like correlated change and (mostly) parenting-driven effects. The adaptive aspect of conflict (problem solving) showed mostly between-families correlations with parenting, with only few within-family effects.

**Conclusion:** The results of this study shed more light on the interrelations between family subsystems. It appears that there is not one pattern of effects, as these differ for the different aspects of conflict and

parenting. Supporting previous research, the father-adolescent subsystem seems to be more permeable than the mother-adolescent subsystem.

### **sym302-3.2 Work-family conflict and parental behavior as determinants of adolescents' well-being**

Marina Merkaš, Maja Anđelinović, Lana Batinić, Barbara Brdovčak, Dragan Glavaš, Marijana Matijaš, Mario Pandžić, Marija Šakić Velić, Ivana Vrselja  
*Catholic University, Croatia*

The aim of this paper is to explore the direct and indirect, via one specific parental behavior, effects of work-family conflict among mothers and fathers on life satisfaction of adolescents. Data used in the paper are collected in a two-wave longitudinal study conducted within the research project „Parents' work, family economic hardship and well-being of parents and children". In this paper, only data collected from 285 Croatian adolescents (aged between 11 and 17 years; 61.8% girls) who live in two-parent families are used. Adolescents completed the Parental Punishment subscale of the Parental Behavior Questionnaire (Keresteš et al., 2012) in the first wave and the Brief Multidimensional Students' Life Satisfaction Scale (Selingson et al., 2003) in both waves of data collection. Mothers and fathers completed the Work-Family Conflict Scale (Netemeyer et al., 1996) in the first wave. The results show that both mother's and father's use of harsh punishment was related to lower levels of life satisfaction in adolescents. The results of path analyses indicate that mother's experience of work-family conflict is only directly related to the lower life satisfaction of adolescents, while father's experience of work-family conflict is only indirectly, via fathers' use of harsh punishment, related to lower life satisfaction of adolescents. This pattern of relations between mother's and father's work-family conflict, parental punishment and life satisfaction holds regardless when life satisfaction was measured. The findings of this study provide support for the effects of parental work and behavior on adolescent well-being and indicate certain differences in the effects of mother's and father's work-family conflict.

### **sym302-3.3 Adolescent Perceptions of Parental Privacy Invasion and Adolescent Secrecy: A Simpson's paradox.**

Evelien Dietvorst, Ellen Hamaker, Marieke Hiemstra, Manon Hillegers, Loes Keijsers  
*Tilburg University, Netherlands*

**Aim.** Parenting processes take place at the level of the family unit. Existing longitudinal studies are increasingly critiqued for producing results that are unrelated to the actual causal mechanisms at the level of individuals or individual families (Hamaker, Kuiper, & Grasman, 2015). In fact, some studies on parenting have addressed this concern (e.g., Keijsers, 2015; Smetana, Villalobos, Rogge, & Tasopoulos-Chan, 2010) which provides the intriguing suggestion that inferences based on research focusing at the group level (e.g., regression model), may be different from the actual parenting processes at the level of individual families.

This symposium contribution applies novel Random-Intercept Cross-lagged panel models (Hamaker, Kuiper, & Grasman, 2015) on the link of privacy invasive parenting with adolescent secrecy, to come to better estimates of how parenting operates within families. By extending a standard cross-lagged panel model, to distinguish the between-person from the within-person effects, this novel method allows to critically evaluate whether (H1) there are indeed positive effects of privacy invasive parenting on secrecy at the level of a family unit.

**Method.** Dutch adolescents ( $n = 244$ , mean age = 14.07, 40% boys) reported three times on adolescent secrecy and perceived privacy invasion.

**Results.** The standard cross-lagged panel model on adolescent-perceived privacy invasion and secrecy (Fig 1) confirmed earlier studies (e.g. Hawk et al, 2013) that privacy invasive parenting predicts increased secretive behaviours over time. However, RI-CLPM (Fig 2), designed to improve causal inferences shows a different pattern. The positive between-person correlation confirmed earlier work that in families with more secrets, more privacy invasive behaviours occur. Within-persons, however, children were more secretive in periods with lower levels privacy invasion.

**Conclusion.** In contrast to inferences in earlier work, secrecy was related to decreased privacy invasion within families. Findings of standard cross-lagged panel models may thus be opposing to the processes operating within families.

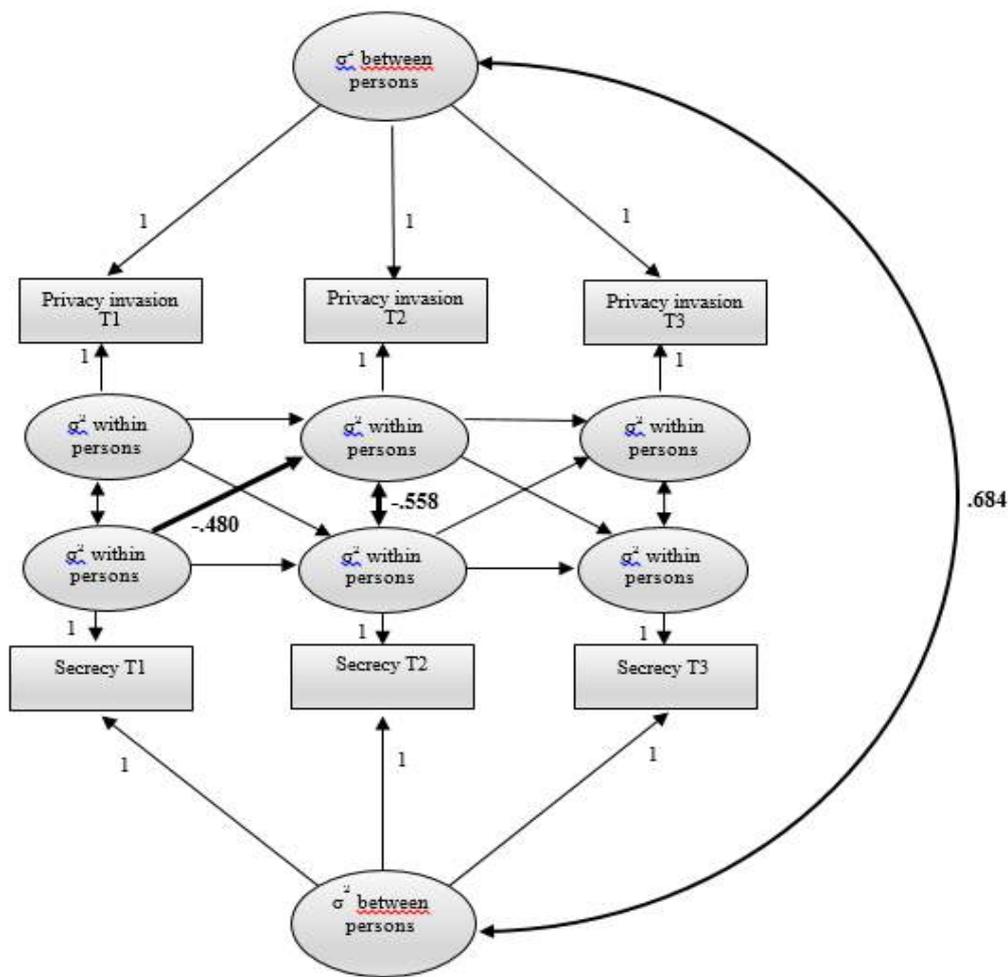


Figure 1: Random Intercept Cross-Lagged Panel Model. Model fit:  $\chi^2(1) = .16$ , CFI = 1.00, TLI = 1.03, RMSEA = .00. Significant paths are shown in bold, with standardized estimates.

### sym302-3.4 Need Supportive Parenting and Development of Empathy in Adolescence.

Marta Miklikowska, Bart Duriez, Bart Soenens  
Örebro University, Sweden

Theories on empathy development have stressed the role of socialization in general and the role of parental support in particular. This 3-wave longitudinal study of middle adolescents (N = 678) aimed to contribute to the extant research on the socialization of empathy (a) by examining the relative contribution of perceived maternal and paternal need supportive parenting on over-time changes in adolescents' emotional and cognitive aspects of empathy (i.e., empathic concern and perspective taking) and (b) by considering the possibility of reciprocal relations between perceived parenting and adolescent empathy. Whereas paternal need support consistently predicted over-time changes in perspective taking in both sons and daughters, perceived maternal need support predicted changes in empathic concern among daughters only. In addition, although less consistently so, empathy dimensions also predicted over-time changes in perceived parenting. This study shows the effects of supportive parenting on the development of empathy in adolescence. It also underscores the need to differentiate between emotional and cognitive aspects of empathy in order to better understand empathy development. Finally, this study provides initial evidence for bidirectional relations between parenting and adolescents' empathic abilities.

## sym302-4 Understanding the psychosocial impact of medical trauma on the family

Each year, a substantial amount of families are confronted with illness and injury that may be regarded as potentially traumatic medical events. These events can have a profound and lasting impact on the family members, individually and collectively. Psychological responses to trauma in parents and children may co-occur, and parent symptoms prolong child symptoms, although the nature of transference is not yet clear. Moreover, up to now, limited family interventions have been available. This symposium will explore the impact of illness and injury on the family members in the acute phase, as well as the longer-term. Studies conducted in the U.S., Australia, Norway and the Netherlands will be presented, using pediatric burn injury and parental cancer as primary examples. In the first presentation, the relationship between parent and young child acute distress during pediatric medical procedures will be clarified. The second presentation will discuss parental posttraumatic stress as a predictor of children's quality of life following pediatric burn injury. Third, the interdependence of posttraumatic stress in families following burn injury in school-aged children and adolescents will be discussed. Turning to illnesses in parents, the fourth presentation will address parent and child posttraumatic stress and quality of life, and the role of family communication following diagnosis of cancer in a parent. Finally, evidence will be provided for an intervention program targeted at families following a cancer diagnosis in one of the parents. Taken together, these studies will unpack the complex and changeable relationship between parent and child distress after potentially traumatic medical events, as well as appropriate assessment and predictors of distress. Commonalities and differences across medical trauma types and different child ages will be outlined in the five presentations, as well as examples and suggestions for how and when to appropriately address family medical trauma.

### sym302-4.1 Parental influence on child distress, pain and anxiety during paediatric medical procedures

Erin Brown, Justin Kenardy, Alexandra De Young, Roy Kimble  
*Centre for Children's Burns and Trauma Research, the University of Queensland, Australia*

**Aim:** Paediatric burn injuries are most commonly sustained by children under five years old. The injury and following medical procedures are potentially traumatic for parent and child. Young children experience the procedures with limited understanding or developed coping strategies, and rely on their parents for support. However, a parent's own distress may impact support provided. We hypothesised parent distress would impact child coping and distress behaviour, through parent behaviour. Additionally, child distress would predict child pain/anxiety during the procedure. **Methods:** Eighty-seven families were recruited at Lady Cilento Children's Hospital, Brisbane, Australia. Parents completed a mental health screen for anxiety/depression, posttraumatic stress symptoms, and anticipatory anxiety. Parent and child behaviour were observed during the medical procedure. Parents and nurses reported peak child pain and child anxiety. **Results:** Three significant mediation models were found. Parents with higher anxiety/depression demonstrated less coping-promoting, which reduced the positive effect on child coping ( $ab = -.04$ ; 95%CI =  $-.11$  to  $-.01$ ). Parents with higher posttraumatic stress symptomology demonstrated more distress-promoting, which increased the negative effect on child coping ( $ab = -.04$ ; 95%CI =  $-.13$  to  $-.0003$ ), and also increased the positive effect on child distress ( $ab = .21$ ; 95%CI =  $.02$  to  $.61$ ). Independent of these mediations, parent mental health did not directly influence child coping or distress ( $c's = .068$ ). Linear regressions found child coping predicted reductions in parent-reported child pain scores ( $F(1,81) = 4.37$ ,  $p = .039$ ,  $R^2 = .047$ ), nurse-reported child pain scores ( $F(1,81) = 10.29$ ,  $p = .002$ ,  $R^2 = .103$ ), and parent-reported child anxiety scores ( $F(1,81) = 10.51$ ,  $p = .002$ ,  $R^2 = .115$ ). Child distress predicted increases in parent-reported child pain scores ( $F(1,81) = 24.49$ ,  $p < .001$ ,  $R^2 = .218$ ), nurse-reported child pain scores ( $F(1,81) = 65.83$ ,  $p < .001$ ,  $R^2 = .422$ ), and parent-reported child anxiety scores ( $F(1,81) = 27.04$ ,  $p < .001$ ,  $R^2 = .250$ ). **Conclusions:** Parent mental health affects how a parent supports a child, and leads to reduced child coping during a medical procedure. Parent psychosocial health and behaviour are important factors for future interventions that aim to improve paediatric medical procedure experiences.

### **sym302-4.2 Parent post-traumatic stress and child quality of life following pediatric burn injuries**

Carisa Perry-Parish, Margo Szabo, Ellen Bartolini, Rick Ostrander, Susan Ziegfeld, Dylan Stewart  
*Johns Hopkins School of Medicine, United States*

**Aim:** Previous literature has suggested that multiple factors may place youth at risk for developing psychosocial difficulties after sustaining a burn injury. Additionally, a significant proportion of parents experience posttraumatic stress following their child's burn injury. However, little research examined parental distress as a predictor of children's quality of life (QOL) following injury, especially using a longitudinal design. Thus, the current study investigated the role of injury characteristics and parental posttraumatic stress symptoms (PTSS) as risk factors of QOL difficulties among pediatric burn patients. **Methods:** Participants included 201 burn patients aged 2 months to 17 years and their caregivers referred to a multidisciplinary burn program. Patients and/or their caregivers completed questionnaires assessing youth QOL and parental PTSS at two time points. Regressions were conducted with burn characteristics and time 1 parental PTSS predicting child QOL at time 2. Mediation was also examined using the Sobel test (1982). **Results:** Greater burn severity ( $\beta = .18, p = .002$ ), larger total body surface area [TBSA] burned ( $\beta = .16, p = .006$ ), more impaired QOL at time 1 ( $\beta = .39, p < .001$ ), and greater parental PTSS at time 1 ( $\beta = .21, p = .002$ ) were significant predictors of youth QOL at time 2, accounting for 42% of the variance. Parental PTSS was found to partially mediate the association between TBSA and QOL (Sobel = 2.54,  $p = .011$ ). **Conclusions:** Findings suggest injury characteristics, initial QOL impairments following burn injury, and parental psychological distress are important factors in the development of long-term QOL. Moreover, the association between TBSA and youth QOL is partially explained by parental PTSS. Thus, it is critical for practitioners to screen for parental distress, and target this modifiable variable through evidence-based interventions in order to promote long-term psychosocial adjustment among youth following burn injuries.

### **sym302-4.3 Parent and child traumatic stress reactions after child burn injury**

Marthe Egberts, Rens van de Schoot, Rinie Geenen, Nancy van Loey  
*Association of Dutch Burn Centres & Utrecht University, Netherlands*

**Aim:** The current study examined occurrence and associations of traumatic stress reactions within the family after child burn injury, while specifically addressing the role of parents' own symptoms in their reports of child symptoms. **Methods:** One hundred children (8-18 years old), their mothers ( $n = 90$ ) and fathers ( $n = 74$ ) were assessed within the first month (T1) and three months (T2) post-burn. Parents and children rated child traumatic stress reactions and parents rated their own reactions. Associations were examined within a Structural Equation Model. **Results:** Occurrence of child symptoms in the clinical range was 0% to 11% at T1 and 4 to 5% at T2, depending on the informant of child symptoms (mother, father or child). Cross-informant agreement on child symptoms varied. At T1, mothers' traumatic stress symptoms were related to the child self-reported symptoms. At T2, interdependency of symptoms was situated at the overall family level. Moreover, mothers who experienced higher stress symptoms themselves gave higher ratings of their child's stress symptoms at both time points, while for fathers, this was only found at T2. **Conclusions:** The current study shows relational interdependence between parent and child self-reported traumatic stress reactions after pediatric burn trauma, and, over and above, that parents' symptoms may influence their perception of child symptoms. Findings highlight the need for awareness of parents' symptoms of traumatic stress and suggest including multiple informants in assessing child symptoms.

### **sym302-4.4 Families adjusting to parental cancer: parent and child outcomes**

Dineke Verkaik, Paul Boelen, Anneloes van Baar, Trudy Mooren, Mariken Spuij  
*Utrecht University, Netherlands*

**Aim:** The aim of this presentation is to present preliminary results of the Utrecht Family and Cancer-study. In a newly developed theoretical model of adjustment to parental cancer in the family it is postulated that family communication is a key determinant of the severity of Posttraumatic Stress Disorder (PTSD) symptoms and aspects of quality of life (QoL) of all family members. It is also proposed that PTSD and QoL of parents and

children affect each other. These hypotheses are examined with special attention for the role of gender in this association. Method: Families with parental cancer and children between 0 and 18 years were recruited through newsletters and booklets and then voluntarily applied for participation in our study (expected N in August: 50 families). Parents completed the WHOQOL-Bref tapping QoL, the PSS-SR, assessing PTSD symptoms, and the FAD-N tapping their perception of family communication. For children, self-report questionnaires were also used to obtain information about family communication (FAD-N), PTSD-symptoms (CPSS) and QoL (KIDSCREEN-27). The interaction between parental and children's PTSD and QoL is examined by Multilevel analysis. Results: The preliminary results (based on a small sample of 15 families) show differences between men and women and between patients and partners in terms of QoL. Men and partners report a significantly higher QoL than women and patients. Girls ratings of QoL differ from boys, with lower ratings for girls. There is a negative association between communication and PTSD symptoms for children. Conclusions: Cancer affects the whole family and causes specific needs for all family members. The current study shows that gender and role have an impact on the QoL for parents and children. Good family communication is related to less PTSD-symptoms and a better QoL for all family members. Findings emphasise the need for enhancing family-communication to improve the adaptation process.

#### **sym302-4.5 A social support intervention for families facing parental cancer: the Cancer-PEPSONE program**

Mette Senneseth, May Hauken

*Center for Crisis Psychology & Western Norway University of Applied Sciences, Norway*

**Aim:** The aim of this presentation is to convey the results from the Cancer-PEPSONE study, which investigated the role of social support for families facing parental cancer and assessed the impact of the Cancer-PEPSONE (Psycho-Educational Program for SOcial NETworks) program on the well parents' social support, psychological distress, quality of life (QOL) and parental capacity. The well parents may experience high levels of distress, which can negatively influence on their parenting capacity. Social support seems to be an important predictor of these well parents' well-being. However, interventions aiming to improve social support for families facing parental cancer have been lacking. To fill this gap, the Cancer-PEPSONE program (CPP) that covers families and their social networks was developed in Norway. **Methods:** Randomized controlled trial, trial number 15982171 (ISRCTN). The sample consisted of 35 well parents randomly allocated to receive either CPP intervention (n=17) or support as usual (n=18). Data was collected using questionnaires at baseline (T1), at a three-month follow-up (T2) and at a six month follow-up (T3). **Results:** Analyses at baseline revealed that social support moderated the negative impact of psychological distress on well parents' QOL. At six-month follow-up, the recipients of CPP and the controls had changed significantly different from baseline with regard to their social support and parental capacity. Controls reported less support and parental capacity than did recipients of the program. Mediation analyses suggested indirect effects of CPP on psychological distress and QOL through social support ( $p < .05$ ). **Conclusions:** Social support is important for the well parents' well-being. The findings from the Cancer-PEPSONE study are encouraging, given that CPP may increase social support for the well parents, which in turn may improve their mental health and OOL, as well as enhance their parenting capacity.

## sym302-5 Youth Sexual Identity and Gender Nonconformity: Intersections with Contexts, Race/Ethnicity, Gender Conformity, and Economic Precarity

Stephen Russell, Chair

*University of Texas at Austin, United States*

Henny Bos, Discussant

*University of Amsterdam, Netherlands*

Several decades of research have established disparities in mental and behavioural health based on sexual orientation. Youth who are sexual minorities (lesbian, gay, bisexual) and gender minorities (transgender, or those who are gender nonconforming) are known to be the targets of harassment and stigma. Yet many thrive. This symposium includes four new studies of sexual and gender minority youth. First, a study using population-level data from the United States shows that the presence of a high school gay-straight alliance (GSA) club is associated with school functioning and mental health, but that the strength of these associations varies across students' race and ethnicity, as well as sexual and gender identities. The second paper takes a closer look at GSA clubs in the United States, showing that these clubs are an important setting for youth leadership opportunities, self-efficacy, and social justice engagement. The third paper uses data from a large sample of Dutch adolescents to document the association between gender nonconformity and peer victimization; this association is stronger for youth who report more same-sex attraction, and for boys. Finally, few studies of sexual minority youth explicitly incorporate attention to economic status. A new national U.S. survey documents how youth are affected by and resist economic hardship. Papers will be discussed and critiqued by an international expert on sexual and gender minority identity, health, and well-being.

### sym302-5.1 Gay-Straight Alliances in school: Do they benefit all students?

Laura Baams, Stephen Russell

*The University of Texas at Austin, United States*

Gay-Straight Alliances, or more recently Genders and Sexualities Alliances (GSA) are widespread across Northern America and Europe (Enzerink, Volman, & Bos, 2015; Kitchen & Bellini, 2013; Macgillivray, 2005). Overall, schools with GSAs have been found to be safer and more accepting of sexual and gender diversity (e.g., Hatzenbuehler, 2011; Ioverno, Belsler, Baiocco, Grossman, & Russell, 2016; Toomey et al., 2011). However, some work has suggested that GSAs only serve heterosexual White students and provide less support for students of color and LGBTQ students (e.g., Fetner, Elafros, Bortolin, & Drechsler, 2012; Griffin, Lee, Waugh, & Beyer, 2004; McCready, 2001). Utilizing the California Healthy Kids Survey and data from GSA Network, we examine whether the presence of a GSA is related to school functioning and mental health in a sample of 865,525 students in 2757 California middle and high schools, as well as moderation by race/ethnicity and sexual orientation and gender identity. Mixed multilevel regression analyses show that, overall, students in schools with GSAs report better school functioning (i.e., climate, grades, truancy, bullying) and mental health (i.e., depression, suicidality, substance use) (see Table 1). However, for students of color in schools with GSAs, mental health disparities are not diminished to the same extent as they are for white students. Further, for LGBTQ students in schools with GSAs, disparities in school functioning were not equally diminished. Despite the positive presence of GSAs in schools, the findings point toward larger systemic differences for marginalized students that are not currently addressed in schools. All too often, school programs and interventions are implemented as a "one-size-fits-all" solution. Our study indicates that not all students' health and wellbeing is improved by the presence of a GSA and the findings underline the need for an approach in which the diversity in needs and disparities among students are considered.

		School climate	Grades	Truancy	Bullying race/ethnicity	Bullying sexual orientation	Depression	Suicidality	Alcohol lifetime	Smoking lifetime
GSA presence in the school										
Step 1	GSA present	.03**	-.29***	-.28***	.02*	-.03***	-.12***	-.15***	-.31***	-.37***
	Race/ethnicity <sup>a</sup>	.12***	-.40***	-.05***	-.13***	.01***	-.08***	-.06***	.14***	.08***
	Sexual orientation and gender identity <sup>b</sup>	.17***	-.28***	-.28***	-.17***	-.59***	-.98***	-1.30***	-.42***	-.45***
Step 2a	GSA × Race/ethnicity	ns	ns	ns	-.03*	ns	-.08***	-.10***	ns	-.07***
Step 2b	GSA × Sexual orientation	.04***	-.13***	-.04*	ns	ns	ns	ns	ns	ns
Number of years GSA has been present in the school [min = 0.2, max = 15.7 years] <sup>c</sup>										
Step 1	Duration (# of years)	.003*	-.03***	-.01*	ns	-.004***	-.01***	-.02***	ns	-.01***
	Race/ethnicity <sup>a</sup>	.12***	-.40***	-.05***	-.14***	.01***	-.10***	-.08***	.17***	.07***
	Sexual orientation and gender identity <sup>b</sup>	.18***	-.31***	-.29***	-.17***	-.59***	-.98***	-1.30***	-.41***	-.44***
Step 2a	Duration × Race/ethnicity	ns	ns	ns	ns	ns	ns	ns	.02***	ns
Step 2b	Duration × Sexual orientation	ns	ns	ns	.004**	.01**	ns	ns	ns	ns

Note. Controlling for school level: student body size, percentage dropout, and teacher experience in all analyses. <sup>a</sup> 1 = non-Hispanic White <sup>b</sup> 1 = heterosexual and cisgender <sup>c</sup> these analyses are conducted among the subsample of schools that had a GSA (543 schools). The inclusion of a three-way GSA × Race/ethnicity × Gender and sexual identity interaction term did not yield significant results. \**p* < .05, \*\**p* < .005, \*\*\**p* < .001

Table 1: Mixed ML Models of GSA Presence and School Functioning and Mental Health, Moderated by Race/Ethnicity and Sexual Orientation and Gender Identity

### sym302-5.2 GSAs as a setting to promote efficacy to engage in social justice

V. Paul Poteat, Jerel Calzo, Hirokazu Yoshikawa, Christopher Ceccolini, Kasey Meyer, Rachel Katz, Howard Huang, Ashley MacPherson, Nina Mauceri, Sarah Rosenbach  
Boston College, United States

Despite continued experiences of discrimination in society, many sexual minority youth (e.g., lesbian, gay, bisexual, or questioning; LGBTQ) demonstrate resilience across various indicators of wellbeing. One emerging focus in this area has been on LGBTQ youths' sense of agency, mastery, and empowerment. These factors represent important adolescent developmental outcomes in general, and qualities such as these could be especially critical for LGBTQ youth. For instance, they could lead LGBTQ youth – as well as heterosexual peer allies – to engage in efforts that directly challenge oppressive societal systems, such as through engaging in activities to promote fairness and equality. In this study, we focus on Gay-Straight Alliances (GSAs) – school-based extracurricular groups for LGBTQ and heterosexual ally youth – and how they contribute to youths' self-efficacy to engage in social justice efforts. Participants were 317 youth in 20 GSAs across Massachusetts (73% white; 65% cisgender-female; 79% sexual minority; Mage = 15.70 years) who completed measures assessing GSA support/socializing (7-items;  $\alpha=.86$ ), information/resources (3-items;  $\alpha=.78$ ), and advocacy (7-items;  $\alpha=.88$ ), membership duration, their extent of taking on organizational responsibilities in their GSA, and their efficacy to engage in social justice efforts (5-items;  $\alpha=.90$ ). In multilevel models (accounting for nesting of youth within GSAs) youth who received more support/socializing ( $b=0.53$ ,  $p<.001$ ) and did more advocacy ( $b=0.36$ ,  $p<.001$ ) in their GSA, who took on more organizational responsibilities ( $b=0.14$ ,  $p<.05$ ), and who identified as cisgender ( $b=0.42$ ,  $p<.05$ ) reported greater efficacy to engage in social justice efforts. Findings suggest GSAs could be a key setting in which to promote youths' efficacy to engage in social justice efforts. Their functions (support/socializing, advocacy) and leadership opportunities could promote self-efficacy through encouragement or reassurance (e.g., through support), applied experience (e.g., through advocacy), or from taking on other leadership opportunities.

### **sym302-5.3 Gender nonconformity and peer victimization: Sexual attraction and gender differences by age**

Gabriël van Beusekom, Henny Bos, Theo Sandfort, Geertjan Overbeek  
*University of Amsterdam, Netherlands*

Studies among adolescents indicate that gender nonconformity and feelings of same-sex attraction (SSA) are associated with increased exposure to peer victimization. SSA and gender nonconformity, however, are also closely related to each other. Given the interrelatedness between gender nonconformity and SSA it is important to understand their independent contributions to peer victimization. It might be that gender nonconformity is associated with peer victimization independent of adolescents' sexual attraction. It might also be that both gender nonconformity and SSA amplify each other in their impact on peer victimization. Previous research also points to sex differences in the relation between gender nonconformity and peer victimization, suggesting that gender nonconformity is more strongly associated with peer victimization for boys as opposed to girls. Furthermore, in early adolescence norms regarding gender and sexuality are more salient and restrictive. Hence, it might be that the potential moderating roles of SSA and biological sex in the relation between gender nonconformity and peer victimization are stronger among younger adolescents when compared to older adolescents. In the current study we assessed, among a sample of 2,185 Dutch adolescents (ages 11-18), whether the relation between gender nonconformity and peer victimization was moderated by SSA and biological sex, and whether these potential moderations varied as a function of age. Results showed that SSA and biological sex moderated the relations of gender nonconformity with homophobic name-calling and general peer victimization. We found stronger associations between gender nonconformity and both types of peer victimization when levels of SSA increased and also stronger associations for boys than for girls. The moderating roles of SSA with both types of peer victimization and biological sex with homophobic name-calling were only significant for early and middle adolescents but not for late adolescents.

### **sym302-5.4 Precarity and resistance: LGBTQ & GNC youths' experiences of economic hardship**

David Frost, Michelle Fine, Maria Torre, Allison Cabana  
*University of Surrey, United Kingdom*

Research on "precarity" suggests that poverty in the US combined with unstable housing, disrupted family arrangements, and interrupted educational prospects has adverse consequences for low income youth, youth of color, and immigrants. While there is speculation about lesbian, gay, bisexual, transgender, queer, and gender non-conforming (LGBTQ&GNC) youth and precarity, there have been no systematic attempts to document the national scale of these relationships or understand how experiences of economic hardship compound precarity and its relationship to the health and well-being of LGBTQ&GNC youth. Integrating frameworks of minority stress, intersectionality, and positive marginality, we tested the extent to which experiences of economic hardship increased the likelihood of experiencing problems related to health and well-being among LGBTQ&GNC youth, as well as what youth who experienced economic hardship thought could be done to address the causes and consequences of structural precarity to make their lives better. To address these aims, quantitative and qualitative data were analyzed from the What's Your Issue? national LGBTQ&GNC youth survey: A national survey of youth ages 14-15 (N = 5,769, 56% trans\*, non-binary, non-cisgender; 41% youth of color) designed and conducted within a national participatory action research collaborative. Experiencing housing, financial, and food insecurity were all independently and significantly associated with increased psychological distress, poorer general health, and higher likelihood of experiencing bullying and discrimination. These findings held consistent for youth of color and white youth, as well as youth who were cisgender and trans or non-binary. Thematic analyses of youth's narratives revealed their calls for greater economic equality by resisting dominant forms of capitalism and breaking down institutionalized racism. Findings also highlighted resistance in the form of activism(s) surrounding gender, sexuality, racial, and economic injustice, along with personal and collective efforts to fight against economic injustice and other forms of structural precarity.

## sym302-6 The Role of Theory of Mind in Child Social Adjustment and Maladjustment

Cristina Colonesi, Chair  
*University of Amsterdam, Netherlands*  
Carolien Rieffe, Discussant  
*University of Leiden, Netherlands*

Extensive research in the last decades has been investigating the typical development of Theory of mind (ToM) from infancy to adolescence. The new research priority is to examine to what extent a delay or an atypical development of ToM leads to social maladjustment or psychopathology. The aim of the symposium is to investigate to what extent children's ToM is related to social anxiety, and to social adjustment and maladjustment in childhood. The symposium includes four different studies on the relations between the development of ToM in childhood and relevant aspects of children's social life, such as heightened self-consciousness in social situations, social anxiety, social relations and social reciprocity. The first study (Colonesi et al.) shows that stable low level of ToM in childhood predicts higher level of social anxiety. Results of the second study (Nikolic et al.) extend the results of study one by showing that also an advanced level of ToM can be related to social anxiety as well as self-conscious reactions like blushing. The third study (Ronchi et al.) demonstrates that the reduction of social anxiety is the underlying mechanism connecting a ToM to peer acceptance. The fourth study (Begeers et al.) shows that reciprocity, one of the main criteria for assessing a deficit in social-communicative competence (according to the DSM-5), is significantly lower in children with autistic spectrum disorder, who also present a delay in ToM development. The results of the four studies will be integrated into a general discussion about the role of ToM in childhood as a risk or a protective factor for social development in normal and clinical populations. In addition, the possible circular relation between ToM, social anxiety, and social competences and difficulties will be considered.

### sym302-6.1 Developing Social Minds: Theory of Mind in Child Social Anxiety

Cristina Colonesi, Milica Nikolić, Susan M. Bögels  
*University of Amsterdam, Research Institute of Child Development and Education, Netherlands*

**Aim:** There is growing interest in the role of Theory of mind (ToM) on child typical and atypical socio-emotional development. Children with a delay in the development of ToM might experience more social fear because their lack of understanding others' and their own mental states. This mechanism may lead to social anxiety. In the present study we investigated whether social anxiety in childhood (7.5 years) was associated with a low level of ToM at the same age, and it is predicted by a low level of ToM in early childhood (4.5 years).

**Method:** Eighty six children's (41 boys) participated in the study at the age of 4.5 and 7.5 years. Children's ToM was assessed at 4.5 and 7.5 with the ToM-test-r. Children's self-reported social anxiety symptoms were assessed with a pictorial test based on DSM criteria, and as reported by both parents.

**Results:** Preliminary analyses show that at the age of 7.5 girls had a higher level of ToM and self-reported social anxiety than boys. We conducted two path-analyses, one for children's self-reported social anxiety, and one for children's social anxiety as reported by parents (Figure 1). Children's self-reported social anxiety was associated to a lower level of ToM at 7.5 and to a high level of ToM at 4.5. In addition, a significant mediation effect of ToM at 7.5 was found, suggesting that developmental instability in TOM development from 4.5 to 7.5 led to higher levels of social anxiety. No significant associations were found between children's ToM and their level of social anxiety as reported by parents.

**Conclusion:** A low, as well as a high level of ToM were found to be associated with social anxiety symptoms in childhood, suggesting that the developmental trajectories, instead of the mere levels, are associated with the level of social anxiety in childhood.

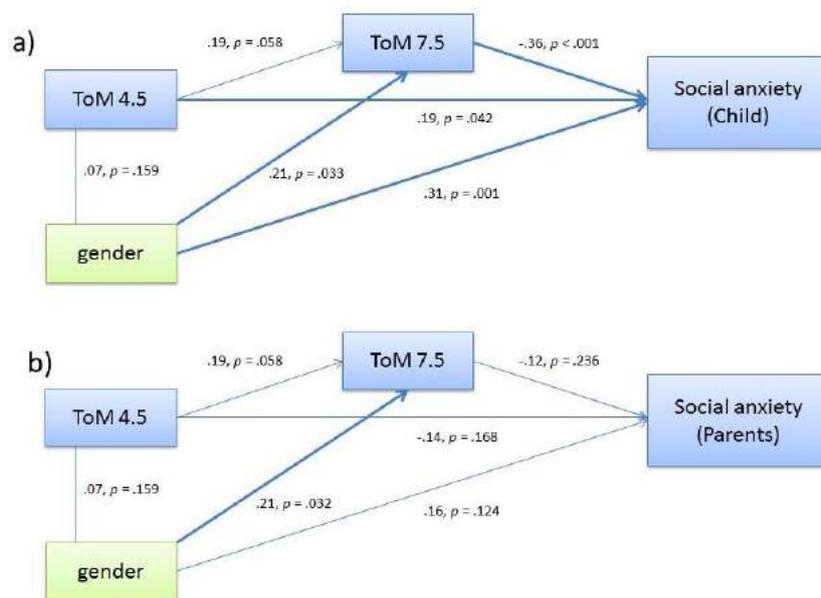


Figure 1. Path models for ToM predicting social anxiety reported by the child (a), and social anxiety predicted by parents.

### sym302-6.2 Social Anxiety and Blushing: Rooted in Poor or Exceptional Theory of Mind?

Milica Nikolić, Lisa van der Storm, Cristina Colonna, Eddie Brummelman, Susan M. Bögels  
University of Amsterdam, Netherlands

**Aim:** The disturbances in Theory of Mind (ToM) may contribute to impairments in social functioning and psychopathology. In the present study, we investigated the role of ToM in social anxiety. We hypothesized that deficits in ToM relate to greater child social anxiety. We also assumed that advanced ToM is associated with heightened self-consciousness in social situations, which in turn relates to greater social anxiety. We operationalized heightened self-consciousness through blushing.

**Method:** One-hundred-fifty children aged 8-12 sang a song in front of a small audience while their physiological blushing (AC reactivity, DC reactivity, and temperature reactivity on the cheek) was measured. In addition, parents and children reported on child social anxiety using Social Phobia and Anxiety Inventory (SPAI) and we tested children's ToM with the Reading the Mind in the Eyes test.

**Results:** We performed a path analysis to test linear and curvi-linear relations between ToM and social anxiety and the mediating effect of blushing. We modeled the curvilinear relation by adding a squared ToM variable (ToM<sup>2</sup>) to the model. We found a curvilinear next to a linear relation between ToM and social anxiety. That is, both low and high ToM related to social anxiety. Interestingly, blushing was related to both high ToM and social anxiety, but no mediation occurred (Figure 1).

**Conclusions:** Our findings suggest that deficits ToM are related to social anxiety, likely because these deficits increase confusion and uncertainty in social situations. However, advanced ToM is also related to greater social anxiety, possibly because children with high ToM are highly socially sensitive and attuned to social cues. Finally, we found that children who blush are socially anxious. Importantly, children who blush but also have high ToM are not socially anxious possibly because they are better able to cope with their sensitivity to others.

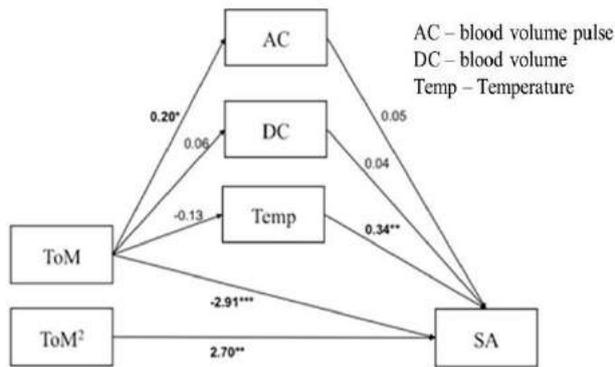


Figure 2: The estimates of the variables in the path model.

### sym302-6.3 ToM, social anxiety and peer acceptance in the transition to secondary school

Luca Ronchi, Robin Banerjee, Serena Lecce  
University of Pavia, Italy

**Aim:** The expansion of research on theory of mind (ToM) into middle childhood raises important questions. These include consideration of whether ToM matters for children’s social relationships, as well as the mechanisms that may account for such associations. In the present study we aimed to examine the potential mediating role of children’s social anxiety, as empirical findings suggest that it is an important correlate of both ToM and peer relationships. We adopted a 3-wave longitudinal approach and followed children during their transition to secondary school, a time that poses several challenges to children’s social adjustment.

**Methods:** We recruited a group of 70 children at the beginning of the first year of secondary school (Time 1, age 11.5 years) and we saw them again 6 months later, at the end of the same school year (Time 2, age 12 years), and once more 6 months after that, at the beginning of the second year of secondary school (Time 3, 12.5 years). At each time point we evaluated participants’ language, ToM, peer acceptance, and social avoidance and social anxiety (specifically, social avoidance and distress in dealing with unfamiliar people or new situations)..

**Results:** Regression analyses revealed that: a) Time 1 ToM predicts reduced Time 2 social anxiety, over and above language and stability in individual differences; b) low social anxiety at Time 2 predicts higher peer acceptance at Time 3, over and above language and stability in individual differences; and c) social anxiety mediates the relationship between early ToM and later peer acceptance.

**Conclusions:** This study extends our knowledge of the links between social understanding and interpersonal relations among older children. It suggests that ToM may play an important role in children’s peer relationships during the transition to secondary school by reducing social anxiety when confronting new situations.

### sym302-6.4 Reciprocity in Autism

Sander Begeer, Tineke Backer van Ommeren, Hans Koot, Marianne A. Vreugdenhil  
Free University of Amsterdam, Netherlands

**Aim:** The DSM-5, for the first time, includes deficits in reciprocity as a necessary criterion for an ASD diagnosis, whereas the DSM-IV included it as a possible criterion. However, while reciprocal behaviour of children with ASD can be measured based on specific elements of parent reports or clinician observations, currently there is no test available to specifically measure the quality and level of reciprocal behavior. A new test for reciprocity, the Interactive Drawing Test (IDT) was shown to be a valid measure of the quality of reciprocal behaviour, and highly sensitive to reciprocity differences between children with and without ASD.

**Objectives:** To measure the sensitivity of the IDT for differences in reciprocal behaviour in participant with or without ASD, across ages, gender and intelligence levels.

**Methods:** Reciprocal behaviors of individuals with autism were analyzed using the IDT. In five studies, we analyzed over 500 individuals with or without ASD, including children, adolescents, and adults, intellectually

disabled and normally intelligent participants, and girls and boys with ASD. In addition to the paper version, we also tested a digital touch table version of the test.

Results: The IDT showed a high sensitivity to ASD. Large effect sizes indicated strong differences between ASD and TD participants in quality of reciprocal behaviour. These differences were irrelevant of gender, IQ and age. However, ASD girls performed better than ASD boys, but both groups showed more limitations compared to the TD children. Specific response patterns in gender, cognitive impaired and age groups, with and without autism, and comparisons with ADOS scores will be discussed. The digital version of the IDT showed equal sensitivity to ASD.

Conclusions: The IDT seems highly suitable to assess impairments in reciprocal behaviour and to differentiate between performances of ASD and TD children and adolescents with and without MID.

## sym302-7 Bayesian Estimation for SEM with Small Samples: Advantages, Precautions, and Empirical Applications

Rens van de Schoot, Discussant

*Utrecht University, Department of Methods and Statistics/ Optentia Research Focus Area, North-West University, Netherlands*

In psychological research, small sample data are extremely common. Bayesian methods are frequently suggested for small sample analyses because they have potentially more desirable small sample properties over frequentist methods like Maximum Likelihood.

We start this symposium by presenting the results of a systematic review on Bayesian versus Maximum Likelihood estimation for Structural Equation Models (SEM) with small samples. Bayesian estimation seems to outperform Maximum Likelihood estimation, but not unconditionally. Prior distributions have to be specified carefully! Researchers should never rely on default settings when the sample size is small.

The second presentation delves deeper into the potential negative consequences of naively switching to a Bayesian framework to address small samples. Advantages of Bayesian methods for smaller samples certainly exist but they are not automatically enacted merely by switching from a frequentist to a Bayesian framework. The additional steps required to capitalize on these advantages are discussed.

In the third presentation, we illustrate how prior knowledge can be acquired in practice systematically with an empirical application about development of working memory in young heavy cannabis users ( $n = 16$ ) and non-using peers ( $n = 252$ ). To obtain prior information, meta-analyses, reviews, empirical papers and experts were involved. We will explain our approach, comment on our experiences, and provide general recommendations to assist researchers that want to incorporate prior knowledge in a structural equation model.

Finally, we discuss an application in which a Bayesian latent growth model with informative priors is used to study a small, exceptional student population. We compared the development of student-teacher conflict among students with emotional and behavioural disorders included in regular classrooms ( $n = 39$ ), students with emotional and behavioural disorders in exclusive schools for special education ( $n = 15$ ) and typically developing controls ( $n = 1321$ ).

### sym302-7.1 Bayesian vs Maximum Likelihood Estimation for Small Samples: A Systematic Review

Sanne Smid, Daniel McNeish, Rens van de Schoot

*Utrecht University, Department of Methods and Statistics, Netherlands*

In social sciences, small data sets are very common, due to small or hard-to-access target groups or prohibitive costs. The use of Bayesian statistics has increased in the last few years, and is frequently associated with the context of small sample sizes. This creates the impression that Bayesian methods should be used instead of Maximum Likelihood when the sample size is small. The goal of this study is to investigate the validity of this statement. To investigate this, a systematic review is carried out. We included papers in which a simulation study was used to investigate and compare the performance of Bayesian parameter estimation to Maximum Likelihood estimation in Structural Equation Models with small sample sizes. A total of  $n = 4977$  records was identified in different searches, after removal of duplicates  $n = 3548$  abstracts were screened, and  $n = 475$  full-text articles were retrieved. This led to  $n = 24$  included papers, in which a total of  $n = 29$  simulation studies is described that met our inclusion criteria. We present a qualitative synthesis of these studies, and give recommendations for applied researchers. We conclude that Bayesian estimation can have advantages for small samples in comparison to Maximum Likelihood estimation. However, researchers should never rely on default non-informative priors when the sample size is small. Prior distributions have to be specified carefully!

### **sym302-7.2 Does Bayes Solve Small Sample Problems?**

Daniel McNeish

*University of North Carolina, Chapel Hill, Center for Developmental Science, United States*

In psychological research, small sample data are extremely common. Recent meta-analyses have found that between 20% and 50% of studies are classified as having small samples. As barriers to software implementation continue to fall, Bayesian methods are becoming an increasingly popular method by which to accommodate small sample data and such a strategy is often suggested. The basis of such recommendations is that Bayesian methods, unlike maximum likelihood, are not based on asymptotic theory which requires large sample sizes. Although true that Bayesian methods have advantages over frequentist methods with small sample data, these advantages are not acquired automatically. To capitalize on advantageous small sample properties, researchers must contribute information into the model in the form of prior distributions. This talk discusses how typical applications of Bayesian methods in empirical studies that elect to specify diffuse, non-informative priors are not sufficient to effectively take advantage of small sample advantages. In fact, such a strategy can actually exacerbate small sample issues known to affect frequentist methods, leading to Bayesian estimates with less desirable statistical properties than comparable frequentist methods. This includes reduced ability to detect non-null effects (the Bayesian equivalent of power), which is often the top priority in small sample analyses because power tends to be limited from the onset in small sample studies. The relevance of small sample methods for emerging methodological developments is discussed as are small sample frequentist methods that may be more desirable in the event that researchers are unable to provide meaningful prior information.

### **sym302-7.3 Where do priors come from? Evaluating a two-group latent growth model**

Mariëlle Zondervan-Zwijnenburg, Margot Peeters, Sarah Depaoli, Rens van de Schoot

*Utrecht University, Department of Methods and Statistics, Netherlands*

When data is limited, frequentist procedures cannot always properly evaluate complex models like latent growth models. Bayesian estimation can overcome computational problems that occur with frequentist estimation procedures like maximum likelihood estimation, and increase precision with prior information. An issue that received little attention in previous research is the proper acquisition of prior information for structural equation models. Our aim is to illustrate how prior knowledge can be acquired in practice systematically. We do so by means of an empirical application about development of working memory in young heavy cannabis users ( $n = 16$ ) and non-using peers ( $n = 252$ ). To obtain prior information for the latent growth curve model, meta-analyses, reviews, empirical papers and experts were involved. We will explain our systematic approach, comment on our experiences, and provide general recommendations to assist researchers that want to incorporate prior knowledge in a structural equation model.

### **sym302-7.4 Application of Bayesian SEM to study students with emotional and behavioural disorders**

Inge Zweers, Rens van de Schoot, Nouchka T. Tick, Sarah Depaoli, James P. Clifton, Bram Orobio de Castro, Jan O. Bijstra,

*De Ambelt/ Utrecht University, Department of Developmental Psychology, Netherlands*

Students with emotional and behavioural disorders (EBD) comprise a small, exceptional student population. We compared the development of student-teacher conflict among (a) students with EBD included in regular classrooms (included;  $n = 39$ ), (b) students with EBD in exclusive schools for special education (excluded;  $n = 15$ ) and (c) typically developing controls (controls;  $n = 1321$ ).

We collected multi-informant longitudinal survey data on student-teacher conflict and on various aspects that may predict development in student-teacher relationships. We set up a three phase Bayesian latent growth model (see Figure 1) with informative priors to examine students' development in student-teacher conflict. We examined differences in intercepts and slopes between the three subgroups (phase 2) and we focused on included and excluded students (phase 3), to see whether we could find predictors of growth in student-teacher conflict.

Excluded students reported more student-teacher conflict than controls, and excluded students reported decreasing conflict over time, while conflict remained stable over time among included students and controls. These results were stable from a sensitivity analysis. For both included and excluded students, student-teacher conflict intercepts were only predicted by sex and prior student-teacher conflict. The results of the model with these small subgroups were unstable from a sensitivity analysis.

This study shows that with Bayesian latent growth modelling, we can obtain stable results for small, exceptional populations like students with EBD. That is, excluded students had more conflictual relationships with teachers than controls, but relationships of the former subgroup improved over time while those of the latter subgroup remained stable over time. However, to run more complex models with these exceptional small groups, we will need more prior information to obtain stable results.

## Paper sessions 302, Friday September 1, 13:45 – 15:15 hrs.

### pap302-8 Identity Processes

#### pap302-8.1 The role of sibling constellation and relationships in identity formation

Aleksandra Lewandowska-Walter, Piotr Polomski, Judyta Borchet, Aleksandra Peplinska  
*Institute of Psychology, University of Gdansk, Poland*

Early adolescence brings a dynamic development of identity (Erikson, 1968). Although much attention has been paid to the significance of family in the process of an adolescent's identity formation, there is dramatically less research devoted to sibling relationships (cf. Crocetti et al., 2016). The statuses as well as the constellation of siblings' gender are among the factors that can affect interactions as well as the process of taking on a commitment and exploration (Wong et al. 2010; Watzlawik, Clodius, 2011).

The objective of the study is to determine the role of siblings in identity formation during adolescence. The model takes into account the elements of sibling constellation and the quality of sibling relationships, and compares teenagers (N = 554; age: M = 14,24; SD = 1,89) brought up in families only with sisters (n = 103), only with brothers (n = 109), and with both sisters and brothers (n = 342). The development of the processes of identity was determined with the Utrecht-Groningen Identity Development Scales, and sibling relationships were evaluated using the Questionnaire of Relationships with Siblings (Lewandowska-Walter, Polomski, Peplińska, 2016).

The model (CMIN=52,735 (42);  $p = 0,124$ ; RMSEA = 0,012; GFI = 0,991; CFI = 0,996) has revealed the significance of the position of siblings for the development of the identity of adolescents, mediated by relationships between siblings, mainly in the group with sisters only (direct effect: .265;  $p < .01$ ; indirect effect: -.054; ns).

Those confirm previous results testifying to the particular importance for one another of sisters in the family, as well as suggest that of significance for the personal development of brothers or mixed gender siblings might be other factors.

#### pap302-8.2 Psychological Needs Support from Parents and the Best Friend and Identity Statuses

Pinar Ercelik, Ayfer Dost-Gozkan  
*Ozyegin University, Turkey*

This present study examined the relationships between the basic psychological needs-support (autonomy, competence, and relatedness) emerging adults perceived in their relationships with their mother, father, and best friend, and the identity statuses (identity achievement, identity moratorium, identity foreclosure, and identity diffusion) they hold. Theoretically, the present study is based on the Self-Determination Theory (Deci & Ryan, 1985), which proposes that autonomy, relatedness, and competence are the basic needs that needs to be gratified in close relationships for optimal development and well-being.

Two hundred and eighty-eight college students (Mage = 21.99, SD = 1.98), aged between 18 and 26, participated in the present study. Participants filled out a battery of online questionnaire on close relationships and identity statuses. First, a MANCOVA was conducted to examine the differences in the levels of needs-support that emerging adults perceive in their three close relationships. Analyses revealed that basic needs-support perceived from the best friend was significantly greater than the support perceived from the parents. Secondly, a path analysis was conducted to examine the relative contribution of the perceived support from mother, father and the best friend to identity statuses. The fit indices indicated that the model (Figure 1.) had good fit to the data:  $\chi^2 = 14.30$ ,  $df = 14$ ,  $p = .43$ , CFI/TLI = .999/.998, RMSEA = .009. Findings showed that perceived support from the best friend predicted all identity statuses; and higher levels of perceived support was linked to higher levels of achievement and lower levels of moratorium, foreclosure, and diffusion. Higher perceived support from mother predicted lower moratorium, and higher support from father predicted higher foreclosure.

The findings have revealed that needs-support from the best friend contributes more to identity statuses than support from parents in emerging adulthood. Findings are discussed in terms of the different roles that close relationships play in identity development during emerging adulthood.

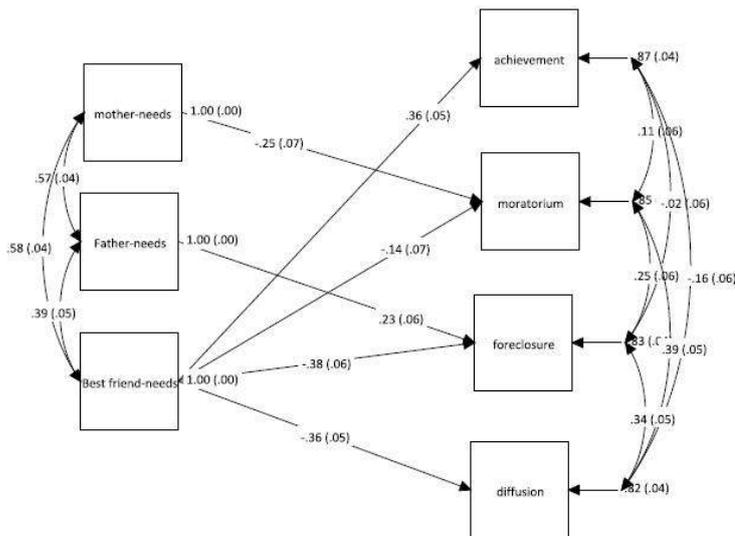


Figure 1: Path model predicting identity statuses from perceived needs-support from parents and the best friend

### pap302-8.3 Longitudinal associations between identity processing styles and school attachment and engagement

Rasa Erentaite, Rimantas Vosylis, Saule Raiziene, Ingrida Gabrielaviciute  
 Institute of Psychology at Mykolas Romeris University, Lithuania

Applied developmental scientists are increasingly interested in factors that promote optimal identity development in youth (Eichas, Meca, Montgomery, & Kurtines, 2015). School-related factors are particularly important in this respect, since they can potentially provide school-based tools for supporting youth in their identity work. However, there is still a lack of knowledge on school-related predictors of optimal identity development. Our study aimed to shed more light on the links between adolescent school involvement (school attachment and engagement) and identity processing styles (informational, normative and diffuse) over a three-year period.

Nine hundred and eighteen adolescents from four high schools participated in this study (51.4% females). The participants enrolled when they were in the 9th and 10th grade and were followed for three years (dropout rate at T3 was 14.4%). During the first assessment, participants were at the age of 14 to 17 (M = 15.65 SD = 0.73). Identity styles were measured using Revised Identity Style Inventory (ISI-4; Berzonsky, Soenens, Smits, Luyckx, & Goossens 2007). School engagement was measured with Engagement in School scale (van Ryzin, Gravely, & Roseth, 2009) and school attachment was measured with School Attachment scale (Hill & Werner, 2006).

Two full cross-lagged panel models with latent variables were tested: one for identity styles and school attachment and one for identity styles and school engagement. These analyses revealed reciprocal associations between identity styles and school involvement: a) higher levels of normative and informational identity styles predicted increase in later school involvement; b) higher levels of school involvement predicted later increase in the use of informational and decrease in diffuse identity styles. The findings suggest that one identity style can benefit another identity style over time (e.g., normative style can strengthen attachment to school, which, in turn, fosters informational identity style).

#### **pap302-8.4 When creativity could be a resource for identity development in late-adolescence**

Luigia Simona Sica, Giancarlo Ragozini, Tiziana Di Palma, Laura Aleni Sestito  
*Department of Humanities, University of Naples Federico II, Italy*

**Aim.** The link between identity and creativity has received surprisingly little attention from developmental researchers (Glaveanu & Tanggaard, 2014). Instead, the ability of generating multiple solutions to problems and flexibility in define/re-define own identity could reveal to be key competences for current society based on de-standardization of development trajectories (Buchmann, & Kriesi, 2011). The present study is aimed at exploring the relationships between creativity (Williams, 1993) and identity (Crocetti et al., 2010) in order to explore if the creativity processes could have a positive impact on identity development in late adolescents. **Method.** A total of 315 late adolescents from the last two years of Italian high schools, balanced by gender participated in this study. Measures were: the Test of Divergent Feeling (TCD – Williams 1980, 1993); the Utrecht-Management of Identity Commitments Scale (U-MICS; Crocetti et al., 2008b) the Youth Self Report (YSR; Achenbach, 1991); the Self-Esteem scale (SE; Rosenberg, 1965). For late adolescents younger than 18, parental consent was obtained. The participation was voluntary and the anonymity was guaranteed. **Results.** First, with a person-centered approach, we identified identity statuses and creativity/ psychosocial correlates. The results showed that: achievement identity status reported high scores on creativity; early closure status low scores on creativity; diffusion status high scores on curiosity and imagination; searching moratorium high scores on complexity. Second, we test trough a SEM model the hypothesis that creativity could have a meditational effect between identity and positive/negative psychosocial outcomes. Results showed that different creativity dimensions have different impacts on SE and externalizing behaviors. **Conclusion.** The results confirm that creativity could be useful for identity formation for late-adolescents. Furthermore, according to recent literature (Kapoor, 2015), different effects of each creative dimension are discussed in terms of positive and negative impact on self esteem and externalizing behaviors.

#### **pap302-8.5 Identity Processes and Psychosocial Adjustment: The Mediator Role of Basic Psychological Needs**

Esin Sener, Sule Selcuk, Melike Sayil  
*Anadolu University, Turkey*

It is known that identity development is a crucial developmental task during adolescence. It was consistently demonstrated that identity process is related to adolescents' psychosocial adjustment. However, there is scarcity of research investigating the mechanism underlying this relationship. Although some research mainly relying on Self-determination theory revealed that three basic psychological needs (i.e., autonomy, competence, and relatedness) is associated with identity development, to our knowledge, the mediator role of basic needs between identity and adjustment has not been explored. To fill this gap, we aimed to investigate whether satisfaction and frustration of psychological needs intervene the relationship between identity processes (i.e., commitment, in-depth exploration, and reconsideration of commitment) and psychosocial adjustment [i. e., depression, psychological well-being, deviant peer association (DVA)]. Participants were 284 urban Turkish adolescents aged between 14 and 19 years ( $M = 16.85$ ,  $SD = .98$ ). Adolescents' identity (Crocetti, Rubini, & Meeus, 2008), psychological needs (Chen et al., 2015), depression (Radloff, 1977), deviant peers (Galambos & Maggs, 1991), psychological well-being (Diener et al., 2009) were assessed with reliable Turkish versions of these measures. Results of Structural Equation Modeling analysis indicated that only commitment dimension of identity formation process is positively related to need satisfaction (NS) and negatively to need frustration (NF). Moreover, NS was positively associated with well-being and negatively with depression whereas NF is negatively linked with well-being and positively with depression and DVA (all  $ps < .03$ ). Tests of indirect effects showed that identity commitment is indirectly related to well-being and depression via both NS and NF, but it is associated with DVA only through NF. These findings imply that NS and NF seem to be a mechanism in the relationship between identity commitment and adjustment among Turkish adolescents. The finding that NS and NF was not related to other dimensions of identity process needs further exploration.

**pap302-8.6 Positioning: A discursive dynamic systems model of identity construction in interactions.**

Jan-Ole Harald Gmelin, Saskia Kunnen, Peter de Jonge  
*University of Groningen, Netherlands*

Being diagnosed with HIV can disrupt the identity development in young adults (Hosek et al., 2002). While it has been found that the negative ramifications of this disruption, such as inconsistent treatment seeking (Baumgartner, 2007), can be prevented by fostering an integration of the HIV-status into identity, little is known about how identities are developed in daily life (Postmes et al., 2006). Interactions have been identified as pivotal sites of identity formation (Postmes et al., 2006). In this presentation a theoretical model of identity development in interactions highlighting the interplay of processes of identity formation across different time scales is introduced. Specifically, identities, which are experienced as consistent over time (i.e. months; Erikson, 1994), can emerge from everyday interactions (i.e. micro-level time scales) in a bottom-up fashion (Postmes et al., 2006). In turn, by shaping behavior at the micro-level identities exert a top-down constraint (Tajfel, 2010). This bi-directional causality illustrates the dynamic nature of identity, and situates the model within a dynamic systems theory perspective (Kunnen & van Geert, 2012). In contrast, by focusing on the context-dependent saliency of social categories, approaches such as social identity theory frame identities as cognitive schemes (Korobov, 2013). By approaching identities as constructed in discourse (e.g. Butler, 1988) micro-level behavior can be understood as performances of identity, rather than the expression of cognitive categories. Central to a discursive approach is a focus on the use of language in the construction of identities and the navigation of interactional goals (e.g. affiliation; Korobov, 2010). It is through the recurrent performance of identities at the micro-level that consistent identities at the macro-level can emerge. This presentation outlines a discursive dynamic systems model of interactive identity construction that focuses on how young men living with HIV jointly construct identities in the process of managing interactional goals during conversation.

**pap302-9.1 Participatory Educational Quality Development for Parents and Day Care Nannies**

Antonia Baumeister, Scarlett Stock, Heiner Rindermann  
*Chemnitz University of Technology, Department of Psychology, Germany*

The "Education and Upbringing Test for Day Care Nannies and Parents" (original name: "Bildungs- und Erziehungstest für TagesElternBetreuung BET") is an innovative participatory approach to quality improvement of day care for three-to six-year old children. The questionnaire can be filled in by parents (parental child care quality) and day care nannies (day care quality) for self-rating their education.

**Aim & Methods.** The pilot version of the web survey was tested in a German sample (Table 1) in order to compare the educational quality of both target groups.

**Results.** Both achieved a high structural quality level. However, nutrition (e.g., how often fresh fruit and vegetables are offered) by nannies was healthier than by parents,  $d = 0.57$ , reflecting the expertise of nannies (25% with academic background, 56% without academic background, 19% without professional qualification). Regarding process quality, excellent quality was achieved for supporting social competence. Good quality was found for supporting verbal and cognitive competence and independence during daily routines. Mediocre quality was found for other areas, i.e. fostering reading and writing, spatial cognition and mathematics, nature exploration, creative and musical activities.

Nannies fostered more verbal and cognitive development than parents,  $d = 0.53$ .

Children's engagement was mostly good. Older children engaged more in reading and writing activities,  $r = .54$  and in mathematics and natural sciences,  $r = .27$ . Nannies reported more child engagement in verbal activities,  $d = 0.54$ . Girls engaged more in creative and musical activities,  $d = 0.59$ .

Regarding parenting style, moderate quality of authoritative parenting was found.

Based on the results, support in the form of home visits and parenting instruction was offered.

**Conclusions.** The BET contributes to evaluating and improving day care practices, and it is an instrument for future research on early childhood care and education.

Children	Mothers	Fathers	Female Nannies	Male Nannies
Girls	19	3	8	1
Boys	19	5	6	1
<i>n</i>	38	8	14	2

*Table 1. Frequencies of Participants of the BET Pilot Version*

**pap302-9.2 Supporting sleep development in early childhood: What role does childcare play?**

Sally Staton, Cassandra Pattinson, Simon Smith, Susan Irvine, Karen Thorpe  
*Center for Children's Health Research, Queensland University of Technology, Australia*

The early years of life represent a critical window in the development of sleep patterns and the promotion of healthy sleep behaviours. During this period, childcare plays a significant role in the lives of children and has demonstrated causal impacts on lifetime trajectories of health and development. Sleep provisions are a common characteristic of childcare programming internationally; yet few studies have examined childcare sleep practices or their impacts. As in other areas of child development, sleep follows a normative developmental trajectory, with considerable individual variation in timing and need. How childcare services manage this diversity is not well defined, but has become an area of significant debate. We present findings from two large observational studies. Collectively, these studies provide the first comprehensive data on sleep practices for children from birth to 5 years across a diversity of center-based childcare services (N=170 childcare rooms; >2500 children observed). In both studies, an intensive in situ observation protocol, the Sleep Observation Measure for Early Childhood Education and Care (SOME), was used to assess care practices and child behaviours. Results document a high prevalence of standardised sleep times across childcare services, regardless of individual variations in sleep need. Standardisation was particularly prevalent among toddler (100%) and preschool (91%) age groups. While a majority of preschool programs implemented mandatory sleep times (ranging from 15-180 minutes), almost two-thirds of children (69%) did not sleep. Care practices in

infant rooms were commonly reported by educators as being flexible and responsive to infant sleep cues; in practice, however, educators were observed implementing a standard sleep time, irrespective of individual sleep need. Our results are discussed in relation to current evidence regarding the early development of sleep patterns and how childcare practices may act to support or modify sleep patterns, with ensuing effects on child development and family functioning.

### **pap302-9.3 What about the childcare educator? Sustaining positive ECEC experiences**

Karen Thorpe, Elena Jansen, Susan Irvine, Paula McDonald, Victoria Sullivan, Joanne Lunn, Jennifer Sumsion  
*Centre for Children's Health research, Queensland University of Technology, Australia*

**Aim:** In developed economies the majority of children attend some form of early education and care prior to entry to school. Many spend considerable hours in non-parental care from the first year of life. The quality of experience that children have in their childcare settings stands to have considerable impact on development. Central to the quality of experience is the training, retention and wellbeing of educators who provide care. Training is associated with the educational quality of interaction while retention is significant for ongoing attachment relationships. The wellbeing of educators has been largely ignored and yet data from studies of parents show that parents under stress or who are depressed are less able to be responsive carers. Our aim was to assess childcare educators' intentions to stay in the ECEC sector, and consider supports and challenges that affect their wellbeing..?

**Method:** We report on a national study of 1200 Australian ECEC educators; their experience of their work, their wellbeing and their intention to stay in the occupation. Detailed interviews with a representative sample of 97 educators provides further insights.

**Results:** We find that 20% intend to leave ECEC – among them some of the most qualified. Further, those undertaking tertiary education were often doing so to leave the sector rather than improve their effectiveness within the sector. There were clear indications in the data of discontent and distress that raises concern about the sustainability of providing early education and care that is optimal for children's development.

**Conclusion:** Despite the strong arguments for the importance of ECEC in promoting children's development the wellbeing of the educator seems largely disregarded. Improved conditions of work are essential to support ECEC educators in optimising developmental outcomes.

### **pap302-9.4 Free children's play in kindergartens from the teacher's perspective**

Monika Skeryte-Kazlauskienė, Lauryna Rakickienė, Giedrė Sujetaite-Volungeviciene, Milda Bredikyte  
*Lithuanian University of Educational Sciences, Lithuania*

Evidence accumulates on decreasing possibilities for children's free pretend play in early age educational settings. At the same time more time is dedicated for learning academically and structured play activities. The aim of the paper is to analyze the attitude of the kindergarten teachers to children's play, especially free play.

**Method.** More than 90 kindergarten teachers from various Vilnius kindergartens took part in a survey about their attitudes, also the time and possibilities for children's play in kindergartens: what kinds of play teachers prefer, how they encourage children's play, whether they see children's free play as important activity for children's learning, what kinds of play they observe and notice in children's free time.

**Results.** There are 1-7 years age kids in Vilnius kindergartens. Teachers report to give priority for the free pretend play, constructional play with various building materials and locomotor activities. Though the children in the kindergartens mostly play locomotor play, construction play and play with various toys. Twenty percent of the teachers reported that kids in kindergartens play games with new technologies – computers, cell phones. Kids who come early and stay late have the most possibilities to play freely, though the quality of the time is questionable. 16 percent of the respondents reported that children have less than one hour periods for play during the day. 34 percent of respondents agree that adults as active agents are necessary for the kids to learn something valuable.

The results show that there is still a lot of playing activities in Vilnius kindergartens, though they differ according to the type of kindergarten. The free play is not mentioned as the activity most important for children's learning. That attitude may be the reason of diminishing children's play in early education settings.

### **pap302-9.5 Long days in Child Care and Developmental Difficulties in Vulnerable Children**

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**Aim:** To investigate the association between spending long days in child care and developmental difficulties in vulnerable children.

**Methods:** We examined associations between long days in child care and developmental difficulties in 11 000 children participating in the The Norwegian Mother and Child Cohort Study (MoBa) attending child care at 1 ½, 3 and 5 years of age. Children were defined as vulnerable if satisfying either of the following criteria; a) born premature, b) born with low birth weight, or c) scoring below expectations (2 SD) on the motor or communication scales of the Ages and Stages Questionnaire (ASQ) at 6 months of age. Long days were defined as spending 40 hours or more in child care each week. Developmental outcomes in three domains were assessed when children were 5 years of age. Language difficulties was measured using mother report on the ASQ communication scale. Externalizing and internalizing difficulties were measured using mother reports on selected items from the Child Behavior Checklist. All analyses were done for boys and girls separately and were adjusted for potential confounding variables.

**Results:** Preliminary analyses suggest a weak but statistically significant ( $p < .05$ ) associations between spending long days in child care and externalizing difficulties at 5 years of age for all children. No associations were found with language or internalizing difficulties. The association were stronger for vulnerable boys compared to other children. Vulnerable girls were at increased risk for internalizing difficulties at 5 years of age when spending long days in child care.

**Conclusion:** The association between long days in child care and developmental difficulties are stronger in vulnerable boys and girls compared to other children.

### **pap302-9.6 Assessing Emotion Regulation Strategies In Foster Care : A Case Study**

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**Aim:** The objective of our study is to understand how a child is building its Emotion Regulation (ER) strategies within the context of foster care.

Preschool children learn Emotion Regulation strategies from infancy. Parental practice helps them understand, control and regulate their emotions in order to develop self-regulation by activating internal processes of regulation. Meanwhile, relationships with parents keep enhancing emotion understanding in social and interacting contexts.

**Methods:** We observed the interacting processes between a child aged 5 years old and his natural and foster parents in ecological conditions. Specific Emotion Regulation tasks such as free play, tidy task and teaching task, were addressed to the dyads and analysed regarding emotion expression and emotion regulation strategies.

**Results:** The mother provided an environment made of positive emotion expression and symbolic cognitive reframing in order to help the child focus on the task, seen as anticipatory strategies.

The father was using instrumental strategies in order to conduct the task, satisfying the adult's goal. The child was more distracted by her environment and showed self-stimulation and self-soothing strategies during the interaction with her father.

The foster parent provided an environment made of cognitive reframing and positive emotion expression allowing the child to engage with the object of the task in a positive emotional ambiance.

**Conclusion:** Our results show differences among parenting styles and ER strategies in natural or foster parents' interaction with the child. We can globally conclude that when the child was allowed by the parent to conduct the tasks, emotion regulation strategies were more operant regarding the collaboration processes.

The ER processes leads us to hypothesize that both the child's characteristics and the parenting styles determine the quality of interactions. The research was conducted to suit the child's developmental stage and should be widespread in order to globalize those results.

**pap302-10.1 Functional outcomes of child and adolescent mental disorders**

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**Aim:** Various sources indicate that mental disorders are the leading contributor to the burden of disease among youths. An important determinant of functioning is current mental health status. This study investigated whether psychiatric history has additional predictive power when predicting individual differences in functional outcomes.

**Methods:** We used data from the Dutch TRAILS study in which 1778 youths were followed from preadolescence into young adulthood (retention 80%). Of those, 1584 youths were successfully interviewed, at age 19, using the World Health Organization Composite International Diagnostic Interview (CIDI 3.0) to assess current and past CIDI-DSM-IV mental disorders. Four outcome domains were assessed at the same time: economic (e.g., academic achievement, social benefits, financial difficulties), social (early motherhood, interpersonal conflicts, antisocial behavior), psychological (e.g., suicidality, subjective well-being, loneliness), and health-behavior (e.g., smoking, problematic alcohol, cannabis use).

**Results:** Out of the 19 outcomes, 14 were predicted by both current and past disorders, 3 only by past disorders (receiving social benefits, psychiatric hospitalization, adolescent motherhood), and 2 only by current disorder (absenteeism, obesity). Which type of disorders was most important depended on the outcome. Adjusted for current disorder, past internalizing disorders predicted in particular psychological outcomes while externalizing disorders predicted in particular health behavior outcomes. Economic and social outcomes were predicted by a history of comorbidity of internalizing and externalizing disorder. The risk of problematic cannabis use and alcohol consumption dropped with a history of internalizing disorder.

**Conclusions:** To understand current functioning, it is necessary to examine both current and past psychiatric status.

**pap302-10.2 Subdimensions of the Interparental Relationship and Child Psychopathology: A Meta-Analysis**

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The first aim of this meta-analysis is illuminate the nature and strength of empirical associations between two broad dimensions of the interparental relationship – adjustment and conflict – and child internalizing and externalizing problem behavior. The second goal is to determine whether variation in research findings is systematic. For this second aim, we give specific attention to which indicators of the two broad dimensions are studied as an important moderator. Due to a lack of consensus on the conceptualization of the multidimensional construct interparental relationship, a shredded field of research has arisen with relatively few studies reporting associations between the same indicators of the interparental relationship and child psychopathology. Moreover, during the last two decades, specific hypotheses about which aspects of the interparental relationships would affect children most have been developed and empirically tested. Therefore, now is an excellent time for a reassessment of the field.

We included 196 studies with 1068 effect sizes. In total, data of 83383 participants was analyzed (Mage children = 96 months, SDage = 49.6), M% Caucasian = 77.6, range = 0-100%). First, four separate random effects meta-analyses were conducted to obtain population effect sizes for all combinations of the two broad-band dimensions of the interparental relationship (i.e. adjustment and conflict) and child psychopathology (i.e. internalizing and externalizing). Next, we evaluated whether the samples of studies were homogenous using Q statistics and followed up with moderator analyses.

Results from this study integrate a large field of research, showing whether variation in associations between aspects of the interparental relationship and children's psychopathology is systematic. For instance, driven on the emotional security hypothesis, we examined to what extent the emotional aftermath of conflicts is more important for children than the occurrence of conflict. Also, a test of the differential reactivity model for child gender will be discussed.

### **pap302-10.3 Cumulative effect of adverse childhood events on affective symptoms in later life.**

Ellen Thompson, Marcus Richards, Darya Gaysina  
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Previous studies have shown that specific types of adverse childhood events (ACEs), such as parental divorce and parental psychopathology, pose a risk for the development of affect in adulthood. In this study, we examine whether the number of prospectively measured ACEs are associated with adulthood and later life AS.

We used the data from the MRC National Survey of Health and Development (NSHD). This is an ongoing longitudinal study of 5362 women and men who were born in Britain in 1946. AS were measured using the General Health Questionnaire (GHQ) at ages 53 y, 60-64 y and 69. Categorical variables representing 'no symptoms', 'mild symptoms', 'moderate symptoms' and 'severe symptoms' were derived through grouping latent trait factor scores of the GHQ. Multiple imputation was performed on each ACE predictor and a cumulative risk index was derived through summing the number of ACEs experienced by each participant (0, 1, 2, 3...20) before age 16 y. The effect of cumulative ACEs on AS severity was examined using linear regression and univariate ANOVA.

Cumulative ACEs were found to predict AS at ages 60-64,  $\beta(1, 2183) = .07, p = .002$ , and 69,  $\beta(1, 2110) = .07, p = .003$ , but not age 53  $\beta(1, 2900) = .04, p = .058$ . A significant difference was found between cumulative ACEs and symptom severity at ages 60-64,  $F(3, 2171) = 4.32, p = .005$ , and at ages 69,  $F(3, 2129) = 5.11, p = .002$ , but not at ages 53,  $F(3, 2931) = .85, p = .468$ . At age 60-64 and 69, those with severe symptoms experiences significantly more adversities than those with no symptoms (all  $ps < .1$ ).

Findings will be presented in light of the growing evidence for the negative effects of ACEs on health and well-being in later life.

### **pap302-10.4 Relation between learning disability and parent-child relationships: Comparison of mother- and teacher-reports**

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Background: Inclusion of multiple informants have been argued in the literature (Seifer, 2005) as each informant brings a different perspective and provides unique, meaningful, and complementary information (Jensen et al., 1999). Aim: To assess the parent-child relationship and the importance of inclusion of multiple informants for the group of learning disabled (LD) children aged between 7-14 (N = 90). Method: Mothers completed Social-demographical Form, Parent-Child Relationship Scale, and Specific Learning Disability Symptom Check List (Mother Form), while teachers completed Specific Learning Disability Symptom Check List (Teacher Form). Also, children' perceived closeness from mother was assessed by Two Field MAP. Results: Study findings demonstrated that child LD symptoms decreased parent-child positivity and perceived closeness from mother, and increased parent-child negativity. While teacher and mother reports of child LD differed in "using verbal and nonverbal language (LDF2)" and "sustain attention (LDF3)" subscales, both informants agreed on "coping with mathematical concepts (LDF1)" and "failing in reading and writing (LDF4) difficulties. In path analyses; model fit for the mothers' model was  $X^2(10, N = 90) = 1.99, p > .05, CFI = .100, RMSEA = .000$ . It was found that LDF1 positively predicted negativity; both LDF1 and LDF2 marginally and negatively, but LDF3 positively predicted perceived closeness from mother, and LDF4 negatively predicted positivity. For teacher reports, model fit was  $X^2(10, N = 90) = 2.58, p > .05, CFI = .100, RMSEA = .000$ . It was found that LDF1 negatively predicted perceived closeness from mother, LDF3 negatively predicted positivity, but positively and marginally predicted perceived closeness from mother. Conclusion: The study pointed the contradiction and agreement of informants, and can guide researches in assessing LD children with multiple informants in order to developing more effective interventions.

Keywords: symptoms of learning disability, parent-child relationships, mother report, teacher report.

### **pap302-10.5 Play activities with mainstream robotic toys in children with Physical Impairment**

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**Aim.** Play is a right for every child (ONU, 1989) and a fundamental drive for development (Piaget, 1962; Vygotskij, 1976). Among the groups of children who cannot exercise this right for social, economical and psychological reasons, there are children with disabilities, who may be strongly hindered from this activity due to their impairment and to the inaccessibility of the social and "built" world. In addition, in their life play is often used as a mean to reach other goals – such as learning or rehabilitation – other than fun and leisure. In this case play assumes the aspect of play-like activities rather than play for the sake of play (COST Action TD1309 LUDI; Besio, 2016; Visalberghi, 1958), which is characterized by freedom and Playfulness (Skard & Bundy, 2008). In the GioDi Project (2015-2016), accessibility and use of mainstream robotic toys has been explored to support Playfulness in children with Physical Impairment (PI), who can suffer from limitations in play activities and restrictions in play participation.

**Methods.** Seven 7- to 13-year-old children (1 girl) with severe PI were involved. Each child played once with each mainstream robotic toy and with two experimenters. Each play session was videotaped and coded through the Test of Playfulness (Skard & Bundy, 2008).

**Results.** The Playfulness scores varied by child and robots, and were generally high. Each robots showed specific barriers to play. Children's higher social competence and higher intellectual functioning were positively associated to higher Playfulness scores. The adults' scaffolding role was crucial to overcome contextual barriers to play and to support Playfulness.

**Conclusions.** The adults' scaffolding role, as supportive partner during the interactions and as facilitator against contextual barriers, called for the issue of children's autonomy (Cook, 2009). Adaptations of the robots to improve accessibility and support children's autonomy will be proposed.

### **pap302-10.6 Economic volatility in childhood and subsequent adolescent mental health problems**

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**Objective.** The aim of the current paper was to investigate the association between patterns of duration, timing and sequencing of exposure to low family income during childhood, and symptoms of mental health problems in adolescence. **Methods.** Data on mental health problems obtained from a survey administered to a large population based sample of Norwegian 16-19 year olds (N = 9154) was linked to registry-based information about family income in childhood from tax return data from the Norwegian Tax Administration. Latent class analysis and the BCH approach in Mplus was used to associate patterns of poverty exposure to mental health outcomes. **Results.** Four latent classes of poverty exposure emerged from the analysis. Participants moving into poverty (2.3%), out of poverty (3.5%), or those chronic poor (3.1%) had in general more symptoms of mental health problems (Cohen's  $d_s$  .16-.50) relative to those with no poverty exposure (91.1%). This pattern was, however, not found for symptoms of ADHD. The pattern of results was confirmed in robustness checks using observed data. **Conclusions.** Exposure to low income in childhood was found to be associated with most mental health problems in adolescence. There was no strong suggestion of any timing or sequencing effects in the patterns of associations.

**pap302-11.1 Strategic economic reasoning and fairness considerations in childhood and adolescence**

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Fairness considerations, perspective-taking abilities and strategic thinking have been shown to develop with children's age and guide behavior respectively. However, little is known about the tradeoff in human interaction between norm compliant and strategic behavior across development and the underlying motivations. We hypothesized that fairness considerations might become less decisive for behavior with age as children develop perspective-taking and strategic thinking abilities that inform them which behavior, e.g. fairness norm compliant or economic rational, will maximize their own payoffs.

We tested this hypothesis employing the "Ultimatum Game" (UG) across childhood and adolescence. In the UG a Proposer must offer a share of some good (usually money) provided by the experimenter to an anonymous Responder, who can accept or reject the offer. If the offer is rejected, both players get nothing. We investigated how the age of the participants and their respective motivations influenced UG decisions by letting three peers (same sex / ages 9,12,15,18 years old, 13 groups per age) negotiate a decision together as a group, either in the role of Proposers or Responders according to the "strategy method". Each group had to find a decision on how much to share of 20 coins (different worth depending on age) or to request. Group discussions were recorded on video and arguments were analyzed.

Our results support the hypothesis of a developmental shift in the influence of fairness consideration and strategic thinking on behavior: Responder group request decreased with age, while Proposer offers remained equal split oriented across age. As predicted, in both conditions the proportion of strategic and perspective-taking arguments increased, while fairness arguments decreased over age. Importantly, Responder requests were more influenced by strategic arguments than by fairness considerations (see table 1), while Proposer offers were mainly influenced by perspective-taking arguments.

Table 1

*Linear Regression Results*

<i>Dependent variable : UG Responder group request</i>				
Model				
	(1)		(2)	
	b / (SE b)	b	b / (SE b)	b
<b>Control Variables</b>				
Grade	-.802 (.162)	-.579***	-.195 (.168)	-.145
Gender	-1.053 (.967)	-.131	-.737 (.743)	-.092
<b>Main Effects</b>				
Strategic arguments			-10.379 (2.130)	-.557***
Perspective-taking arguments			-2.934 (1.776)	-.177
Fairness arguments			4.368 (2.108)	.216*
<b>Model Fit</b>				
Constant	11.088 (1.295)		9.454 (1.252)	
F Value	12.851***		15.995***	
R2	.374		.667	
Adjusted R2	0.345		.625	
Change in R2			.292***	

Note: Unstandardized regression coefficients are shown with with standard error beneath in brackets and with standardized coefficients next to them. Stars denote: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Figure 1: Linear Regression Results

**pap302-11.2 Let me learn, I want to know: Autonomy in Development of Reasoning**

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Does autonomy affect the development of reasoning skills? Is the answer identical in regards to perceived autonomy, versus autonomy desired? Autonomy and competence have both been regarded as basic human needs (Harter, 1978; Deci, 1975; Deci & Ryan, 1987), and findings have shown that more perceived autonomy predicts more perceived competence in adolescents (Black & Deci, 2000). Little is known if changes in autonomy across adolescence can impact the development of reasoning skills, and whether these changes generalize to both perceived and desired autonomy. Across a large sample of adolescents ( $n=696$ ) we find a main effect that more perceived autonomy does indeed predict higher reasoning skill. When looking at developmental differences, however, we find contrasting results. School level and autonomy had an interaction effect on reasoning, whereas perceived autonomy given predicted reasoning skill in young adolescents (ages 11-13), in later adolescence (ages 14-19) the desire for more autonomy was the sole predictor of individual differences in reasoning skill. We discuss implications for education and the development of reasoning skills.

**pap302-11.3 Tracking Memory across the Life-span: Deferred Imitation in Infancy, Childhood and Adulthood.**

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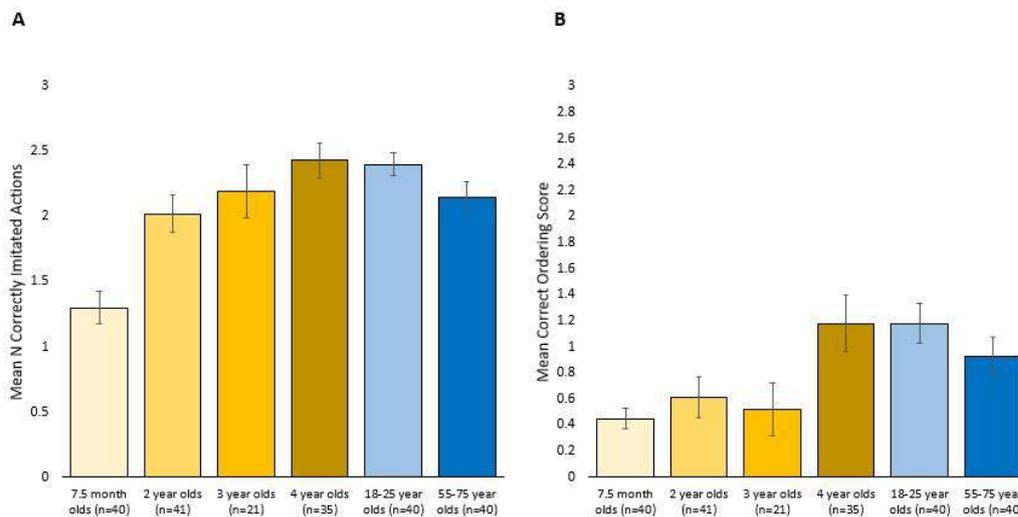
It is vital to examine changes in hippocampal-dependent memory across the life-span, in order to understand both its ontogeny and decline with aging. However, to the authors' knowledge, previous research has not used the same methodology to assess memory of this kind in children and adults, yet comparisons in performance between these groups have been made regardless. We utilised a deferred imitation task, a widely used measure of non-verbal hippocampal-dependent memory in infancy, across the life-span in order to address this issue.

Data is presented from 7.5 months to 75 years of age ( $n > 150$  children aged 7.5 months to 4 years;  $n = 40$  younger adults aged 18-25 years;  $n = 40$  older adults aged 55-75 years). Participants were shown a three-step sequence of arbitrarily related actions and spontaneous recollection of this sequence was tested after a 30 minute delay. We measured the number of correctly imitated actions and whether these actions were performed in the correct order.

**Correct Actions Imitated (Figure 1A):** Memory for actions appears to emerge between the ages of 2-4 years; children aged 2 and 3 years significantly outperform infants ( $p < .001$ ) and match the 4-year-olds' ( $p > .05$ ) and older adults' performance ( $p > .05$ ). However, only 4-year-olds perform equally as well as younger adults ( $p = .584$ ), with these groups also exhibiting a trend to surpass older adults' performance ( $p < .10$ ).

**Temporal Order (Figure 1B):** Again only 4-year-olds' performance did not significantly differ from younger adults ( $p = .881$ ). There were no significant differences between all groups aged  $\leq 3$  years ( $p > .05$ ) and whilst the 2- and 3-year olds still match the older adults ( $p > .10$ ), they no longer match 4-year-olds' performance ( $p < .01$ ). Therefore temporal ordering ability does not appear to be evident before the age of 4 years.

Our results are consistent with the literature which argues memory for a sequence of arbitrary events appears to be rudimentary during infancy, becomes adult-like in function by 4 years old and later declines with aging. Critically, this conclusion is based upon results where the same task has been administered to children and adults.



*Figure 1. A= N of correctly imitated actions for each group (max score of 3). B= Ordering of correctly imitated actions for each group (max score of 3).*

#### pap302-11.4 Do inhibition and working memory contribute to affective flexibility during adolescence?

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One of the hallmark features of the human cognition is its flexibility. Affective flexibility is the ability to switch back and forth between processing the affective and non-affective aspects of emotional information. This study measured for the first time, the relation between individual differences in affective flexibility and affective measures of inhibition and working memory. Specifically, we employed three executive functioning tasks using emotional stimuli namely the Attentional Control Capacity for Emotion (ACCE, see figure) task, the Emotional 2-back task and the Emotional Stroop task in order to assess affective aspects of inhibition, working memory and flexibility during adolescence. A total of 110 of children and adolescents (54 girls), aged between 12 and 18 years old ( $M = 15.36$ ,  $SD = 2.07$  years) participated in this study. Firstly, our findings revealed that affective executive functions in general and affective flexibility in particular still continue to develop from middle childhood to late adolescence. Secondly, we found an interesting gender-related difference in terms of affective flexibility with boys displaying longer reaction times compared to girls when applying the emotional rule after performing a non-emotional rule, or a different emotional rule. Lastly, we showed that affective flexibility is highly predicted by both inhibition and working memory processes at the level of accuracy performance and reaction times. In conclusion, our research is among the first to provide insights into how affective flexibility relates to affective aspects of inhibition and working memory during middle childhood and early adolescence.

Table 1.a. Predictors of affective flexibility performance (RTs)

Predictor	R	R <sup>2</sup>	R <sup>2</sup> change	P
Inhibition RTs	.588	.346	.340	<0.001
Inhibition RTs + working memory RTs	.630	.397	.385	<0.001

Table 1.b. Predictors of affective flexibility performance (Accuracy)

Predictor	R	R <sup>2</sup>	R <sup>2</sup> change	P
Inhibition Acc	.735	.540	.536	<0.001
Inhibition Acc + working memory Acc	.803	.645	.638	<0.001

Table 1. Predictors of affective flexibility performance (accuracy and reaction times)

#### pap302-11.5 Tracking the development of social learning across domains

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Developmental shifts in social learning are common in childhood, with evidence of both selective copying and overimitation. Multiple explanations for shifts in copying fidelity have been proposed, including understanding of the task and its goal, social affiliation with the demonstrator, and the influence of other developing abilities (i.e. memory, theory of mind, attention). To date, no single social learning study has i) addressed these underlying developmental influences, ii) included information regarding what is attended to during demonstrations and iii) explored potential changes in late childhood and adolescence; most studies focus on early childhood only. The current study aims to address this by investigating the role that attention and other potential influences play in shaping copying fidelity from early childhood to adulthood.

126 participants, aged 3-21, underwent eyetracking whilst viewing demonstration videos of three tasks: a puzzle box, a tool building task, and a more arbitrary colouring task. Each video included a demonstrator performing relevant and irrelevant actions. Following each demonstration, participants were given access to the appropriate task. The number of irrelevant actions performed and order of completed actions were recorded. Participants also completed memory and theory of mind tasks. Analyses suggest that whilst the tendency to copy irrelevant actions was present in all age groups, imitating actions in the same order as the demonstrator increased with age. Participants attending to the demonstrator's face at the start of the

demonstration were significantly more likely to then attend to irrelevant actions, but this did not affect task performance. Participants who copied more faithfully attended significantly more to the demonstrations than those who did not. Theory of mind and memory performance increased with age, with higher memory scores in participants exhibiting greater copying fidelity. We suggest that shifts in copying fidelity occur as a result of both cognitive developmental and social factors.

**pap302-12.1 Qualitative Exploration of Pupils' Educational Aspirations in the Context of Croatian Education**

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This paper explores the nature, determinants and differences in pupils' educational aspirations at three transitional periods of Croatian elementary education: the initial induction to formal education (age 7-8), the transition from class to subject teaching (age 10-11) and the transition from elementary to secondary education (age 14-15). Educational aspirations are defined as the ambitions and goals pupils and parents hold with regards to both immediate and future educational experiences and outcomes. This study was conducted in five elementary schools in Zagreb, Croatia that were purposively selected in order to maximise the socio-economic differences of the contexts in which they operate. Data was collected via 516 semi-structured interviews with 120 participant triads (pupil, his/her parent and teacher) in two research waves during a single school-year. Criteria sampling of pupils was used with regard to gender and the teacher's estimate of the pupil's previous school achievement. The general framework for data analysis was based on the twelve tactics for generating meaning from interview data suggested by Miles and Huberman (1994) and a constant comparative approach, combining elements of inductive category coding alongside a simultaneous comparison of data with that collected from other sources (Strauss & Corbin 1998). Results indicate high declaration of general educational aspirations among pupils from different cohorts. Despite this, in-depth analysis of the data indicates limited knowledge of the educational system and narrow conceptualisations of the world of work, even among the oldest cohort. For the two older cohorts, personal values related to education, previous achievement-related experiences, academic self-concept and self-efficacy beliefs, and domain-specific beliefs in particular, are among the main determinants of educational aspirations. The formation of educational aspirations in the youngest cohort is analysed against the differences in the initial information regarding achievement and development that pupils and their parents receive in their first year of education.

**pap302-12.2 A qualitative exploration of the parental role in shaping pupils' educational aspirations**

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*Institute for Social Research in Zagreb, Croatia*

This paper explores the parental role in shaping pupils' educational aspirations at three transitional periods of Croatian elementary education: the pupil's initial induction to formal education (age 7-8), the transition from class to subject teaching (age 10-11) and the transition from elementary to secondary education (age 14-15). At each period, it also examines the congruence between parental and pupil aspirations and the transmission of values regarding education. Educational aspirations are defined as the ambitions and goals pupils and their parents hold with regards to both immediate and future educational experiences and outcomes. They are placed at the centre of an ecological system extending from the most proximal level of the individual pupil, through the parental level to the more distal levels of class (peers) and school. This study was conducted in five elementary schools in Zagreb, Croatia that were purposively selected in order to maximise the socio-economic differences of the contexts in which they operate. Data was collected via 516 semi-structured interviews with 120 participant triads (pupil, his/her parent and teacher) in two research waves during a single school year. The data was analysed based on twelve tactics for generating meaning from interview data (Miles & Huberman, 1994) and a constant comparative approach, combining elements of inductive category coding alongside a simultaneous comparison of data with that collected from other sources (Strauss & Corbin, 1998). Results indicate that parents hold high educational aspirations for their children and that there is a general congruence between pupil and parental educational aspirations. A small cluster of parents hold very firm scenarios of educational progression from the induction to school. Parents from lower socio-economic backgrounds, regardless of their child's achievement, more readily consider vocational streams of education, a finding contextualized by commonly-held perceptions of the insecurities of the immediate and distant future.

### **pap302-12.3 Prospective memory problems in dyslexia: A question of time and (mental) space?**

James Smith-Spark

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Aim: Prospective memory (PM) is memory for delayed intentions, allowing the individual to remember to remember to carry out tasks in everyday life. Despite early, mainly anecdotal, evidence that suggested problems with organisation and forgetfulness which might impact upon work, study, social, and personal settings, PM function has been more-or-less ignored in developmental dyslexia. A research programme is reviewed which used a variety of methodological approaches to explore PM in adults with dyslexia. Methods: Adults with and without dyslexia matched for short-form IQ and age and differing in literacy skills were employed as participants across four studies. Participants undertaking each study differed slightly but in all cases N = 24-30 per group. Computerised PM tasks and clinical tests were run under laboratory conditions, with naturalistic measures and self-report questionnaires also being administered. Results: The PM of adults with dyslexia was found to be significantly poorer than that of the adults without dyslexia, both when measured objectively and subjectively. Dyslexia-related PM problems were greatest when cues to remember a task were time-based (i.e., needing to be performed at a particular time in the future, such as in 30 minutes' time or at 7pm) rather than event-based (i.e., in response to environmental cues), when remembering had to be self-initiated and needed internally-generated strategies, and when the delay between forming an intention and having the opportunity to act upon it was longer in duration. Conclusions: The results of this research programme indicate that PM is poorer in adults with dyslexia. These deficits should be taken account of in making reasonable adjustments and supporting individuals with the condition in both work and study settings. The nature of the findings suggests that further PM studies to explore the relative contributions of long-term memory for verbal instructions and executive functioning abilities would prove insightful.

### **pap302-12.4 Free writing in L2 (English) of Polish students with and without dyslexia**

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*Faculty of Languages, University of Gdansk, Poland*

Dyslexia and dysorthography are associated with many problems which seem to affect language learning (Crombie, 1997; Krasowicz-Kupis, 2008). In our study we aimed to investigate the characteristics of difficulties in a free writing task of Polish learners of English as a foreign language. We assumed that students with dyslexia would manifest deficits in L2 spelling, but not in grammar, lexicon, or syntax.

150 secondary school students, all native speakers of Polish, participated in the study. Of these, 72 (48%) had a dyslexia report, and 78 (52%) did not. The criterion and control group were matched for: gender, age (Mage = 16 years), and the years of studying English at school (M = 8 years). The participants wrote a composition concerning a specific subject: their preferred holiday destination. The time limit: 5 minutes.

We found that in the free writing task, students with dyslexia, as compared to the participants without the deficit, made more phonological, but not orthographic errors. Within groups, the dyslexic students made as many phonological as orthographic errors, and the nondyslexic group (ND) made more orthographic than phonological errors (Figure 1). The participants did not differ from each other in the following categories: grammar, syntactic, and lexical mistakes, missing words, and the composition length.

As English is the most-widely used language in the world, and compulsory in the Polish education system, the issue of difficulties in learning English as L2 is an important economic and social problem. Our results confirm that students with dyslexia exhibit difficulties in spelling in L2 in a free writing task. This result is consistent with the Linguistic Coding Differences Hypothesis (LCDH) (Ganschow & Sparks, 2000). To our knowledge, our study is the first study examining free writing skills of students who speak Polish (a semi-transparent language) studying English (a nontransparent language) as L2.

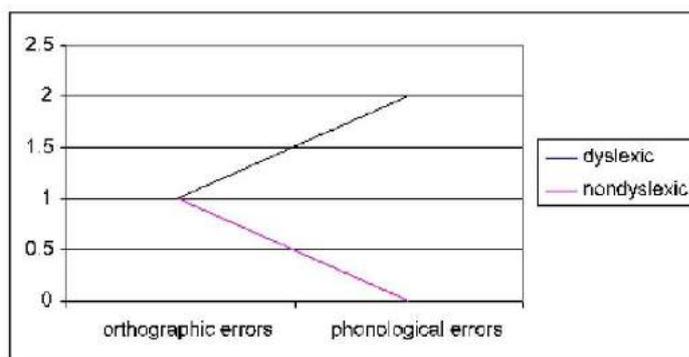


Figure 1. L2 free writing: orthographic and phonological spelling errors (medians) in the compared groups

### pap302-12.5 Computerized orthographic training of severely reading disabled children in Croatia and Sweden

Tomas Tjus, Gordana Kerestes, Linda Fälth, Irma Brkovic, Idor Svensson  
University of Gothenburg, Sweden

Reading disabilities in children may lead to avoidance of text in general and have a substantial negative impact when trying to achieve higher levels of education. Therefore, early identification of reading difficulties and intensive and systematic interventions are crucial. The phonological deficit hypothesis for explaining reading problems has been supported by empirical evidence and phonology training has been common. However, orthographic training also can have a positive effect in languages where phonology training has been the standard. The aim of the present study was to implement orthographic training for Swedish ( $n = 47$ ) and Croatian ( $n = 55$ ) children in grade 2 and 3 with severe reading difficulties, performing < 20th percentile on tests covering decoding, spelling and comprehension. Swedish has a relatively deep orthography whereas Croatian has a shallow orthography with a very high phoneme-grapheme correspondence. A computer program designed for orthographic training was used where the child can construct sentences, listen to them by recorded speech and see them animated. Participants received about 12 hours of training during 6 weeks. A quasi-experimental design was used with comparison of gain/week between baseline, training and follow-up periods. Swedish children showed a significant increase in gain/week for spelling, decoding and comprehension during intervention compared to baseline and follow-up. In contrast, Croatian children did not show higher gain/week during intervention compared to baseline, while gain/week during both baseline and intervention was significantly higher compared to follow-up. We conclude that intervention was successful for Swedish children but only partly for the Croatian children. Their increase observed already at baseline may be related to positive expectations among teachers, parents and children by participating in the research project with increased motivation and focus on reading. Teachers/parents maybe invested an extra instruction effort during the baseline period despite the instruction to perform regular reading training.

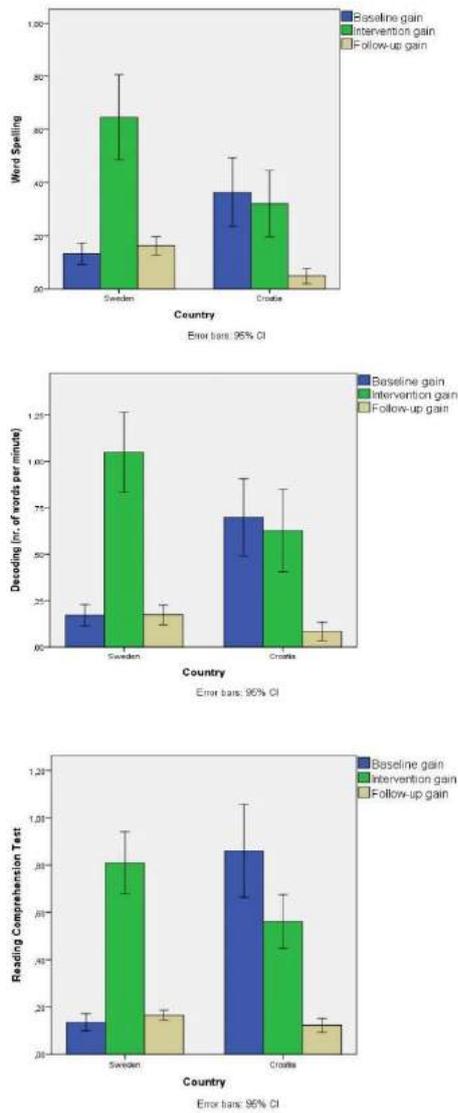


Figure 1. Results presented as gain in words/week for Word spelling, Decoding and Reading comprehension.

**pap302-13.1 Early cross-domain predictors of the academic trajectories of refugee children in Canada**

Monique Gagné, Martin Guhn  
 University of British Columbia, Canada

Salient and pressing is our need to gain a better understanding of the positive developmental adaptation of refugee children. As elsewhere, refugee children in Canada face multiple, intersecting challenges, including the pre-migration psychological challenges associated with experiences of violence, persecution, and the loss of family; coupled with post-migration struggles, including language and cultural barriers (Stewart, 2011). The present study aimed to gain a greater understanding of how early challenges across two domains (social-emotional; language and communication) predicted the academic trajectories over time (from Kindergarten to Grade 7; Ages 5 to 13) for refugees.

Drawing from a population-based cohort of refugee children in British Columbia, Canada (N = 634), the study modeled standardized academic scores at Kindergarten (using Early Development Instrument numeracy and literacy scores), Grade 4 and Grade 7 (using standardized provincial numeracy and literacy scores) via Group-Based Trajectory Modeling and investigated whether teacher-rated Kindergarten assessments of social-emotional as well as language and communication functioning (defined by composite EDI domain scores) predicted membership in each academic trajectory group.

Three K-7 academic trajectory groups were fit (an Average, Declining, and Increasing group; Figure not shown). Subsequent multinomial logistic regression analysis revealed that lower social-emotional functioning at kindergarten was associated with a greater likelihood of membership in the Declining group versus the Average and Increasing groups. Lower language and communication functioning at kindergarten was associated with a greater likelihood of membership in the Increasing group, in comparison to the Declining group (see Table 1). The results provide some evidence to indicate that refugee children in Canada may have more capacity to overcome their early language and communication challenges thereby improving academically over time. Importantly, the results suggest an opposite, declining academic pattern may unfold for refugees facing early social-emotional challenges. The implications for early social-emotional support for refugee children will be discussed.

	Average				Low-increasing			
	B	SE	OR	p	B	SE	OR	p
Sex <sup>a</sup>	-0.01	0.15	0.70	0.96	-0.40	0.27	0.76	0.14
Social-emotional <sup>b</sup>	0.25	0.09	1.38	0.00	0.34	0.14	1.09	0.00
Language-com <sup>c</sup>	0.14	0.09	0.63	0.11	-1.77	0.25	0.72	0.00

Note. The Declining group is the reference group.

<sup>a</sup> Females coded as 1 in the analyses (males = 0).

<sup>b</sup> Social-emotional = Variable represents composite score on the Early Development Indicator (EDI) Social Competence and Emotional Maturity domains.

<sup>c</sup> Language-com = Variable represents composite score on the Early Development Indicator (EDI) Language & Cognitive Development and Communication Skills & General Knowledge domains.

Table 1. Multinomial Logistic Regression Results in Predicting K-7 Academic Group Membership

**pap302-13.3 A longitudinal view on immigrants' identity profiles**

Debora B. Maehler,  
 GESIS - Leibniz-Institute for the Social Sciences, Germany

Following recent migration flows receiving countries have to deal with significant integration challenges. This makes an understanding of the construction of identities an urgent topic. This contribution investigates the formation of identity profiles of adult immigrants in Germany. As Berry (1997) proposed different acculturations profiles (or strategies) can be distinguished. Based on a representative panel study a model will be tested that links the typology approach from Berry – based on commitment to an ethnic and a majority group - and the identity development approach from Phinney (1989) – based on commitment and exploration of an ethnic group. Results provide evidence for five identity profiles for adult immigrants in Germany. These

profiles can further be characterized by indicators such as personality traits or life satisfaction. Most importantly, for the first time for adults a correlation with the amount of exploration in the respective cultures is measured over time.

#### **pap302-13.4 Intergenerational relations in immigrant families: Role reversal, individuation, and parenting representations**

Olga Oznobishin, Jenny Kurman  
*University of Haifa, Israel*

Parent-child role reversal, when a child assumes functions in the relationship usually assumed by the parent, is a common phenomenon in immigrant families; however, its long-term implications are yet not fully understood. The aim of this study was to investigate intergenerational transmission of role reversal in the context of immigration from the former Soviet Union to Israel, using both quantitative and qualitative methods. In the first stage, the relation between role reversal and individuation was examined among 150 immigrants, aged 19 to 35 years, compared to 73 young adults living in Russia. Participants reported their childhood relationships with parents (parental care and autonomy encouragement), family responsibilities (instrumental and emotional roles, perceived unfairness, as well as language and culture brokering roles of the immigrants), and current individuation from the family. Immigrants revealed a higher level of role reversal than their nonimmigrant counterparts, which was associated with poor individuation. In the second stage, 50 immigrant mothers of young children were administered the Parenting Representations Interview. Adopting parental roles in the family of origin significantly predicted mothers' role reversal and negative emotions in the relationship with their child. Low levels of individuation (e.g., low conflictual independence and high fusion with others) were also associated with role reversal and inappropriate boundaries with the child. These findings demonstrate intergenerational transmission of role reversal for the first time in the context of immigration. Case examples of such transmission are presented.

#### **pap302-13.5 The ideal person through the eyes of Estonian adolescents**

Anni Tamm, Tiia Tulviste, Dairis Püvi, Liisa Kuu  
*University of Tartu, Estonia*

The aim of the study was to examine Estonian early and late adolescents' values by analyzing their drawings of ideal men and women. The sample included 550 adolescents from four age groups: 10-11-year-olds, 12-13-year-olds, 14-15-year-olds, and 16-17-year-olds. Adolescents were asked to draw a picture of an ideal man or an ideal woman and to fill out a 10-item questionnaire about the important qualities of that ideal person. The coding system of Gibbons and Stiles (2000) was used to analyze adolescents' drawings. For both ideal men and women, kindness and honesty were considered the most important qualities. Ideal men were, however, depicted and described as wealthy and having a good job more frequently than ideal women. Physical appearance was considered more important when drawing and rating the qualities of the ideal person of the opposite sex. Namely, more girls than boys reported that the ideal man should be good-looking and sexy and more boys than girls that the ideal woman should be good-looking, sexy and of average height and weight. Moreover, girls emphasized inner qualities and relationships more than boys in their drawings and ratings of both ideal men and women. For early adolescents, physical appearance (e.g., height and weight) and materialistic qualities (e.g., wealth and having a good job) were more important for both ideal men and women than for late adolescents. Older adolescents mentioned inner qualities when describing ideal men and women more frequently than younger adolescents did. Sex and age differences in values will be fully discussed. By comparing the results with those from other cultural contexts, commonalities and culture-specificity of adolescents' drawings and ratings of ideal persons will also be pointed out.

### **pap302-13.6 Do the Associations of Parenting Styles with Child Outcomes Vary by Culture?**

Martin Pinquart, Rubina Kauser  
*Philipps University, Germany*

There is some controversy whether associations of parenting styles with internalizing symptoms, externalizing symptoms, and academic achievement vary between ethnic groups in western countries, between different regions of the globe, and by level of collectivism/individualism of individual countries. A systematic search in electronic data bases and cross referencing identified 428 studies that were included in the random-effects meta-analysis. We identified more ethnic and regional similarities than differences. In western countries, associations of authoritative parenting with academic achievement were stronger in non-Hispanic, white families than in Asian minorities. In these countries, associations of authoritarian parenting with academic achievement were less negative in Hispanic families than in non-Hispanic, white families. Authoritative parenting was associated with at least one positive child outcome and authoritarian parenting was associated with at least one negative outcome in all regions of the globe, with some regional variation. Finally, associations of authoritarian parenting with child outcomes were weaker in countries with a higher individualism score, as were associations of authoritative parenting with academic performance. We conclude that parents across the globe could be recommended to behave authoritatively, although authoritarian and permissive parenting is, to some extent, tolerable in a few cultural contexts.

## Symposium sessions 303, Friday September 1, 16:15 – 17:45 hrs.

### isym303-1.1 ‘To understand [politics] is to invent [ways to listen to it]’ – Readings on the diversity of European youth civic and political participation

Isabel Menezes, Chair

*University of Porto, Portugal*

Judith Torney-Purta, Discussant

*University of Maryland, United States*

If there is an essence of developmental psychology, it relates to the significance of listening to phenomena as a fundamental pathway to theory – action is central to understanding, as the quote from Piaget in the title attempts to illustrate. This symposium brings together four illustrations of diverse ways to listen to youth civic and political participation, using a diversity of research designs and methods that include correlational, longitudinal and ethnographic studies. In all cases, researchers recognize the inherent diversity of forms of youth political participation, that combine traditional and news ways of expressing and connecting to the political, including individualized and latent forms of engagement as well as highly committed activism. This broad range of profiles of participation will be explored in their relationship with issues of trust, self-efficacy and attitudes toward democracy, nationalism and tolerance (paper 1). The factors that predict different types of participation are the object of paper 2, that explores the differential influence of social and psychological predictors regarding participation. Paper 3 considers longitudinal data, bringing action as the focal point of the discussion (again) by suggesting that it is through acting that new understandings of politics and participation can emerge. Finally, emergent forms of political action are considered in paper 4, that tries to gain a deep understanding of how politics is recreated in the daily life of young people.

#### isym303-1.1.1 Profiles of citizenship orientations among Italian youth

Iana Tzankova, Elvira Cicognani, Katharina Eckstein, Peter Noack

*University of Bologna, Italy*

Within the academic and public debate on citizen involvement, several authors have pointed out that, rather than spurning from apathy, the contemporary tendency of increasing political disconnection may have more to do with transformations of citizens' relationship with the public sphere towards more non-institutionalized and individualized forms of engagement (Dalton, 2004; Hooghe & DeJaeghere, 2007; Schudson, 2006). Low levels of civic and political activity are not necessarily indicative of complete disengagement, but could be accompanied by an interest and latent involvement stemming from either a “stand-by” monitorial attitude (Amnå & Ekman, 2014; Schudson, 1998) or from an attitude of distrust and need of critical supervising (Geissel, 2008; Rosanvallon, 2008). The present research aims to contribute with empirical evidence to a more articulate understanding of these civic and political orientations among young people in Europe.

We examine, by means of latent profile analysis, different patterns of citizenship orientations identified by levels of civic and political participation, political interest and trust in institutions and in the political process. Furthermore, we investigate how these different groups can be characterized socio-demographically and in terms of political self-efficacy and value-based attitudes toward democracy, nationalism and tolerance. The study is part of the Catch-EyoU project and uses the Italian questionnaire data with a sample of 1554 respondents from two age groups – adolescents (15 – 19 years old, 50.3%) and young adults (20 – 26 years old, 49.7%). The results suggest the existence of different profiles of young European citizens – from completely disengaged, through passive monitorial and critical positionings, to the active “dutiful” or critical citizens. Our findings contribute to the theoretical conceptualizations of the different ways of relating to the political sphere among youth, which can be useful in the promotion of civic development.

### **isym303-1.1.2 Beyond voting: Components and predictors of political participation and civic engagement among adolescents in Greece**

Dimitra Kostoglou, Vassilis Pavlopoulos, Frosso Motti-Stefanidi  
*National and Kapodistrian University of Athens, Greece*

Youth political participation is a controversial issue with significant theoretical and social implications. This paper presents data from the Greek contribution to Catch-EyoU, an interdisciplinary consortium for the study of European youth active citizenship. The sample consisted of 589 adolescents, aged 14-17, who were enrolled in 11 secondary schools from four regions, including Athens. Self-reports were collected on a number of measures extracted after an extensive literature review. Four components of civic engagement emerged, namely conventional (proactive support of a political cause), activism (reactive protest against power), online (through the Internet), and volunteering (working for a community/social cause).

Predictors of the above varied considerably: Conventional participation was equally related to individual (e.g., political efficacy, political interest) and proximal level variables (e.g., perceived discrimination, school participation, family praise). Activism was predicted mostly by variables involving interactions of adolescents with their proximal environments (e.g., community participation, multinational friends) as well as by societal factors (income, citizenship norms). This pattern was even more pronounced in volunteering, where micro-level predictors (esp. school and friends political engagement) were prominent. The opposite was true for online participation, which was predicted mainly by individual variables, but also from media exposure and religiosity. Volunteering and online participation were mobilized mostly by positive perceptions and experiences of adolescents, while active participation was triggered by negative motives, such as perceived inequality and attitudes rejecting EU conventional citizenship. Our findings suggest that civic engagement involves complex processes leading to potentially diverse outcomes with significant ideological implications.

### **isym303-1.1.3 Longitudinal analysis of bidirectional relations between political attitudes and participation in adolescents**

Jan Šerek, Petr Macek, Hana Machackova  
*Masaryk University, Czech Republic*

A large part of research in civic and political socialization is based on the implicit assumption that young people's civic participation is an outcome of their political orientations, such as high internal political self-efficacy or political interest. However, only a limited number of studies have tested explicitly the causality between adolescents' participation and psychological orientations. Existing findings suggest that it is more likely that adolescents' participation reinforces their psychological orientations than vice versa (e.g., Quintelier & van Deth, 2014). The aim of this study is to assess further the causality between political attitudes and civic participation in young people by distinguishing between several types of civic participation and considering multiple attitudes.

Questionnaire-based data from a two-wave (time lag = 1.5 year) longitudinal survey of 768 Czech adolescents (T1 mean age = 16.0; 54% females). Participants were sampled via random cluster sampling of schools in four regions of the country in 2014. We measured three types of participation: oriented on political representatives (e.g., working in political campaign), protest participation (e.g., taking part in demonstrations), and volunteering (e.g., helping people in need). In addition, political interest and efficacy were measured. Results from structural cross-lagged models revealed the longitudinal effects from participation to changes in psychological orientations, but not the effects from psychological orientations to changes in participation. For instance, greater protest participation led to positive changes in political interest or internal political efficacy, and, surprisingly, negative changes in external political efficacy. On the other hand, none of these variables predicted positive changes in participation. Based on these results, we discuss the limitations of the idea that young people must acquire certain pro-participatory attitudes in order to become politically active. Instead, it seems that many adolescents' pro-participatory attitudes are "learnt by doing", i.e. through civic participation itself.

#### **isym303-1.1.4 Youth participation from within: an ethnography of an activist group in action**

Joana Cruz, José Eduardo Silva, Carla Malafaia, Isabel Menezes  
*University of Porto, Portugal*

The use of ethnography to explore youth civic and political participation is less common, but a promising way of exploring how the significance of the political is (re)constructed in daily life. This paper rests in a short-term ethnography within an association, created by a small group of young people, that fosters political engagement within an ecological orientation and a focus on generating people's consciousness about the concept of "sustainability". By organizing workshops and debates about topics like recycling, food, clothing or new possibilities for social change, they raise both physical awareness – using the body as an element for political engagement in theatre, dance and music events – and mental and attitude change. Data collected during a 3 months' intensive ethnography, using participant observation, a field diary and video recording, we will focus on the meanings of political participation and engagement within the group, as well as levels of political consciousness especially when discussing proposals for social change. We will also take into account interactions within the group itself, namely internal communication, power distribution and decision-making processes. As this association is an example of emergent forms of political participation, the research will contribute to a deeper understanding on how politics is recreated in action.

Sevgi Bayram Özdemir, Chair  
*Örebro University, Sweden*  
Miriam Schwarzenenthal, Chair  
*Universität Potsdam, Germany*  
Jaana Juvonen, Discussant  
*University of California, United States*

Promoting inter-ethnic relationships has become a pressing concern for retaining the well-being and stability of immigrant-receiving societies. Ethnically diverse schools are a major arena for the formation of inter-ethnic relationships. However, formal desegregation at school does not necessarily imply that students engage in positive intergroup contact (Moody, 2001), and findings concerning relations between school ethnic composition and inter-ethnic relationships have been inconsistent. Both the structural (i.e., classroom ethnic composition) and social aspects of school context (i.e., the ways teachers, schools, and classmates approach diversity) need to be considered to better understand the role of school context in the development of inter-ethnic relationships (Thijs & Verkuyten, 2014). This symposium aims to provide a multifaceted picture of relations between diversity-related norms and practices at school and different aspects of students' inter-ethnic relationships, ranging from inter-ethnic attitudes to intercultural competence and ethnic bullying. Specifically, Studies 1 and 2 focus on peer norms, investigating how students perceive their peers' inter-ethnic attitudes (Study 1), and how peers' inter-ethnic attitudes are related to the students' engagement in ethnic bullying (Study 2). The focus will then shift to school cultural diversity climate. Study 3 will present a newly developed measure of school cultural diversity climate, which will then be set in relation to students' intercultural competence (Study 4). Finally, Study 5 examines the effects of a school-based intervention fostering mindfulness and compassion on students' inter-ethnic attitudes and readiness for social contact with an outgroup member.

Drawing on datasets from the Netherlands, Sweden, Germany, and the Middle East, and including a variety of study designs and measures, the symposium will bring together different perspectives on the role of the school context for the formation of inter-ethnic relationships. The discussant will pull together the rich findings and further discuss the educational and social implications of them.

### **sym303-2.1 Children's ethnic attitudes and classroom norm perceptions: Further evidence for social projection**

Jochem Thijs, Marjolein Zee, Jolien Geerlings  
*Utrecht University, Netherlands*

Research has shown the importance of peer group norms for children's attitudes or behaviors toward different ethnic or racial groups. Some studies have used experimental designs to examine the effect of peer norms (e.g., McGuire, Rutland, & Nesdale, 2015) but in 'real-life' research such norms are typically studied by aggregating the attitudes of individual peer group members (e.g., Thijs & Verkuyten 2013) or by measuring children's subjective norm perceptions (e.g., Jugert, Noack, & Rutland, 2011). However, an important question is whether children are capable of perceiving such 'real-life' norms correctly. The perceived norms of one's peer group may differ from its actual norms and the use of perception measures could contribute to the overestimation of the peer group's actual normative importance. One important source of normative misperception is social projection, which is the tendency to assume that others have similar opinions and ideas as the self (Robbins & Krueger, 2005) Compared to the relatively large social psychological literature on social projection in adults, few studies have examined this phenomenon in children, and we know extremely little about children's projection of their ethnic attitudes on 'real-life' peers.

This longitudinal study examined whether preadolescent children (age 9-13; grades 4-6) projected their ethnic attitudes on the classroom peer group, by using these attitudes to predict their perceptions of the ethnic norms in the classroom. Children's norm perceptions were moderately stable over a half year period, but their ethnic attitudes in the fall uniquely predicted their peer norm perceptions in the spring. Ethnic group comparisons showed that majority children projected their attitudes toward ethnic minorities only, and that minority children only projected their majority attitudes.

### **sym303-2.2 Youth's engagement in ethnic bullying: Peers' prejudiced beliefs and classroom ethnic composition**

Sevgi Bayram Özdemir, Shuyan Sun, Liliia Korol, Metin Özdemir, Hakan Stattin  
*Center for Developmental Research, Örebro University, Sweden*

Promoting harmonious inter-ethnic relationships is a new challenge for schools with increasing diversity. Nevertheless, there are barriers to this task. A number of studies showed that native youth bully their immigrant peers due to their ethnic background, and such negative treatments have serious consequences for the psychological and school adjustment of immigrant youth (Bayram Özdemir & Stattin, 2014; McKenney et al., 2006). Despite a growing body of research on ethnic victimization/harassment, available studies heavily focused on only one side of the coin – does ethnic victimization have detrimental effects on immigrant youth? We have limited knowledge about the other side of the coin – when do youth bully their immigrant peers due to their ethnic origin? The present study aims to address this gap in knowledge. Specifically, we examine: (1) to what extent inter-ethnic attitudes within youth's close (i.e., three best friends) and larger social network (i.e., classroom setting) influence youth's engagement in ethnic bullying and (2) to what extent classroom ethnic composition plays a role in this link.

The data are part of a longitudinal study on youth's experiences inside and outside of school and their relationships with their parents, peers, and teachers. The sample included 902 Swedish youth (50% girls;  $M = 14.40$ ,  $SD = .95$ ). The results showed that class-level negative attitudes towards immigrants predicted youth's engagement in ethnic bullying, above and beyond their self-attitude,  $b = 1.69$ ,  $SE = .76$ ,  $Wald = 4.94$ ,  $p = .03$ ,  $OR = 5.40$ . We also found that as negative self- and friend's attitudes increase, youth are more likely to engage in ethnic bullying in ethnically mixed classrooms compared to Swedish or immigrant dominant classrooms. Together, these findings suggest that prejudiced beliefs in youth social network put them at risk for engaging in ethnic bullying, particularly in ethnically mixed classrooms. The educational and social implications of the findings will be discussed.

### **sym303-2.3 Classroom Cultural Diversity Climate – conceptualisation, measurement and associations amongst students**

Maja Schachner, Miriam Schwarzenthal, Ursula Moffitt, Sauro Civitillo, Linda Juang  
*University of Potsdam, Germany*

One of the challenges of the 21st century is to create settings in schools where all students can do well, regardless of ethnic background. Such settings should promote understanding and acceptance of people of diverse cultural backgrounds and prepare students to become citizens of a culturally diverse society. In the current study, we developed a measure for different facets of the cultural diversity climate in schools, the Classroom Cultural Diversity Climate Scale (CCDCS). The first version of the scale (CCDCS-1) was developed for early adolescents. It included eight subscales, namely unequal treatment by teachers, support for contact and cooperation by teachers, unequal treatment by students, support for contact by students, support for cooperation by students, interest in ethnic background of students, multicultural curriculum – relationships, and multicultural curriculum – topics (38 items in total). Factorial invariance was demonstrated across students of immigrant and non-immigrant background, using data from 759 students ( $M = 11.2$  years; 51% male; 63% immigrant background). Test-retest reliability across the first year at secondary school was also established. A second version of the scale (CCDCS-2) was developed for mid-adolescents, including the six subscales contact and cooperation, equal treatment, critical consciousness, heritage and intercultural learning, colorblindness, and polyculturalism (31 items in total). Factorial invariance across students of immigrant and non-immigrant background was demonstrated using data from 1335 students ( $M = 14.7$ ; 51% male; 51% immigrant background). Subscales showed meaningful correlations with students' individual diversity beliefs as well as psychological and school adjustment outcomes (life satisfaction, subjective school values, grade average and behavioral disengagement). Although some differences in associations were observed between subscales and students of immigrant and non-immigrant background, the overall pattern suggests that a positive diversity climate, characterized by positive interethnic relations and opportunities to learn about cultural diversity, is associated with better outcomes amongst all students.

### **sym303-2.4 Classroom Cultural Diversity Climate and students' intercultural competence**

Miriam Schwarzenthal, Linda Juang, Maja Schachner, Fons van de Vijver  
*University of Potsdam, Germany*

Students need to develop intercultural competence in order to work and live in culturally diverse societies. Previous research from social and intercultural psychology suggests that culturally diverse environments such as schools may constitute a natural arena for training these skills if there is a high degree of positive interaction between students of different cultural backgrounds and if cultural variations are acknowledged and valued (e.g., Engberg & Hurtado, 2011; Pettigrew & Tropp, 2008; Tadmor & Tetlock, 2006). In this study, we assessed how three types of classroom cultural diversity climate (contact and cooperation, colorblindness, heritage/intercultural learning) are related to four subfacets of intercultural competence (motivational, cognitive, metacognitive, and behavioral) among adolescents of immigrant and non-immigrant background. The sample included 1335 adolescents in Germany (48 % female, Mage= 14.69 years) of which 52% were of immigrant background, meaning that they themselves or at least one parent was born abroad. Self-report questionnaires tapped into classroom cultural diversity climate (Schachner, Schwarzenthal, Moffitt, Civitillo, & Juang, 2017) and the students' intercultural competence (based on the Cultural Intelligence (CQ) Scale by Van Dyne et al., 2012).

Multilevel models in Mplus (Muthén & Muthén, 1998-2011) revealed that contact and cooperation was positively associated with motivational, metacognitive, and behavioral CQ, colorblindness with motivational and behavioral CQ and heritage/intercultural learning with cognitive, metacognitive, and behavioral CQ. These associations were partly moderated by immigrant background.

We conclude that contact and cooperation, colorblindness, and heritage/intercultural learning in schools each make positive, but unique contributions to aspects of students' intercultural competence. If cultural similarities are emphasized in a classroom, students are more motivated to engage in intercultural interactions. If cultural variations are acknowledged and valued, students show increased cultural knowledge and awareness. All approaches contribute to interculturally competent behavior. Implications for educational practitioners and policy makers will be discussed.

### **sym303-2.5 Facilitating mindfulness and compassion in schools to reduce prejudice in the Middle-East**

Alaina Brenick, Rony Berger, Ricardo Tarrasch  
*Human Development and Family Studies, University of Connecticut, United States*

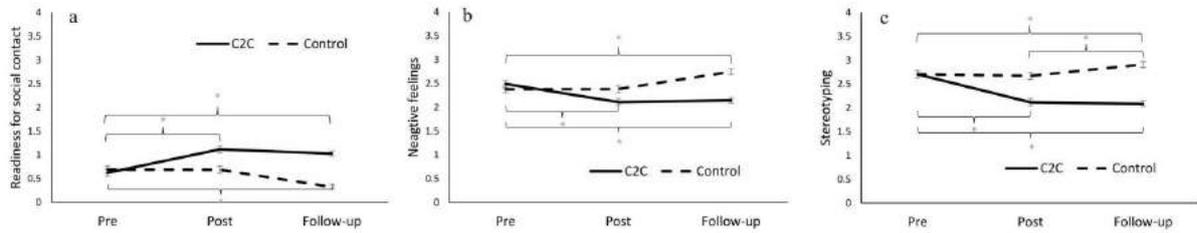
Research finds intergroup contact effectively reduces prejudice (Pettigrew & Tropp, 2006). However, intergroup contact amidst ongoing protracted conflict can be impractical or even incendiary (Moaz, 2004). Recently, a few studies have assessed alternative mindfulness and compassion-based (MaC) prejudice reduction (PR) programs and found positive results (e.g., Lueke & Gibson, 2015); most were conducted in laboratory settings targeting marginalized rather than highly-polarized groups in protracted conflicts. No program was conducted with children.

We assessed a school-based MaC-cultivating program for reducing Jewish-Israeli youth's prejudice toward Arabs. This MaC PR program adopts a social-cognitive-developmental approach through perspective-taking, empathy, and moral decision-making (Killen & Rutland, 2015); it utilizes developmentally-appropriate contemplative practices to teach students to receive care, develop self-care, and extend care toward others, including adversarial outgroup members.

324 Jewish-Israeli 3rd-5th graders (nexperimentalTX=175;ngirls=167) completed questionnaires on outgroup stereotyping, emotional prejudice, and readiness for social contact. Questionnaire administration occurred one week before the program began ("pre-test"), upon program completion ("post-test"), and six months later ("follow-up").

Repeated measures ANOVAs were performed with assessment time (pre/post/follow-up; within-subject factor) and condition (treatment/control), grade (3rd/4th/5th) and gender (male/female; between-subject factors). Significant timeXgroup interactions emerged for all DVs (Figure 1). At post-test and follow-up the treatment group showed significant decreases in negative stereotyping and emotional prejudice, and increases in readiness for social contact with the Arab outgroup. The control group exhibited the opposite pattern of effects ( $p < 0.001$ ; Cohen's  $d = 0.84-1.28$ ).

The school-based MaC-cultivating program positively changed youth's intergroup attitudes and affect, even at follow-up despite the ongoing political hostilities ravaging the region—reflected in the concurrent worsening of the control group's intergroup attitudes. For youth who live in contexts of protracted conflict, our findings suggest the utility of MaC programs as an important first-step intervention for PR that might also facilitate the later introduction of more intensive contact-based interventions.



Note.  $N_{\text{experimental}} = 175$ ;  $N_{\text{control}} = 149$ . Tukey's Honestly Significant Difference Test results: \* =  $p < 0.001$ . C2C = Treatment Group (Call to Care)

Figure 1: Interaction Effect of Group by Time for all Three Dependent Measures

### sym303-3 Intergenerational adjustment in refugee parents and children: International scientific perspectives

Worldwide the number of children and families confronted with war experiences and violent disruption has increased dramatically. Experiences of parents impact on parenting capacities and induce a higher risk on psychological problems in children. Contributing factors interact: (epi-)genetic factors, contextual factors including parent-child relationship, and circumstances under which more traumatic events may occur. Stress and psychotrauma in childhood may reflect into neurobiological sequelae with life-long consequences for psychosocial functioning. Clinical prevention and intervention programs that effectively reduce impact of war- and migration related circumstances on child development have been insufficiently available and warrant innovative and scientific investigation.

This symposium addresses consequences of war related experiences and subsequent migration and acculturation in parents and (unaccompanied) children either residing in host countries or continuously living under threat in occupied areas. The five papers are presented by researchers in psychology from Finland, Denmark, Australia, Norway and the Netherlands. The papers approach the intergenerational adjustment of children and families from different angles: prospective epidemiological study, prenatal longitudinal study, qualitative analyses of interviews and pre- and posttest comparison of a family oriented intervention for refugee families. All together this symposium presents a wealth of data elucidating adjustment processes in vulnerable children and their families. There will be room for discussion of commonalities and contrasts with the audience.

#### sym303-3.1 Wellbeing among refugee parents and their adolescent children newly arrived in Australia

Julie Robinson

*School of Psychology, Flinders University, Australia*

Background: Does being a parent change the experience of being a refugee? Do refugee parents and their children have similar levels of wellbeing?

Methods: Data were drawn from the first wave of Building a New Life in Australia: The Longitudinal Study of Humanitarian Migrants. Study 1 compared the journeys and wellbeing of adult refugees aged 25 years or older who did (n=441), and didn't (n=401), have a biological child under 18 years of age in their household. Study 2 compared the wellbeing of 15- to 17-year-old adolescents (n=128) with that of their parent who was the primary visa-applicant. Most participants were born in the Middle-East or South/Central Asia. All participants were new arrivals (87% had been in Australia for 3-6 months) who had been granted permanent residence. Adult and adolescent participants completed parallel questionnaires by interview in one of 19 languages.

Results: Analyses for Study 1 included three covariates: age, partner, and time in Australia. Although there was a main effect for parental status, there were few differences between the groups on individual measures concerning their journey (age of departure; exposure to traumatic events) or their current wellbeing (mental health, life satisfaction, future plans). However there were small differences in the number of countries of asylum and their current physical health. Results from Study 2 identified few differences between parents and their adolescent children in self-efficacy, self-esteem, sense of belonging, or life satisfaction. However, adolescents had fewer mental health problems and better physical health than their parents.

Conclusions: Similarities in levels of wellbeing across parental status and age may be attributable to similarities in the challenges faced by all groups during the initial stages of resettlement, and near-unanimous endorsement of some future plans (stay in Australia; become a citizen).

#### sym303-3.2 Peer relations, acculturation and social anxiety among unaccompanied minor refugees

Brit Oppedal

*Norwegian Institute of Public Health, Department of Child Development and Mental Health, Norway*

Social anxiety (SA) which may compromise social functioning and limit establishment of supportive social networks, is one of the most frequent psychological disorders among youth, is more prevalent among girls than boys and demonstrates a high stability over time. However, we lack knowledge about predictor of SA among unaccompanied minor refugees (UMR) who are at high risk of developing SA. Research has shown that they

suffer from high levels of depression which tends to co-occur with social anxiety problems. Their history of loss and disrupted family and peer relationships due to war and flight may provoke insecure attachment styles which are related to social anxiety. Moreover, several studies have demonstrated that socio-cultural challenges associated with adaptation to the mainstream society, also predict SA among immigrants. Thus, the overall aim of the present study is to examine predictors of stability and change in SA among UMR, based on the following study questions: 1) Does gender predict level and change in SA 2) Is change in SA associated with change in depression 3) Do resources and adversities embedded in the acculturation context predict change in SA?

The study is based on longitudinal self-report questionnaire data from a population based sample of 918 UMR resettled in Norway. We assessed SA, depression in addition to peer conflicts, social support, and the following acculturation-related factors: culture competence, discrimination, identity-crisis, outgroup and ingroup hassles. Preliminary analyses demonstrated non-significant gender differences in SA. The group level of SA symptoms was the same over time, however, there was substantial individual variation. Both depression and acculturation-related factors, but not social network variables, predicted change in SA.

The findings will be discussed in relation to integration and mental health of young unaccompanied refugees.

### **sym303-3.3 Toxic war environment: Prenatal heavy metal load predicting infant health and development**

Mervi Vänskä, Raija-Leena Punamäki, Samir R. Qouta, Nabil Albarqouni, Paola Manduca  
*Faculty of Social Sciences, University of Tampere, Finland*

**Aim:** Families living in war zones are exposed to contamination from new-generation weapons (e.g., white phosphorus shells, depleted uranium and metal contaminants of weaponry remnants), in addition to psychological war trauma. Studies show increased rate of birth defects and deformed babies in areas heavily exposed to contamination of residuals of new-generation weapons. Research has so far not focused on the possible adverse impact of toxic war contamination on early child development. This study aims to analyse how heavy metal load in delivering women and their newborns influence infant somatic health, cognitive development, and emotion regulation.

**Methods:** The participants were 502 Palestinian mothers, pregnant for the baby (1st trimester) at the time of the 2014 Israeli military operation. At delivery (T1), the mothers consented for their own and their baby's hair samples that were analysed for determination of the load for 23 toxicant, teratogen or carcinogen metals (e.g. aluminium, lead, and mercury). At the child's ages of 6-7 months (T2), the mothers reported on child somatic health and growth, cognitive development, as well as temperamental reactivity and regulation. At the child's age of 18 months (T3), Bayley Scales on child cognitive, language and motor development were applied and the mothers reported on child temperamental reactivity and regulation. Associations between heavy metal load and child development will be analysed using Structural Equation Modeling (SEM) implemented in Mplus.

**Results:** Results of the analysis will be presented at 18th European Conference on Developmental Psychology. We expect to find associations between increased metal load and problems in child health and development.

**Conclusion:** In order to help families and children in war, more information is needed on the adverse developmental effects of both psychological and toxic war trauma. This is where the present study contributes to.

### **sym303-3.4 The transgenerational transmission of refugee trauma: Family functioning and children's psychosocial adjustment**

Edith Montgomery, Nina Dalgaard  
*DIGNITY, Danish Institute Against Torture and Danish Research Centre for Migration, Ethnicity and Health (MESU), Department of Public Health, University of Copenhagen, Denmark*

**Aim:** The aim of this study was to explore the role of family functioning in the transgenerational transmission of trauma in a sample of 30 refugee families with traumatized parents and children without a history of direct trauma exposure from the Middle East.

**Method:** Based on qualitative analyses of interview material families were evaluated using theoretically derived dimensions of family functioning and placed in descriptive categories according to: Family Cohesion, Family Flexibility, Family Roles, Family Coping, Stressor pile-up and Marital Problems. The association between these

descriptive categories of family functioning and the child's mental health as measured by the Strengths and Difficulties Questionnaire (SDQ) was explored using point-biserial correlations, correlations and multiple regression analyses.

Results: 22 % of the variance in children's SDQ scores could be predicted by whether or not the family experienced a pile up of stressors and whether or not the family was characterized by role reversal between parents and children. Furthermore, a statically significant association was established between a total measure of adaptive family functioning and lower scores on the SDQ.

Conclusions: These findings suggest that the transgenerational transmission of trauma may be associated with family functioning and have implications for interventions at several levels.

### **sym303-3.5 Treating the impact of traumatisation on the refugee parent-child relationship using Multifamily-Therapy**

Carlijn van Es, Irma Hein, Julia Bala, Trudy Mooren

*Foundation Arq, Department of Clinical Psychology, Utrecht University, Netherlands*

Background: There is growing evidence that parental trauma is associated with psychosocial disorders, externalising and internalising problems and higher sensitivity to developing posttraumatic stress disorder (PTSD) in children. This study aims to examine the impact of exposure to traumatic events on the wellbeing of refugees and their children. Furthermore, it aims to research how Multifamily Therapy (MFT) addresses these problems.

Method: We present a case series of parent-child dyads (N=11), with children between zero and six years old at Foundation Centrum '45. Demographic and diagnostic characteristics of the parent-child dyads are described. Qualitative measures are used in order to describe the issues refugees face, such as social isolation, mental health issues and attachment problems. Quantitative measures include the Emotional Availability Scales (EAS) before and after MFT. Differences in EAS scores are analysed using the Wilcoxon Matched-Pairs Test and effect sizes are analysed using Cohen's  $r$ .

Results: Results demonstrate a significant improvement on the EAS sub-scales parental sensitivity, parental structuring, child responsiveness and child involvement ( $p < 0.05$ ) after MFT. Effect sizes indicated a medium to large effect.

Conclusion: This study demonstrates that MFT is feasible in severely traumatised parents and their young children. Furthermore, it offers an initial indication of a positive effect of MFT on the parent-child interaction. Further research in a larger sample is needed to examine the effectiveness of MFT on improving parental and child psychiatric symptoms and the attachment relationship.

Stephen Russell, Chair  
*University of Texas at Austin, United States*

A substantial body of developmental psychology research documents the negative influence of experiences of homophobia for the health and well-being of sexual minorities (lesbians, gay men, and bisexuals). The theory of minority stress posits that experiences of homophobia – or minority stress – undermine psychological well-being by shaping sexual minorities' attributions, interpretations, and expectations of social and interpersonal interactions. This symposium, including scholars from four countries, brings together new studies that document homophobia and minority stress in the lives of sexual minorities, with foci on contexts in which minority stress may occur, and implications for psychological states and processes. The leading paper presents the first study of minority stress among LGBT people in Turkey, documenting significant stress, and developmental differences in stress exposure similar to studies in North America and Europe. The second paper examines possible developmental differences in hostile world view (HWV), showing that whereas prior studies showed gay and lesbian youth were more likely to hold a hostile world view in comparison to heterosexuals, few differences in HWV were found in this sample of middle-aged and older Israeli gay and heterosexual men. In the third paper, sports is examined as a context in which gay men experienced more homophobia than heterosexual men, and those experiences were linked with greater self-hatred and internalized sexual stigma. The last two studies present methodological innovations in the study of LGBTs and minority stress. In the fourth paper, Implicit Association Tests are used to disentangle implicit versus explicit negative attitudes about same-sex parenting, showing distinct differences between implicit and explicit attitudes for groups defined by sex, sexual identity, and for attitudes toward two-mother versus two-father families. Finally, the last paper presents a new multi-component qualitative approach for understanding minority stress in the lives of LGBT people in the context of changing socio-political times.

#### **sym303-5.1 LGBTs' school experiences in Turkey: A descriptive study of discrimination and bullying**

Duygu Cavdar, Figen Cok, Stephen Russell, Jessica Fish, Jack Day  
*University of Bristol, United Kingdom*

LGBTs are more likely to experience intolerance, discrimination, harassment, and the threat of violence than those who identify as heterosexual. According to the literature, LGBT youth are frequently exposed to discrimination, bullying, harassment, verbal and physical violence in schools and these experiences make LGBT students' level of depression and suicide risk higher. These negative experiences in schools should be investigated in different societies; however, there are no existing studies investigating LGBT school experiences in Turkey. The main aim of this study, therefore, was to investigate LGBTs' school experiences in Turkey. In accordance with this aim, we examined their experiences in high schools and universities in Turkey in terms of school safety, bullying and harassment, discrimination, rejection from family and friends, social support and community involvement. The research group of the study used a correlational research model consisting of 225 LGBT participants who live in Turkey. To collect data, we used an online survey (collected with the support of a Turkish LGBT organization) that consisted of different scales which measure their past and current experiences in schools. Descriptive statistics, independent samples t-test, one-way Anova and Pearson correlation were used. The results of this study showed that most LGBTs felt unsafe at their schools in Turkey. Some were verbally and physically harassed, and bullied because of their sexual orientation and gender expression. Additionally, they did not know where they should appeal for support. Universities had advantages in terms of social support and less exposure to discrimination compared to experiences reported in high schools. LGBTs reported more acceptance by their mothers than their fathers. There were also significant relationships between negative school experiences, discrimination, and rejection from family members and friends. These findings are discussed in the context of prior literature, along with implications for making schools safer places for LGBTs in Turkey.

### **sym303-5.2 The Hostile-World Scenario among gay men and lesbians along the lifespan**

Geva Shenkman, Dov Shmotkin  
*IDC Herzliya, Israel*

Gay men and lesbians may meet multiple life hardships by belonging to a minority that largely suffers from stigma, prejudice, and discrimination. In this context we explored the concept of hostile-world scenario (HWS) among Israeli gay men and lesbians along the life-span. HWS refers to the individual's image of threats to one's physical and mental integrity. HWS items were previously found to distinguish Israeli gay adolescents and young adults from heterosexual counterparts, showing young gay men and lesbians as more concerned with HWS themes of victimization (by crime and discrimination), lack of social and family support, poor health condition, disrupted relationships, and aging (Shenkman & Shmotkin, 2013). These distinguishing HWS items were also found to correlate with lower subjective well-being, higher depressive symptoms, higher neuroticism, lower conscientiousness, lower agreeableness, and lower self-acceptance of one's sexual orientation (Shenkman & Shmotkin, 2016). In the current study we adopted a life-span developmental perspective, thus examining the HWS among 152 Israeli middle-aged and older gay men ( $M=57.54$ ,  $SD=6.84$ , range 50-84) in comparison to 120 heterosexual men ( $M=62.16$ ,  $SD=7.99$ , range 50-87). After controlling for socio-demographic characteristics, results showed that the gay men were more concerned with only two of the 25 previously distinguishing HWS items. Also, no significant moderation effects by sexual orientation were found in the relationships of the HWS scale, adapted to gay population, with depression, anxiety, subjective well-being, meaning in life, and the Big Five traits. These findings suggest that perceptions and expectations of adversities that gay men were likely to adopt in early adulthood, when emotionally charged in processes of sexual identity formation, may not necessarily preoccupy older gay men. It might be suggested that HWS-related vulnerability of early age within the gay population declines in older age.

### **sym303-5.3 Sports as a dangerous environment: homophobia and bullying**

Jessica Pistella, Marco Salvati, Salvatore Ioverno, Roberto Baiocco  
*Sapienza University of Rome, Italy*

Research on bullying and homophobic bullying has mainly focused on school contexts, with little research on bullying in sports-related contexts. Consequently, the differences between people who identify as sexual minorities and people who identify as heterosexual in terms of sports-related bullying and sports-related homophobic bullying remain even less explored. This study used a sample of 88 gay men and 120 heterosexual men to examine the frequency of bullying experiences in Italian sports-related contexts. The results showed that gay men reported more frequent bullying,  $F(22(1, 208) = 22.140$ ,  $p < 0.001$ , and homophobic bullying,  $F(22(1, 208) = 6.870$ ,  $p < 0.01$ , in sports-related contexts than heterosexual men. Gay men also reported dropping out of sports more frequently, namely due to a fear of being bullied,  $F(22(1, 208) = 13.914$ ,  $p < 0.001$ , and greater familial pressure to conform to masculine-type sports,  $F(22(1, 208) = 12.323$ ,  $p < 0.001$ . Overall, victims of bullying displayed higher levels of self-hatred than those who were not bullied in sports-related contexts,  $F(1,207) = 9.10$ ;  $p < 0.001$ ,  $\eta^2 = 0.05$ . In addition, gay men who were victims of bullying or homophobic bullying displayed higher levels of internalized sexual stigma than gay men who were not bullied in sports-related contexts,  $F(1,84) = 9.61$ ;  $p < 0.001$ ,  $\eta^2 = 0.19$ . Results suggest that gay men are more at risk of bullying and may be particularly vulnerable in sports-related contexts because these environments still represent a belief system that privileges heterosexuality, stigmatizing other, nonconforming sexual behaviors or gender preferences. This is especially true in a context such as the Italian one, where traditional gender norms and homophobic attitudes are still rife. It is necessary to promote safer sports-related contexts for people who identify as a sexual minority or who self-identify as heterosexual yet are perceived as lesbian, gay or bisexual.

#### **sym303-5.4 Implicit and explicit attitudes toward same-sex parenting among LGB and heterosexual people**

Salvatore Ioverno, Jessica Pistella, Roberto Baiocco, Marco Salvati  
*The University of Texas at Austin, United States*

Attitudes towards same-sex parenting (SSP) have become more positive in the last decades. However, factors like social desirability or internalized beliefs outside of awareness, can reduce the validity of self-report measures of prejudice. Implicit Association Tests (IATs) may help circumvent this problem. In this study, the relations among implicit and explicit attitudes toward SSP among lesbian, gay, bisexual (LGB) and heterosexual individuals were explored. 500 participants (62.59% women, 44.06% LGB, mean age= 28.62) were recruited through snow-ball sampling. Two IATs were administered to evaluate the associations between parenting types (i.e., IAT1: father-father vs. father-mother; IAT2: mother-mother vs. father-mother) and an evaluative dimension (i.e., good vs. bad). An explicit measure was used to evaluate the beliefs on SSP in terms of basic parenting skills and adjustment. For each measure, we conducted a separate mixed ANOVA with gender and sexual identity as a between-groups factor and the attitudes toward SSP types (i.e. father-father; mother-mother) as a within-groups factor. Analyses of the between-groups differences showed a significant interaction effect of genderXsexual identity on explicit measures and a main effect of sexual identity on implicit measures: heterosexual women reported more positive attitudes compared to heterosexual men on explicit measures but not on implicit ones. Within-groups analyses showed that, regardless of sexual identity, women and men reported negative implicit attitudes toward two-father families. On the contrary, women were more positive and men more neutral on attitudes toward two-mother families. Explicit attitudes were very positive and weakly correlated with implicit measures. Investigation of implicit beliefs toward SSP among LGB people is of fundamental importance to understand the negative psychological consequences of living within a stigmatizing context. The internalization of the social stereotypes about inadequacy and moral inferiority of SSP may be a source of minority stress for some LGB people and prevent them from becoming parents.

#### **sym303-5.5 Identity development, minority stress, and social change: A new qualitative approach**

David Frost, Phillip Hammack, Bianca Wilson  
*University of Surrey, United Kingdom*

The past decade has witnessed significant improvements in the social and policy climate surrounding the lives of sexual minorities (i.e., people who identify as lesbian, gay, and bisexual). Despite these important social changes, sexual minorities continue to experience physical and mental health problems at rates higher than their heterosexual peers. Minority stress theory suggests that the social environment, where sexual minorities experience stress due to prejudice and stigma, can be detrimental to their health and well-being. However, we know little about how important changes in the social environment have influenced sexual minorities' experiences of minority stress and identity and the resulting implications for their health and well-being. New methodological approaches are therefore needed to understand the role that the changing social climate plays in the lives of sexual minority men and women. This talk will describe one such methodological innovation employed within the Generations Study: A five-year study to examine identity, stress, and health across three generations of sexual minority men and women in the United States (PI: Meyer). Specifically, the talk will (a) outline the rationale for a qualitative approach to understanding the role of social change in experiences of identity, stress, and health drawing on a life course perspective; (b) describe a multi-component qualitative instrument developed specifically for these aims using interactive visual and narrative procedures; and (c) discuss data exemplars that illustrate the utility of the qualitative approach and instrument in addressing questions related to the experience of minority stress in a changing society. The talk will end with a discussion of the adaptability of this qualitative approach and instrument within other cultural and regional contexts in which social change is occurring in different forms and at varying rates.

## sym303-6 Teachers' role in bullying dynamics

Annalaura Nocentini, Chair

*University Of Florence, Italy*

Ersilia Menesini, Chair

*University Of Florence, Italy*

Sheri Bauman, Discussant

*University of Arizona, United States*

According to a social-ecological model of bullying, teachers play a crucial role in preventing and managing school bullying (Yoon & Bauman, 2014). Recent research has examined the role of individual factors facilitating teachers responses to bullying incidents, whereas few studies have focused on situational variables. Therefore, more efforts are needed to understand the mechanisms explaining whether teachers can deal with school bullying in a more effective way.

In the current symposium we present four contributions from three countries (Belgium, Italy, United States) focusing on different type of variables and processes. Specifically, individual variables (i.e. teacher attitudes and efficacy beliefs, teachers knowledges, teacher's behavioral response to bullying episodes), relational variables (i.e. the quality of teacher-student relationship), and their interaction with more contextual factors (i.e. class climate, school liking) will be considered.

The first paper, conducted with 213 teachers in Rome, shows whether perceived self-efficacy in managing homophobic bullying incidents and homophobic attitudes predict feeling of powerlessness or conversely a positive activation toward the victims. The second paper, involving a big sample of USA students aged 6-12, examines the role of teacher-student relationship on bullying perception and whether this link is mediated by Aggressive Attitudes and School Liking of pupils. The third paper, carried out on a sample of 389 Italian students, addresses how teachers responses to a bullying episode can affect bullying and victimization, and whether this association can be moderated by the quality of class climate. The fourth paper presents the development of Cyber-scan, a playful discussion tool for school teachers and educators aimed to support the evaluation of what the school has done and what the school would like to do to prevent bullying and to support the concrete planning phase.

Findings will be discussed in terms of practical implications for the development of antibullying interventions targeting school teachers.

### sym303-6.1 Teachers' reaction in homophobic bullying incidents: self-efficacy and homophobic attitudes' influence

Maria Rosaria Nappa, Benedetta Emanuela Palladino, Ersilia Menesini, Roberto Baiocco  
*Department of Developmental and Social Psychology, Sapienza University of Rome, Italy*

AIM - Literature on homophobic bullying underlines that many teachers do not intervene in this kind of issue and they often underestimate this type of bullying. At the same time, the protective role of teachers' support for the victimized students, is well recognized. The present study aims to understand the processes that can lead teachers to stand up against homophobic bullying.

METHOD - Participants were 213 teachers belonging to different schools in Rome (age range 24-64, M = 38.1; SD = 11.06; 80% female; 58.8% high schools). We administered the following questionnaires: 1) teachers' reactions to homophobic bullying (composed by Feeling of Powerlessness and Positive Activation); 2) homophobic attitudes; 3) teachers' perceived self-efficacy in general education tasks; 4) perceived self-efficacy in managing homophobic bullying incidents. All the questionnaires show good reliability in the present sample. RESULTS - we used structural equation modelling to test if the self-efficacy, (both as a teacher and in managing homophobic bullying incidents), predicts both teachers' reactions controlling for the homophobic attitudes. The tested model shows good fit indices ( $\chi^2(59)=82.79$ ,  $p < .001$ ; CFI=.97; RMSA=.04, 90% CI [.02; .07]; SRMR=.049). Specifically, lower levels of perceived self-efficacy in managing homophobic bullying incidents ( $\beta = -.455$ ;  $p < .01$ ) and higher level of homophobic attitudes ( $\beta = .249$ ;  $p < .01$ ) predict stronger Feeling of Powerlessness (31% of variance explained) while higher perceived self-efficacy as a teacher ( $\beta = .207$ ;  $p = .01$ ) and lower level of homophobic attitudes ( $\beta = -.242$ ;  $p < .01$ ) predict stronger Positive Activation toward the victimized student (9% of variance explained).

CONCLUSION – The results underline the importance of developing interventions targeting the teachers in order to properly activate them in case of homophobic bullying incidents. Working on their knowledge, prejudices about LGBT people and their confidence to handling homophobic bullying incidents is the first step to enhance teachers' interventions to help victimized students.

### **sym303-6.2 Teacher-Student Relationships and Bullying: School Liking and Aggressive Attitudes as Mediators**

Sheri Bauman, Jaclyn Gross, Jina Yoon  
*University of Arizona, United States*

**Aim:** The purpose of this study is to examine the relations between student perceptions of their relationships with teachers (TSR) and prevalence of bullying (students' personal experience with victimization (BEX), and perceived prevalence of bullying at school (PTB). We tested aggressive attitudes and school liking as mediators of those relationships.

**Methods:** For a study of School Resource Officers (SROs) and school safety, we collected data from 47 randomly selected schools in one state in the USA. Each school randomly selected 30 students per grade; 4,070 students in grades 6–12 (49.2% female) were surveyed.

**Results:** Aggressive Attitudes and School Liking were significant partial mediators of the relationship between teacher-student relationships and personal experience with victimization ( $p = .009$  for both) and between teacher-student relationships and perceived prevalence of bullying ( $p = .015$  and  $.016$ ). Correlations between TSR and BEX ( $r = -.25$ ) and PTB ( $r = -.37$ ) were significant at  $p < .0001$ . Approximately 4% of the variance in prevalence of teasing and bullying was explained at the school level. We ran hierarchical models to control for SROs (present or absent), school level (elementary, middle, high school), and school size. Using personal bullying experience as the outcome, SRO, school level, teacher-student relationships, aggressive attitudes, and liking school were significant predictors. Using prevalence of bullying as the outcome, all variables except SRO were significant.

**Conclusion:** Teacher-student relationships was a significant predictor of bullying (experienced and perceived prevalence) and both Aggressive Attitudes and School Liking partially mediated this relationship. Presence of an SRO was significant for personal experience of bullying, with students in schools with SROs reporting fewer experiences of victimization; this was not the case for perceived prevalence of bullying where no difference was detected. School size was significant for prevalence of bullying, but not for individual bullying experiences.

### **sym303-6.3 Teachers intervention towards bullies and the moderating role of class climate**

Annalaura Nocentini, Benedetta Emanuela Palladino, Kristel Campaert, Ersilia Menesini  
*University of Florence, Italy*

**AIM** -Teachers have a central role in preventing and managing school bullying (Yoon & Bauman, 2014). Their responses can be specifically directed towards the perpetrator (disciplining bullying behavior), the victim (giving support) or both (i.e. discussing rules with the whole class group, peer resolution of the conflict, reporting the case to higher authority). Children's individual factors, such as moral cognitions, have been suggested as mechanisms of mediation in defining teachers reactions as effective (Campaert et al., 2017). Other relevant contextual variables, such as class climate, could also play a role in these processes. The aim of the current study is to analyse how teachers responses can affect both bullying and victimization, and whether this association can be moderated by the quality of class climate.

**METHOD** -Participants were 389 students (52% boys, age  $M=11.52$ ,  $SD=1.33$ ) of central Italy. Self-reported bullying, students' perception of teacher response in incidents of bullying and victimization and class climate were assessed.

**RESULTS:** Although the unique contribution of each intervention toward the bully (non-intervention, disciplinary sanctions, mediation and class group discussion) was confirmed for both bullying and victimization, at a multivariate level, findings showed a more relevant role of non-intervention and disciplinary sanctions in relation to bullying and of group discussion and disciplinary sanctions in relation to victimization. Besides, class climate moderated these relationships. The non-intervention of teachers toward the bully was associated with an increase of bullying in classes when the climate was negative. On the contrary, when the climate was positive, the non-intervention of teachers toward the bully was not associated with an increase of bullying. In

relation to victimization, disciplinary sanction toward the bully was associated with lower levels of victimization when the class climate was positive.

CONCLUSION: Results are discussed according to an ecological model of bullying and victimization.

#### **sym303-6.4 Cyber-Scan: Stimulating school teams to develop a whole school anti-cyberbullying approach**

Heidi vande Bosch, Gie Deboutte, Silke Wouters, Evelien Dheer

*Department of Communication Studies at the University of Antwerp, Belgium*

AIM: The aim of the Cyber-Scan project was to develop and evaluate a discussion tool for school teams aimed at promoting a whole school anti-cyberbullying approach. Results from two previously conducted surveys in Belgium showed that: 1) schools are motivated to do something about cyberbullying, but often lack the necessary knowledge and professional support, 2) often delegate cyberbullying-related issues to specific persons in the school team (e.g. school counselors, principals), while others are less involved.

METHOD: A discussion tool was developed through a collaboration of cyberbullying researchers, educational game designers and media literacy experts. Researchers distilled key elements for cyberbullying prevention, detection, intervention and after care. The initial versions of the tool were tested by three school teams (2 secondary, 1 primary school teams), who provided detailed feedback.

RESULTS: The formative tests showed that the initial versions of the tool were sometimes too abstract (not enough action-oriented), too comprehensive, and too complicated. Moreover, it became clear that especially schools that were really confronted with cyberbullying problems (secondary schools, especially those with vocational tracks), and did not already have a whole school anti-bullying approach, were enthusiastic about the tool and found it enriching, while for other schools the relevance was less clear.

DISCUSSION: In the final version of the tool, school teams are stimulated to go through three phases. In a first phase (the “battery phase”), schools evaluate which key elements are already present in their school. In a second phase (the “app phase”) schools select key elements they would like to work on and describe how they will do this in “app terms” (e.g. Wikipedia: What have we already done in the past?; Tinder: Which ideas about the topic excite us?, Snapchat: Are there aspects we believe should better disappear? ). The third phase is the concrete planning phase.

## sym303-7 Positive youth development in Europe and other non-US contexts

Nora Wiium, Chair & Discussant  
*University of Bergen, Norway*

The Positive Youth Development (PYD) perspective that has characterized research and youth programmes in the US is gaining grounds in scientific studies and initiatives for young people in non-US contexts. Based on a cross-national study that aims to assess and advance factors that will facilitate positive development among young people in Europe and other non-US contexts, our symposium takes into account four papers that reflect the theoretical framework, empirical research, and practical application of the PYD perspective. The papers utilize data collected from adolescents and emerging adults in five countries: Italy, Norway, Palestine, Slovenia and Turkey. In addition, a fifth discussant presentation will integrate the various approaches among the four presentations into a meaningful whole. Together, these presentations provide insight into specific applications of the PYD perspective to non-US contexts, the resources available to diverse young people, and the initiatives made to increase the opportunities that drive positive development. Within the PYD framework, the 5Cs of PYD (Competences, Confidence, Connection, Character and Caring) are one of the most common forms of measuring positive outcomes. The first paper tests the psychometric properties of a Short Measure of the 5Cs of PYD and data collected among secondary school students in Slovenia. The second paper presents findings on data collected from secondary school and university students in Norway and Turkey regarding group differences in several developmental assets and positive outcomes, as well as the association between the two factors. The third paper examines how individual and ecological assets relate to reports of life satisfaction among Palestinian youth. The fourth paper assesses the cultural appropriateness of several developmental assets in the Italian context as well as initiatives used to promote positive development among Italian youth. Below are the abstracts for the four papers.

### sym303-7.1 Positive youth development in Europe and other non-US contexts

Nora Wiium, Radosveta Dimitrova  
*University of Bergen, Norway*

The Positive Youth Development (PYD) perspective that has characterized research and youth programmes in the US is gaining grounds in scientific studies and initiatives for young people in non-US contexts. Based on a cross-national study that aims to assess and advance factors that will facilitate positive development among young people in Europe and other non-US contexts, our symposium takes into account four papers that reflect the theoretical framework, empirical research, and practical application of the PYD perspective. The papers utilize data collected from adolescents and emerging adults in five countries: Italy, Norway, Palestine, Slovenia and Turkey. In addition, a fifth discussant presentation will integrate the various approaches among the four presentations into a meaningful whole. Together, these presentations provide insight into specific applications of the PYD perspective to non-US contexts, the resources available to diverse young people, and the initiatives made to increase the opportunities that drive positive development. Within the PYD framework, the 5Cs of PYD (Competences, Confidence, Connection, Character and Caring) are one of the most common forms of measuring positive outcomes. The first paper tests the psychometric properties of a Short Measure of the 5Cs of PYD and data collected among secondary school students in Slovenia. The second paper presents findings on data collected from secondary school and university students in Norway and Turkey regarding group differences in several developmental assets and positive outcomes, as well as the association between the two factors. The third paper examines how individual and ecological assets relate to reports of life satisfaction among Palestinian youth. The fourth paper assesses the cultural appropriateness of several developmental assets in the Italian context as well as initiatives used to promote positive development among Italian youth. Below are the abstracts for the four papers.

### **sym303-7.2 Short-form measure of positive youth development: psychometrics and preliminary findings in Slovenia**

Jose-Michael Gonzalez, Ana Kozina, Nora Wiium  
*University of Connecticut, United States*

Person-context systemic relations adolescents have with key people and institutions in their unique social context, such as family, peer groups, school, workplace, neighborhood, community, society, culture, and niche in history contribute to diversity in developmental trajectories (Lerner, 2002). Lerner (2002) conceptualized Positive Youth Development (PYD) in the 5Cs: competence, confidence, caring, character and connections. When youth manifest the 5Cs over the course of development they are more likely to positively contribute (the 6th C) to self and society and less likely to exhibit maladaptive behaviors. PYD approach is widely used in research and youth programs throughout USA (Eccles & Gootman, 2002). The high theoretical and practical value of PYD perspective fuels its adoption to the European context with an aim toward intercultural comparisons and understanding diversity for youth development and youth prevention/intervention programs. First, to foster PYD in the European context, it is necessary to establish a base of psychometrically solid PYD measures of 5Cs. Therefore, our goal is to examine the reliability, validity, and psychometric properties of a Slovene version of the Short Measure of the 5Cs of PYD (SV-PYD). The original Short Measure of PYD was developed using a series of exploratory factor analyses and CFA models on the 4-H study data of PYD in the USA (Geldorf, Bowers, Boyd, Mueller, Napolitano & Schmid, 2013). We will present results from reliability analyses (Cronbach alpha) and validity analyses (CFA proposing 5 factor model; correlation with the Middle Years Development Instrument (MDI) by Schonert & Reichl, 2013, administered on the same sample, with gender differences) of our SV-PYD. We will present preliminary findings of administered SV-PYD to large sample of Slovene first-year upper secondary students (N=3960, f=1977, m=1983; average-age=15) and discuss how SV-PYD measures will be used in future research to inform diversity in youth development and youth programming.

### **sym303-7.3 Social developmental assets and positive outcomes among Norwegian and Turkish youth**

Ayfer Dost, Nora Wiium  
*Ozyegin University, Turkey*

The present study compared Norwegian and Turkish youths' perceptions of developmental assets (i.e., family and school support, structure and connectedness to friends) and positive youth development outcomes (i.e., positive identity, health behavior, and civic engagement) (Norwegian N=535, mean age = 20.14; Turkish N=751; mean age = 20.15; age range: 18-24). The present study also examined the links between the developmental assets and positive outcomes in these two youth groups to ascertain the developmental commonalities and cultural differences. Relying on the self-determination theory, we hypothesized that higher levels of developmental assets would predict higher levels of positive outcomes. ANCOVAs comparing the two youth groups in developmental assets and positive outcomes revealed that the two groups differed on all study variables except family support. Accordingly, Norwegian youth reported higher levels of family and school structure and connectedness to friends, whereas Turkish youth perceived higher levels of school support, and they reported higher levels of positive identity, health behavior, and civic engagement, after controlling for parental education. The model predicting positive outcomes from developmental assets was not significantly different between the two groups ( $\chi^2 = 8.29$ ,  $df = 6$ ,  $p = .22$ ; CFI/TLI = .995/.976; RMSEA = .024). In both groups, perceived support from family and school as well as connection to friends, were associated with higher scores on positive identity, whilst family support predicted higher civic engagement. In the Turkish youth group, school support and connection to friends were also associated with civic engagement. In the prediction of health behavior, family structure was associated with the outcome for Norwegian youth, whereas, school structure and connection to friends was associated with the outcome for the Turkish youth. Findings highlighted the role of support as a developmental commonality in the links between social developmental assets and positive outcomes among the Norwegian and Turkish youth.

### **sym303-7.4 Internal & external developmental assets among Arab Palestinian youth in Palestinian territory**

Tamara Qumseya, Jose-Michael Gonzalez, Johannes Karl, Nora Wiium  
*University of Connecticut, United States*

A working assumption among scholars and youth service professionals is that youth possess individual and ecological assets that have potential for enhancing health and well-being. In particular, literature on resiliency of minority youth points toward strengths of person, family, and community contexts to promote positive development (see Benson, 2003). This study examines the presence of individual and ecological assets for positive youth development (PYD), assessed through external (i.e., support, empowerment, boundaries and expectations and constructive use of time) and internal (i.e., commitment to learning, positive values, social competencies and positive identity) assets on life satisfaction among N = 255 Arab Palestinian youth (16-30 years of old) within Palestinian Territory. Results indicated that all assets (external and internal) positively correlated with life satisfaction. However, path and multiple regression analyses revealed a divergent path in the first model which most of the external assets (empowerment, expectations and boundaries, constructive use of time) had direct main effects on life satisfaction. In contrast, only positive identity predicted a significant amount of variance in life satisfaction when internal assets were examined. A second model investigating whether positive identity mediates the relationship between other internal assets and psychological well-being revealed that commitment to learning and social competencies had indirect positive effects on life satisfaction, they predicted higher levels of positive identity, which, in turn, led to higher levels of satisfaction with life. These findings provide evidence for the effect of developmental assets on life satisfaction in an understudied population and highlight a novel intra-individual process. The implications of these findings are discussed regard to growing literature that underscores the use of the PYD perspective in understanding individual differences in development of diverse youth, with the idea that developmental assets are building blocks young people need to grow and become caring, competent adults in the Palestinian context.

### **sym303-7.5 Positive youth development across culture: the case of Italy**

Pasquale Musso, Alida Lo Coco, Rosalba Salierno, Martino Lo Cascio  
*University of Palermo, Italy*

Current developmental research and policy agendas are increasingly shaped by Positive Youth Development (PYD) perspective, which plays an important role in expanding our understanding of how both young people thrive and youth services can best promote their development. According to this framework, youth with more internal and external assets show evidence of more positive development, operationalized through Lerner's six Cs (caring, character, competence, confidence, connection, and contribution/commitment; Lerner et al., 2011). The present qualitative study aimed at contributing to the advancement of the body of cross-cultural work that is being produced about the conceptual and content validity of the identified factors of PYD outside the U.S. To accomplish this purpose, we performed two investigations in Italy. The first one is a focus group study involving three groups of adolescents (N=24) carried out to select the most culturally appropriate and compelling constructs and items related to adolescents' positive development. The second investigation concerns an action research involving 15 social workers of the social service office for minors of the juvenile court of Palermo. This action research consisted of: (a) a training course for the social workers about the potential application of PYD in their daily work; (b) some discussion sessions about the cultural refinements of the PYD perspective, constructs and measures to be effectively applied in their working context; and (c) the new formulation of their working tools framed from the PYD perspective. Taken together, our results showed differences in the conceptualization of PYD (e.g., creativity emerged as another potential factor of positive development) and in its measurement (e.g., items about sport are not compelling in the Italian context). These findings provide suggestions about the role of culture in shaping perception of positive development, although additional research is needed to examine the applicability of the PYD approach to other cultural settings.

## sym303-8 Reliability of neurocognitive measures of child development

Caroline Junge, Discussant

*Department of Experimental Psychology, Helmholtz Institute, Utrecht University; Department of Developmental Psychology, Utrecht University, Netherlands*

Technological advances in the last decade has lead to a substantial increase in knowledge on the development of children's brain functioning. Techniques such as fMRI, EEG and eye-tracking have informed us on a group level about, for instance, the development of social, cognitive, and sensory information processing. Now that understanding of development at a group level is expanding, research is moving towards investigation of individual growth trajectories. Large prospective child cohort studies currently explore factors that could predict individual differences in development. To draw meaningful conclusions on individual differences, it is crucial to select measures that produce reliable and replicable results. However, for neurocognitive measures the test-retest reliability and replication is often unknown. Within the Consortium Individual Development (CID) multiple studies were conducted on reliability of neurocognitive measures. In this symposium, we present and discuss the results of eight studies using fMRI, EEG or eye-tracking. The studies represent designs often applied in developmental research, both concerning age range (from birth until adulthood) and stimulus design (from simple comparisons of stimulus versus baseline, up to comparison between multiple interacting conditions). By combining results from eight studies, we can compare reliability between techniques, age groups, and stimulus designs. This symposium thus aims to increase insight and awareness of reliability of neurocognitive measures, guiding researchers in their methodological choices for infant cohort studies.

### sym303-8.1 Neural responses to children's faces: Test-retest reliability of structural and functional MRI

Esther Heckendorf, Renske Huffmeijer, Marian Bakermans-Kranenburg, Marinus van Ijzendoorn  
*Centre for Child and Family Studies, Leiden University, Leiden, Netherlands Leiden Institute for Brain and Cognition (LIBC), Leiden University, Netherlands*

Functional MRI (fMRI) is commonly used to investigate the neural mechanisms underlying psychological processes and behavioral responses. However, to draw well-founded conclusions from fMRI studies, more research on the reliability of fMRI is needed. For this purpose, we invited a sample of 41 female students to participate in two identical fMRI sessions, separated by 5 weeks on average. To investigate the potential effect of left handedness on the stability of neural activity, we oversampled left-handed participants (N=20). Inside the scanner, we presented photographs of familiar and unfamiliar children's faces preceded by neutral and threatening primes to the participants. We calculated intra-class correlations (ICCs) to investigate the test-retest reliability of peak activity in areas that showed significant activity during the first session (primary visual cortex, fusiform face area, inferior frontal gyrus, and superior temporal gyrus). In addition, we examined how many trials were needed to reliably measure the effects. Across all participants, only fusiform face area activity in response to faces showed good test-retest reliability ( $ICC = .71$ ). All other test-retest reliabilities were low ( $.01 \leq ICC \leq .35$ ). Reliabilities varied only slightly with increasing numbers of trials, with no consistent increase in ICCs. Test-retest reliabilities for left-handed participants ( $.28 \leq ICC \leq .66$ ) were generally somewhat higher than for right-handed participants ( $-.13 \leq ICC \leq .75$ ), but not statistically significant. Our study thus shows good test-retest reliability for FFA activity in response to faces, but low test-retest reliability for other contrasts and areas. This could be related to the nature of the task, but may also indicate that the reliability of task-fMRI data is lower than we would hope to see. We also investigated test-retest reliability of our structural cortical (gray and white matter) and subcortical (thalamus and amygdala) MRI data, which showed excellent reliability ( $.74 \leq ICC \leq .98$ ).

### **sym303-8.2 Neural correlates of social evaluation in childhood: a split-twin replication fMRI study**

Michelle Achterberg, Anna van Duijvenvoorde, Marian Bakermans-Kranenburg, Eveline Crone<sup>1</sup> *Leiden Consortium on Individual Development, Leiden University; Institute of Psychology, Leiden University; Leiden Institute for Brain and Cognition, Leiden University, Netherlands*

Being accepted or rejected by peers is highly salient for developing social relations in childhood. We investigated the behavioral and neural correlates of social feedback and subsequent aggression in 7-10-year-old children, using the social network aggression task (SNAT). Participants viewed pictures of peers that gave positive, neutral or negative feedback to the participant's profile. Next, participants could blast a loud noise towards the peer, as an index of aggression. 256 twin pairs (512 children) were included and these twins were randomly split into two samples, in order to perform a split-twin replication. Negative social feedback resulted in the most behavioral aggression, with large effect-sizes. The whole brain analyses in sample A showed increased medial prefrontal cortex activation after negative feedback (in contrast to neutral and positive feedback). Positive feedback resulted in increased activation of the dorsal anterior cingulate cortex and supplementary motor area (in contrast to neutral and negative feedback). Whole brain results were replicated in sample B. Post-hoc region of interest analyses also showed replicable activation patterns in sample A and sample B. Previous studies have associated the medial prefrontal cortex with evaluating others' behaviors and estimating others' level of motivation, whereas the dorsal anterior cingulate cortex has been associated with the salience network, possibly signaling for socially salient cues. Together, the results show that social motivation is already highly salient in middle childhood, and indicate that the SNAT is a valid paradigm for assessing the neural and behavioral correlates of social evaluation in children.

### **sym303-8.3 Neural correlates of children dealing with social exclusion: pilot, test and replication**

Mara van der Meulen, Nikolaus Steinbeis, Michelle Achterberg, Elisabeth Bilo, Marinus van IJzendoorn, Eveline Crone  
*Leiden Consortium on Individual Development, Leiden University; Institute of Psychology, Leiden University; Leiden Institute for Brain and Cognition, Leiden University; Centre for Child and Family Studies, Leiden University, Netherlands*

Prosocial behavior is an important component of social life, as it enables us to help and comfort others in distress. Studies have shown that a situation of observed social exclusion might elicit prosocial behavior in young children, but its underlying neural mechanisms are yet unknown.

We studied the behavior and neural correlates of observing social exclusion and subsequent prosocial compensating behavior, using both a replication design and a meta-analysis. We used three samples: a pilot sample (N = 18) to generate hypotheses, and a test (N=27) and replication sample (N=26) to test and confirm these hypotheses. In all samples participants (aged 7-10) played a four-player Prosocial Cyberball Game in which participants could toss balls to three other players. When one player was excluded by the other players, the participant could compensate for this exclusion by tossing the ball more often to the excluded player. In all three samples, children showed prosocial behavior by tossing significantly more balls to the excluded player than to the two excluding players. On a neural level, we compared the event of the participant receiving the ball from the excluding players to the participant not receiving the ball. We found activity in the insula and motor areas, which was replicated in all three samples. Activity specific for prosocial events is currently being investigated.

To conclude, we found evidence of prosocial behavior upon observed exclusion in children, as well as neural reactions to the experience of exclusion. These findings were replicated over the three samples.

#### **sym303-8.4 Test-retest reliability of infant Event Related Potentials evoked by faces**

Carlijn van den Boomen, Nicolette Munsters, Heleen van Ravenswaaij, Chantal Kemner  
*Department of Experimental Psychology, Helmholtz Institute, Utrecht University; Department of Developmental Psychology, Utrecht University, Netherlands*

When investigating individual developmental trajectories in longitudinal research, one needs to know if observed individual changes are due to developmental changes or to other factors such as measurement error. However, in infants the test-retest reliability of event related potentials (ERPs), a frequently used neural measure in infants, is unknown. The aim of the current study is to investigate the test-retest reliability of the N290, P400 and Nc evoked by emotional and visually filtered faces in 9-10 month-old infants. As such, the infants (N=31) were presented with neutral, fearful and happy faces that contained mainly global or local visual information, while EEG data was recorded. Within two weeks after the first visit, a second visit occurred in which the procedure was repeated. The present results show that the test-retest reliability of the face-sensitive ERP peaks varies between moderate (P400 and Nc) and substantial (N290). Furthermore, because in cognitive developmental research interest is often in the main and interaction effects of emotion and filtering on the face-sensitive ERP peaks, we also investigated test-retest reliability of these effects. Test-retest reliability of those effects is low. To conclude, in infants the face-sensitive ERP peaks (i.e. N290, P400 and Nc), but not the effects of emotion and filtering on these ERP peaks, show adequate test-retest reliability. We advise that further research focuses on investigating elements that might increase the test-retest reliability, as adequate test-retest reliability is necessary to validate conclusions on individual developmental trajectories of the face-sensitive ERPs in infants.

#### **sym303-8.5 Processing emotional faces with performance feedback: ERP reliability**

Renske Huffmeijer  
*Centre for Child and Family Studies, Leiden University, Leiden, Netherlands Leiden Institute for Brain and Cognition (LIBC), Leiden University, Netherlands*

Event-related potentials (ERPs) are widely used to study individual differences in neural information processing, but studies examining the reliability of ERPs are scarce. The current study examines the test-retest reliability of ERP components (VPP, N170, FRN, P3 and LPP) in response to feedback stimuli combining performance feedback with emotional faces. Forty female undergraduate students (Mean age=19.80, SD=2.05) participated in two sessions (four weeks apart), during which they completed either a flanker task or a time-estimation task. Feedback stimuli were presented after each response: a picture of a happy or disgusted face was presented in green after each correct response and in red after each error. Continuous EEG was recorded during task performance using 128-channel geodesic sensor nets (EGI) and amplitude measurements of VPP, N170, FRN, P3 and LPP were obtained from the averaged ERP for each feedback type. Intraclass correlations (ICCs) were computed to assess reliability using data from the 20 participants who performed the same task during each session (flanker: n=10; time-estimation: n=10). The results showed excellent reliability of VPP and N170 amplitudes (ICCs $\geq$ .73) and generally adequate to good reliability of P3 and LPP amplitudes (ICC=.35 red-happy, flanker; ICC=.37 green-happy, time-estimation; all other ICCs $\geq$ .46) for all feedback types and both tasks, supporting the use of these components as outcome variables. Reliable FRN amplitudes were obtained only during the time-estimation task (ICCs $\geq$ .77; flanker task: ICCs $\leq$ .40). In addition, we obtained evidence that averaging ERP amplitudes across several electrodes and multiple trials can substantially improve reliability. We recommend including at least 30 trials for early, spatiotemporally narrowly distributed components (such as the VPP), but substantially more (at least 60) for later, broadly distributed components such as the P3.

### **sym303-8.6 Test-retest reliability of EEG networks in ten-month-old infants**

Bauke van der Velde, Rianne Haartsen, Martijn van den Heuvel, Chantal Kemner  
*Department of Experimental Psychology, Helmholtz Institute, Utrecht University; Department of Developmental Psychology, Utrecht University; Department of Psychiatry, Brain Center Rudolf Magnus, University Medical Center Utrecht, Netherlands*

Functional EEG networks in infants can be used as a biomarker for several developmental disorders. We evaluated the reliability of these networks and its characteristics in ten-month-old infants. Data was obtained during two EEG sessions one week apart and was subsequently analyzed at theta (3-6 Hz), alpha1 (6-9 Hz), alpha2 (9-12 Hz), and beta (12-25 Hz) frequency bands. Connectivity matrices were created by calculating the phase lag index between all channel pairs at given frequency bands. To determine the reliability of these connectivity matrices, intra-class correlations were calculated of global connectivity (the average of all connections in the matrix), local connectivity (the individual connections of the matrix) and several graph characteristics (path length, clustering coefficient, small-worldness and modularity). The reliability of full individual connectivity matrices was calculated using a Pearson's  $r$  correlation over sessions. Comparing both sessions, global connectivity as well as global graph characteristics (characteristic path length, average clustering coefficient and small-worldness) are highly reliable across multiple frequency bands; the alpha1 and theta band having the highest reliability in general. In contrast, local connectivity and local graph characteristics (node-wise path length and node-wise clustering coefficient) were less reliable across all frequency bands. Surprisingly, the individual connectivity matrices also showed low reliability across sessions. We conclude that global connectivity measures, but not local connectivity measures are highly reliability over sessions. We further discuss the implications of lowly reliable connectivity matrices providing highly reliable connectivity measures.

### **sym303-8.7 Social judgments, frontal asymmetry and aggression in children: an EEG replication study**

Ilse van Wijk, Bianca van den Bulk, Saskia Euser, Marian Bakermans-Kranenburg, Marinus van IJzendoorn, Renske Huffmeijer  
*Leiden Consortium on Individual Development, Centre for Child and Family Studies, Leiden University; Leiden Institute for Brain and Cognition, Leiden University, Netherlands*

Studies in adults have shown that receiving negative judgments leads to more aggressive behavior, and that overt aggressive behavior is linked to relatively greater left frontal activity. We developed the Social Network Aggression Task - Early Childhood (SNAT-EC) to examine the mediating role of frontal EEG asymmetry in the relation between social judgment and aggression in 4-6 year old children. To test the robustness of our findings, we included three samples: a pilot sample, test sample 1 and test sample 2.

In the SNAT-EC, children receive positive, negative and neutral social judgments about their cuddly animal by same-aged unfamiliar peers. EEG was acquired to measure frontal asymmetry during the processing of social judgments. Aggression was measured by duration of button press with which children could destroy balloons of the judging peer, thus reducing the number of remaining balloons for their peers. We used a within-subject mediation model to test whether an effect of social judgments on frontal asymmetry mediated the effect of (negative vs positive) social judgment on aggression.

Frontal asymmetry during the task did not mediate the relation between social judgment and aggressive behavior in early childhood, future research should search for other neural mediators to bridge the brain-behavior gap. The SNAT-EC robustly shows that negative social judgments about the cuddly animal resulted in more aggressive behavior compared to neutral and positive judgments. Meta-analysis revealed a large combined effect size ( $r = .42$ ) for the relation between negative (vs positive) social judgments and aggressive behavior.

### **sym303-8.8 Test-retest reliability of eye-tracking measures in infancy**

Roy Hessels, Janna Cousijn, Ignace Hooge, Stefan van der Stigchel, Chantal Kemner  
*Experimental Psychology, Helmholtz Institute, Utrecht University; Developmental Psychology, Utrecht University, Netherlands*

To draw meaningful conclusions about individual development, reliable measures are required. Little is known, however, about the test-retest reliability of measures from frequently used eye-tracking paradigms. These are for example meaningful for researchers investigating the development of visual attention. To this end, test-retest reliability of measures from two eye-tracking paradigms, gap/overlap and visual search was investigated in 10-month-old infants. 77 infants were tested twice within two weeks. Data from 40 infants (18 male, 22 female) were included for the visual search paradigm (for details, see Hessels, Hooge, & Kemner, *Journal of Vision*, 16, 2016). Data from 45 infants (19 male, 26 female) were included for the gap/overlap paradigm (for details, see Cousijn, Hessels, Van der Stigchel, & Kemner, *Infancy*, 2017). Test-retest reliability was highest for fixation duration during visual search,  $r = 0.71$ ; followed by overall saccadic reaction time in the gap/overlap paradigm,  $r = 0.65$ ; and saccade latency during visual search,  $r = 0.47$ . Test-retest reliability for outcome measures from the two paradigms was generally lower: the difference in saccadic reaction time between overlap and gap condition (as a measure for attentional disengagement),  $r = 0.50$ ; time to target hit in the visual search paradigm (as a measure for search performance),  $r = 0.47$ . Time to target hit was only moderately reliable for one condition (i.e. a 60° tilted line as the search target between vertical non targets). Time to target hit for the other conditions was not reliable at all. Not all eye-tracking measures in infant research are equally reliable. Test-retest reliability may be limited both by the amount of data available and the nature of the data. Moreover, eye-tracking data quality issues in infant research may also limit test-retest reliability. Developmental eye-tracking studies should be aware of both eye-tracking data quality and test-retest reliability issues.

## Paper sessions 303, Friday September 1, 16:15 – 17:45 hrs.

### pap303-9 Parental Characteristics and Behavior and Parent-Child Relationships

#### pap303-9.1 Maternal Drug Abuse, Infant-Mother Interaction and Children's Emotion Regulation

Kaisa Saurio, Marjo Flykt, Jallu Lindblom, Ritva Belt, Raija-Leena Punamäki  
*University of Tampere, Finland*

The first years of a child's life are important for the later development of emotion regulation and sensitive parenting is crucial for this development. Based on previous research we already know that children of sensitive mothers show better emotion regulation skills later in life. Maternal drug abuse can form a comprehensive risk for the child's development and interfere with the infant-mother interaction. On the other hand, good infant-mother interaction may protect children's development from the adverse effects of maternal drug abuse. However, longitudinal studies on this topic are rare. In this presentation, we analyze, first, does the early maternal drug abuse predict the child's emotion regulation later at school age. Second, we examine, whether a good infant-mother interaction acts as a protective factor against the harmful effects of maternal drug abuse.

**Method:** The study sample consisted of 49 mothers and their children, 19 with a history of drug abuse and a comparison group of 30 mother-child pairs. The infant-mother interaction was measured with Emotional availability Scales (Biringen, 2008) when the child was 4 months (T2) and 12 months (T3) old. At school age (7–12 years) both the mothers and the children completed Children's Emotion Management Scales (CEMS) questionnaires (Zeman, Shipman, & Penza-Clyve, 2001).

**Results:** Our preliminary results show that early drug exposure did predict maladaptive emotion regulation at school age, specifically dysregulation of anger and fear. Good early infant-mother interaction in turn predicted adaptive emotion regulation at school age and the relation was similar in children with early drug exposure and the comparison group.

**Conclusions:** Early emotional availability might promote the development of children's emotion regulation, also in high risk populations. This study adds to the research emphasizing the importance of early interventions targeting the parent-child relationship and specifically emotional availability.

#### pap303-9.3 The influence of contextual sources on mother-child relationship

Berna Aytac, Gul Pembe Yuceol  
*Hacettepe University, Turkey*

Belsky (1984) stated that parenting is influenced by contextual sources like marital relations, social networks and parents' working status in "Determinants of Parenting" model. The culture is also another important contextual source in parenting. Families reflect their own cultural values to relationship with their children (Bornstein, 2012). The first of aim this study was to investigate the effect of contextual sources such as marital adjustment and mother's internalized cultural values on mother-child relationship in a multi-informant design. The other aim was to examine whether or not moderation effect of cultural values on relationship between marital adjustment and mother-child relationship. 138 mother-child dyad participated from Ankara in this study. Children ages changed between 6 and 12 ( $M= 8.65$ ,  $SD= 1.74$ ). Demographic Information Form, Dyadic Adjustment Scale, Portrait Values Questionnaire, Parent Child Relationship Scale and also Two Field Map for children were used. Regression and moderation analyses (PROCESS model by Hayes) were performed. Results showed that mothers' internalized self-transcendence values and marital consensus predicted positive mother child relationship positively; marital satisfaction predicted negative mother child relationship negatively. Also, marital consensus predicted child's relationship closeness with mother positively. Finally, mothers' internalized conservation values moderated between relationship marital consensus and positive mother child relationship. Mothers' internalized self-transcendence values moderated the relationship between marital consensus and child's perceived closeness with mother. Consequently, the current study indicated that collectivistic values strengthened the relationship between marital relation and mother-child relationship in Turkey. Furthermore, this finding was found to be consistent for both mother's and child's perspectives. Thus, this study emphasized within cultural differences in mother-child relationship. The results were discussed in the context of related literature.

**Keywords**

Marital adjustment, cultural values, parent-child relationship.



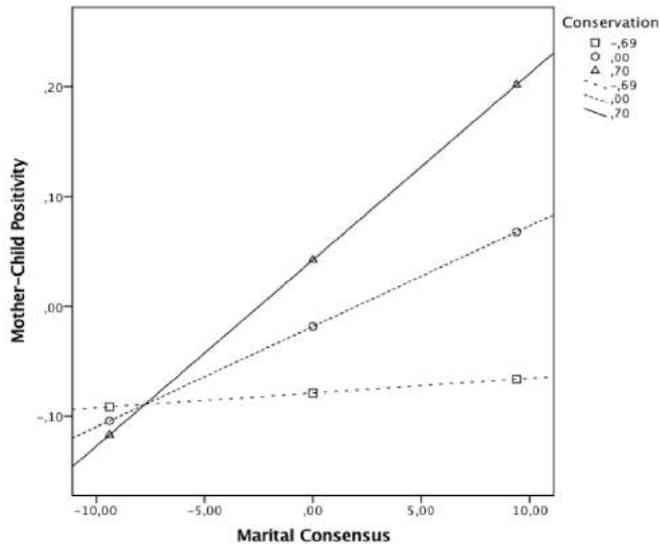


Figure 1: Moderation Effect of Conservation Value between Mother Child Relationship and Marital Consensus

#### pap303-9.4 Predictors of Maternal Sensitivity in and out of the Feeding Context

Aylin Ilden Kockar, Anil Ozge Ustunel  
Istanbul Kemerburgaz University, Turkey

Feeding is one of the primary dimensions of mother-infant relationship during the first years of life. Understanding maternal sensitivity in the feeding context is important, because it has been established that controlling and unresponsive maternal behaviors are associated with the emergence of eating problems in the child. Clinical observations have shown that the level of maternal sensitivity can differ in and out of the feeding context and that mothers are likely to be less responsive to their babies' signals while feeding. The aim of the present study is to empirically test this hypothesis, through investigating the relationship between maternal sensitivity in and out of the feeding context in a sample of 63 mothers. Video recordings of mother-infant interactions during free play and feeding were rated on the Ainsworth Maternal Sensitivity Scale. Self-report inventories measuring socio-demographic characteristics, maternal anxiety and avoidance, parenting stress, infant temperament and developmental outcomes were included. The analyses showed interactions among maternal characteristics, maternal behaviors and child characteristics. The implications of the findings were discussed in promoting feeding interventions to enhance maternal sensitivity.

#### pap303-9.5 Repercussions of Negative Mother-Child Relationships in Family and Non-Family Relationships

Berna Akcinar, Nazli Baydar  
Isik University, Turkey

This study proposed a longitudinal model of reciprocal associations between physically harsh parenting by the mother, child externalizing problems, and support from the father, the extended family and the neighbors. The current study had a three-fold contribution to the literature. First, the development of child externalizing problems was investigated during the critical years that preceded the transition to school. Second, the bi-directional association between physically harsh parenting and child externalizing behaviors was investigated, shedding light on major theories of behavioral development, and identifying the relative contributions of the child and the mother to the process that could lead to the escalation of externalizing behaviors. Third, based on the ecological systems theory, the mother-child transactional process was extended to include the role of social support within a relatively collectivistic culture. The data were from a four year longitudinal and nationally representative study of 1,009 children and their mothers in Turkey. The results indicated that concurrently, physically harsh parenting and child externalizing problems were strongly associated. Controlling for their within domain stability and cross-domain concurrent correlation, changes in harsh parenting and changes in child externalizing behaviors had significant reciprocal effects in early childhood, although these effects were small. These reciprocal effects were smaller for observer reported harsh parenting than maternal reports.

There was a role of the mesosystem in this developmental process. Increases in the support from the father, and the extended family and the neighbors predicted declines in the child externalizing behaviors subsequently. Reciprocally, high child externalizing and maternal physically harsh parenting predicted subsequent declines in the support from these sources. These results were consistent with the hypotheses that negative mother-child relationships could spill over to the other relationships of the mothers, and that positive and supportive relationships of the mother could constitute positive role models for the child.

### pap303-9.6 Maternal thyroid hormone trajectories during pregnancy and child social-emotional development

Joyce Endendijk, Hennie Wijnen, Victor Pop, Anneloes van Baar  
Utrecht University, Netherlands

**Aim:** There is ample evidence for the fundamental importance of maternal thyroid hormones for the development of the fetal brain. Little is known about the course of maternal thyroid hormone concentrations during pregnancy in relation to child development. The current study examines the associations between maternal thyroid hormone trajectories or thyroid assessments at separate trimesters of pregnancy versus child social-emotional development, adjusted for sex. **Methods:** In a sample of 442 pregnant mothers serum levels of TSH and free T4 were measured at 12, 24, and 36 weeks' gestation. Postnatally (when the children were between 23 and 60 months old), both mothers and fathers reported on their child's social-emotional development. Latent growth mixture modeling was used to determine the number of different thyroid hormone trajectories. **Results:** Three trajectories were discerned (Fig.1): 1) highest and non-increasing TSH with lowest free T4 that decreased least of the three trajectories (13% thyroid-peroxidase antibody positive [TPO-Ab+] mothers); 2) increasing TSH and decreasing T4 at intermediate levels (7% TPO-Ab+ mothers); 3) lowest and increasing TSH with highest and decreasing T4 (6% TPO-Ab+ mothers). Children of mothers with the most attenuated thyroid hormone trajectories (trajectory 1) showed the most anxiety/depression symptoms. The following trimester specific associations were found: 1) lower first-trimester fT4 was associated with more child anxiety/depression, 2) higher TSH levels in the first trimester were related to more attention problems in boys only. Hierarchical regression analyses showed that an attenuated course of maternal thyroid hormone concentrations during pregnancy was a better predictor of child anxiety/depression than first-trimester fT4 levels. **Conclusions:** Boys appear to be more vulnerable than girls and thyroid hormone trajectories during pregnancy are more predictive of especially children's anxious and depressed symptoms than maternal thyroid hormone levels assessed at a cross-sectional level, for example during the first trimester.

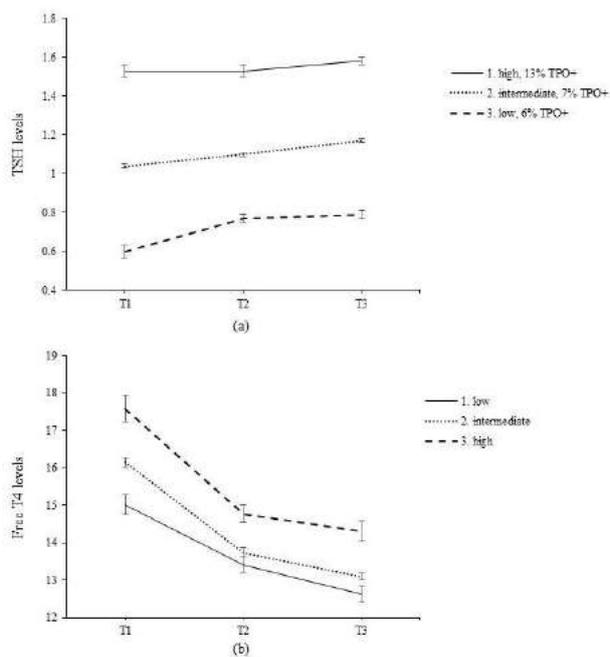


Figure 1. Three Trajectories of TSH (a) and free T4 (b) Change From First to Third Trimester of Pregnancy. TPO+ represents percentage of TPO-Ab positive (TPO-Ab > 35) mothers in each group.

**pap303-10.1 What benefits L2 word learning most: Tablets or real objects?**

Rianne Vlaar, Josje Verhagen, Ora Oudgenoeg-Paz, Sanne van der Ven, Paul Leseman  
*Utrecht University, Netherlands*

**Aim.** The embodied-cognition approach, stating that language is grounded in real-life sensorimotor interactions (Hockema & Smith, 2009), predicts that children’s interactions with real-life objects benefit vocabulary learning. It is not clear whether manipulating virtual objects provides the same L2 learning benefits. The present study aims to find out whether there is a difference in children’s L2 vocabulary learning gains when manipulating either physical objects or 3D virtual objects on a tablet screen.

**Method.** Thirty-eight Dutch kindergartners (Mage=62.6 months) participated in the experiment. Children were taught six words in English (L2) through a story in Dutch. During the training the children manipulated either real-life objects or 3D virtual objects on a tablet (n=25 in tablet condition; random assignment). Various tests were administered directly and re-administered one week later to measure learning gains. The tasks included: (i) translation tasks (English to Dutch and Dutch to English; maximum score=6); (ii) a comprehension task (maximum score=24); (iii) a sorting task (maximum score=30).

**Results.** Preliminary results indicate no significant differences between using a tablet and physical objects during the L2 vocabulary training (see Figure 1). In the comprehension and sorting tasks, children scored above chance level (indicated by the black line), irrespective of condition. In the translation tasks, children in both conditions accurately produced one or two translations.

**Discussion.** There seems to be no clear advantage of using real-life objects over virtual objects on a tablet in L2 word learning. This suggests that, at this age, tablets provide children with sufficient interactional opportunities for L2 word learning. Note that it may be crucial that the children had already acquired the concepts in their L1. However, data is still being collected, and the full dataset of 60 children (30 per condition; to be included in the presentation) will allow for firmer conclusions.

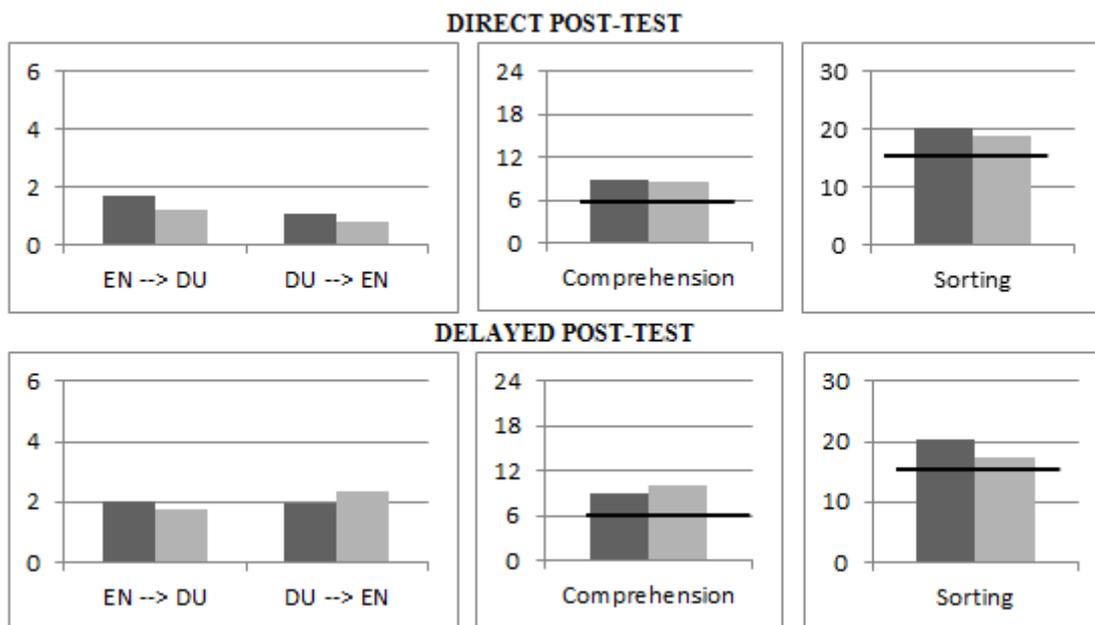


Figure 1. Mean scores at direct post-tests and delayed post-tests (dark grey = tablet condition, light grey = object condition)

## **pap303-10.2 The contribution of cognitive, language and graphomotor skills in children's written texts**

Asimina Ralli, Kleopatra Diakogiorgi, Elisavet Chrysochoou, Petros Roussos, Diamanto Filippatou, Panagiota Dimitropoulou

*National and Kapodistrian University of Athens, Greece*

The production of writing is a significant learning achievement which stands at the core of the school learning process, across all the educational systems. At the same time, the production of written text is a complex and difficult process for students that involves many different skills such as cognitive, linguistic, and graphomotor skills. Thus, difficulties in the production of writing, constitutes an obstacle to educational progress for all children and especially for children with learning difficulties. Although, recently there has been an interest in the study of children's writing skills and a range of factors have been identified as playing an important role in children's writing productions, usually the results come from studies focusing on one set of factors. Till today, there is a gap towards a comprehensive model highlighting the contribution of different factors in children's writing productions. The aim of the present study was to investigate the contribution of cognitive, linguistic and graphomotor skills in the production of a written text. 140 primary Greek school children between 7-10 years old took part in a series of cognitive assessments (non-verbal intelligence, executive control skills), language assessments (receptive and expressive vocabulary, phonological awareness, verbal fluency) and assessments of their graphomotor skills (handwriting automatization, copying shapes, graphomotor coordination). Children were also invited to write a narrative story according to set of images. Children's written texts were assessed with a set of specific criteria, such as spelling, morphosyntax, story grammar, etc). The results revealed developmental differences between the two age groups, as well as a differentiation in the profiles of factors predicting children's written productions as these were assessed by diverse criteria. The findings are discussed according to their theoretical and educational applications.

## **pap303-10.4 Relationship between Speech Intelligibility and Literacy Outcome: A Moderated Mediation Analysis**

Fufen Jin, Synnve Schjolberg, Kristian Tambs

*Norwegian Institute of Public Health, Norway*

**Aim:** Children with speech problems have attracted much research interest in relation to reading or literacy outcomes. However, little research has been conducted examining the association between speech intelligibility and literacy skills. The aims of this study were to examine the relationship between speech intelligibility at five years and literacy outcome at eight years, to explore the possible mediating or moderating roles of language status at five years, child gender, maternal education level, and family history of speech, language and literacy problems and to assess whether these possible mediators and moderators influence each other terms of a moderated mediation effect.

**Methods:** Using mother-reported questionnaire data of 16, 554 children in the Norwegian Mother and Child cohort study, analyses were conducted using linear regression and the PROCESS macro in SPSS.

**Results:** The results showed that the association between speech intelligibility at five years and literacy skills at eight years was significant, for boys and girls alike. Language status at five years partially mediated the proposed relationship. In addition, the effect of language status was moderated by family history of reading and writing difficulties. No moderating role was indicated for language status, child gender, maternal education, or family history of speech/language disorders.

**Conclusions:** The results underscore interventions targeting and strengthening preschool speech intelligibility, as well as different components of oral language as avenues for prevention of poor literacy at school age, and especially call for increased early intervention and prevention efforts for children with poor speech intelligibility from families with a history of reading and writing difficulties.

### pap303-10.5 Infant-directed speech is not always slower

Mengru Han, Nivja de Jong, René Kager

*Utrecht Institute of Linguistics (Uil OTS), Utrecht University, Netherlands*

**Aims:** It has been widely accepted that infant-directed speech (IDS) has a slower speaking rate compared to adult-directed speech (ADS) (McMurray et al., 2013). We aim at finding out whether this finding holds for Dutch and whether variations in IDS speech rate support word learning.

**Research questions:** (1) Is Dutch IDS slower than ADS? (2) Do Dutch mothers vary speaking rate to highlight novel words?

**Methods:** Twenty-four Dutch mothers of 18-month-old children participated in a semi-spontaneous production task. They read a picture book to their child (IDS condition) and to an adult (ADS condition). The book contained seven target words: five novel and two familiar to the children. Both conditions were recorded.

**Results:** Firstly, on the whole stories, a Praat script (de Jong & Wempe, 2009) was used to calculate speech rate (including pauses) and articulation rate (excluding pauses), both measured in syllable/second. Paired t-tests showed that IDS was slower than ADS (see Figure 1). Secondly, on the utterances containing target words, articulation rate was calculated as the number of syllables (manually counted) divided by utterance durations. Repeated-measures ANOVA was performed with condition (ADS/IDS) and novelty (novel/familiar) as main factors. Figure 1 shows that utterances with novel words were slower in IDS compared to ADS, whereas utterances with familiar words did not differ between the two conditions.

**Conclusions:** IDS is not always slower than ADS. Overall, Dutch IDS is indeed slower in comparison with ADS. However, the utterances containing novel words are slowed down in IDS compared with ADS, whereas the utterances with familiar words are not slower in IDS than in ADS. These results suggest that Dutch mothers are aware of whether their child has acquired a word or not. In particular, they highlight novel words by slowing down the utterances embedding them, which may facilitate children's word learning.

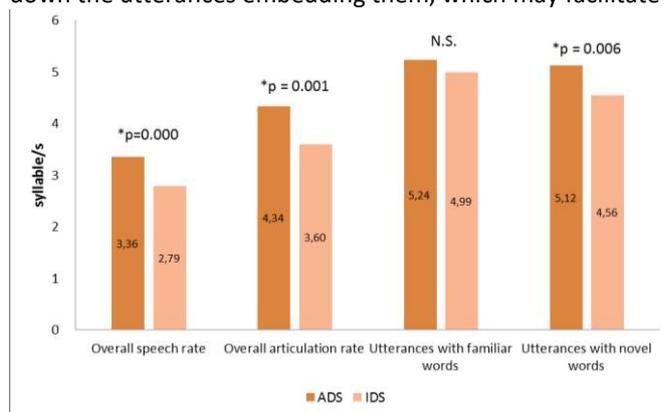


Figure 1: speaking rates of overall stories and target utterances

### pap303-10.6 Fourth graders' multiple-text comprehension: which individual component skills are involved?

Elena Florit, Kate Cain, Lucia Mason

*University of Padua, Italy*

**Aim.** Multiple-text comprehension is essential for knowledge acquisition in digital age. It entails the same individual skills brought to bear on single-text comprehension, and additional skills such as use of source information (Rouet & Britt, 2014). Research on primary school children's single-text comprehension has identified the following key components: word reading fluency, working memory, and higher-level skills such as comprehension monitoring (Oakhill & Cain, 2012). This study extends knowledge of text comprehension by determining the direct and indirect (i.e., mediated by single-text comprehension) contributions of word reading fluency, working memory, comprehension monitoring, and source use to 4th graders' multiple-text comprehension.

**Methods.** Participants were 94 Italian 4th graders (9;7 years; 52% females). The following tasks were administered: standardized tests of word reading fluency and single-text comprehension; measures of working

memory and comprehension monitoring; assessments of multiple-text comprehension and source use. Prior topic knowledge was assessed as control.

Results. Multiple-text comprehension was not significantly associated with prior topic knowledge ( $p > .06$ ), but was associated with all other measures ( $ps < .05$ ). Multiple regressions to predict multiple-text comprehension (see Table 1), revealed a significant influence of word reading fluency and comprehension monitoring (but not working memory or source use) when these variables were entered as predictors in step 1. When the mediating variable of single-text comprehension was entered in step 2, only the word reading fluency remained a significant influence, indicating that comprehension monitoring had only an indirect effect. This was confirmed by bootstrapped tests ( $PE = .021$ , 95% CI [.006, .041]; Hayes, 2013).

Conclusions. Multiple-text comprehension of 4th graders is accounted for by both basic and higher-level components. Source use was related to multiple-text comprehension but did not emerge as a specific predictor. These findings inform theoretical models of young children's multiple-text comprehension and effective educational practices since primary school.

**Table 1.**

	R <sup>2</sup>	Δ R <sup>2</sup>	B	SE B	β
DV: Multiple-text comprehension					
Step 1	.267	.267**			
Word reading fluency			.201	.064	.293**
Working memory			.037	.025	.135
Comprehension monitoring			.044	.015	.266**
Source use			.308	.200	.142
Step 2	.313	.046*			
Word reading fluency			.153	.065	.223*
Working memory			.029	.025	.106
Comprehension monitoring			.024	.017	.142
Source use			.295	.195	.136
Single-text comprehension			.075	.031	.268*

\*  $p < .05$ ; \*\*  $p < .01$

*Table 1: Multiple Regressions with Multiple-text comprehension as Dependent Variable, Word Reading Fluency, Working Memory, Comprehension Monitoring and Source Use as Predictors, and Single-text Comprehension as Mediator.*

**pap303-11.1 Use of Television and Social Media and Adolescents' Objectification of Close Friends**

Jolien Trekels, Laurens Vangeel, Steven Eggermont, Laura Vandenbosch  
 KU Leuven, Belgium

Day by day, adolescents' use sexualizing televised and social media in which individuals are more appreciated for their looks (i.e., being thin/muscular) than for their personality (e.g., pleasant personality, empathic skills) (APA, 2007). Literature suggests such media use may trigger adolescents to objectify significant others, i.e. to value others for their appearance rather than for what is important in a true, intimate relationship (e.g., Ward, 2016; Zurbriggen et al., 2011). However, less is known about whether a similar effect of media use is at play in adolescents' tendency to objectify same-sex friends; this question is important, though, due to the importance of peers and friends in adolescent development (Arnett, 2013). Our study aimed to address this gap. Next to describing direct relationships between media use and the objectification of close friends, two indirect pathways are explored, thus integrating insights from body image research, media effect studies and objectification theory (e.g., Trekels & Eggermont, 2016; Ward, 2016). The first pathway proposes the internalization of rewarded appearance ideals (i.e., adoption of appearance ideals as personal, highly rewarded goals) and self-objectification (i.e., adoption of an observers' perspective to one's own body) as key mediators. The second pathway proposes appearance conversations on Facebook with friends as a key mediator. A structural equation model based on a survey study among 435 adolescents (Mage = 15.72, SD = 1.46, 53.6% girls) showed that television viewing and Facebook use did not directly ( $p > .05$ ), but indirectly ( $p < .01$ ) predict friend-objectification through the pathway of internalization and self-objectification, and the pathway of appearance conversations on Facebook (See Figure 1). Gender nor age moderated these results. In conclusion, this study was the first to reveal links between media use and adolescents' objectification of their close friends. Further research seems warranted given the significant role friends play in adolescents' lives.

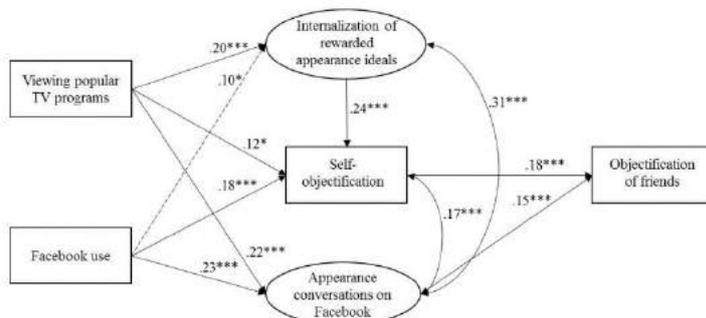


Figure 2: Structural equation model for the hypothesized associations,  $\chi^2(89) = 197.72, p < .$

001, CFI = .97, RMSEA = .05,  $\chi^2/df = 2.22$

Note. Coefficients represent standardized estimates. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Single-headed arrows represent predictive paths. Double-headed arrows represent correlations. The dashed line indicates a coefficient for which the bootstrapped confidence interval contained the value zero. For clarity, the error terms, control variables, and measurements are not given.

Figure 1: Structural equation model for the hypothesized associations

**pap303-11.2 How social media is studied in adolescence research?: A Content Analysis Study**

Ayşegül Aracı İyiyaydin, Hazal Yilmaztürk, Sevgi Serhatoğlu, Figen Çok  
 TED University, Turkey

Social media is one of the recent formations in communication, that have broken a new ground by charming and gaining high recognition from the masses. Adolescents are the most important population and target group for social media or network application developers since adolescents generally come first in social media

use surveys. There has been many studies focusing on the results and implications of social networks on adolescents. We systematically evaluated existing research on social media use of adolescents and conducted a content analysis. To be included in the review, publications needed to meet the following criteria: (a) inclusion of adolescent sample, (b) psychological constructs as study variables, and (c) peer-reviewed academic journals. The literature review comprised articles from 2010-2016 by searching databases through the EBSCO platform using the following search terms and logic: (“social networking site\* OR “social media\* OR Facebook\* OR Instagram\* OR Twitter\* OR Snapchat\*) AND (adolescent\* OR youth\* OR teenager\* OR teen\*) within the journal title and in psychology discipline.

Specifically, 463 articles were covered, from this initial set. After all exclusions, the final sample comprised 162 studies. The analysis was based on country of origin, field, research design, sample size and population, ethnicity, publication year, data analysis, direction, and total page number of the article. Inter rater reliability was conducted on 15 random articles by two independent people in the research group and one person calculated the agreement percentages of the index categories. Values were found between 73-100%. Then, the articles were read and evaluated based on frequencies and percentages. Results were presented in Table 1. The analyses bring lots of controversial issues with its’ conflicting results such as contribution of SNSs on adolescents’ socialization. More research is expected to come focusing on SNSs and adolescent development in the upcoming years.

Index		Percent %
Country of Origin	USA	47
Research Design	Quantitative, Cross-Sectional, Correlational	60
Sample Population	14-18 (high-school)	61
Sample Size	100-499	36
Ethnicity	Unified	51
Publication Year	2016	38
Number of Page	6-10	49
Constructs	Cyberbullying, psychosocial development, mental health, civic engagement, health behavior (alcohol, diet), identity development, personality	60
Data Analysis	Regression, SEM, ANOVA family, path analysis	
Impact on Adolescence	Negative	35
Development	Neutral	24
	Positive	19
	Both positive and negative	22

Table 1: Results' index based on content analysis

### pap303-11.3 The relation between television and children’s cognition and behaviour: a systematic review

Katarzyna Kostyrka-Allchorne, Nicholas Cooper, Andrew Simpson  
The University of Essex, United Kingdom

AIM: The relationship between television viewing and developmental outcomes has been researched for over 40 years; the findings have been inconsistent. In this presentation, I will discuss the findings of a systematic review of the literature reporting the association between television viewing and children’s executive function, academic performance, attention, language and play (Kostyrka-Allchorne et al., in press).

METHOD: Using keywords: television, children, infants, attention, language, education and cognition, five online databases were searched. Studies outside of the scope of the review were excluded after an examination of their abstracts. After scrutiny of the full content of the remaining articles, 76 studies were included (Figure 1).

RESULTS: The relationship between television viewing and children’s development is very complex. First, the likely effects of television may depend on children’s individual characteristics, family and social context. Second, the features of television, such as content, editing pace, and the type of exposure (foreground or background) may affect investigated outcomes. Watching high-quality educational content during preschool years improves children’s basic academic skills and predicts subsequent positive academic outcomes. Conversely, television viewing is disruptive to infants’ play; it reduces the quality and quantity of child-parent interactions and is associated with inattentive/hyperactive behaviours, lower executive functions, and language delay, at least in the short-term. However, it remains unclear whether these relations persist over time.

CONCLUSIONS: Television viewing cannot be treated as a unitary activity. Content, age, and family environment are crucial in moderating the direction and the strength of the associations between television exposure and developmental outcomes. Considering the ubiquity of mobile digital devices (e.g., touch screens) that facilitate new ways of accessing television content, future research should focus on investigating how to optimise media use to minimise risks and to benefit children’s development.

Kostyrka-Allchorne, K., Cooper, N. R., & Simpson, A. (in press). <http://dx.doi.org/10.1016/j.dr.2016.12.002>

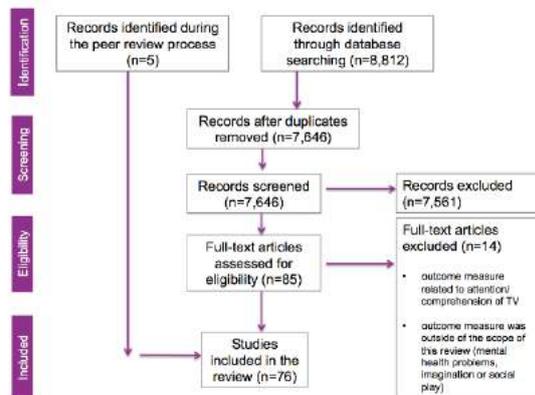


Figure 1. The flow diagram showing article selection process during the systematic review.

#### pap303-11.4 Figuring out what they feel: Relationships between narrative fiction exposure and mentalising

Hannah De Mulder, Frank Hakemulder, Fayette Klaassen, Caroline Junge, Herbert Hoijsink, Jos van Berkum  
*Utrecht University, Netherlands*

Narrative fiction is about autonomous intentional agents and their (inter)actions. Understanding narrative fiction thus requires social-cognitive processing and, as such, may ‘train’ our mentalising abilities. Previous research has found beneficial effects of narrative fiction exposure on mentalising in adults (Black & Barnes, 2015) and young children (Ratner & Olver, 1998), but the relationship between narrative fiction and mentalising has not been investigated in older children and adolescents. Given that children in this age range are still developing their social abilities (Van der Graaff et al., 2014), narrative fiction may be a relevant source of input regarding how to interpret other people’s mental states.

The current study employs a confirmatory Bayesian approach to determine whether narrative fiction exposure and mentalising are related in 8- to 16-year-olds. Both subjective and objective mentalising measures were used. Exposure to narrative fiction was assessed in terms of general frequency, considering both written media (books) and visual media (films and tv-series). Furthermore, the type of narrative fiction children were exposed to was assessed, distinguishing between eudaimonic (truth-seeking) and hedonic (pleasure-seeking) narrative fiction. Results demonstrated that although the general frequency of narrative fiction exposure was not consistently related to mentalising, exposure to eudaimonic narrative fiction was positively related to mentalising. Furthermore, this relationship was generally stronger than the relationship between exposure to hedonic narrative fiction and mentalising. The results also offer tentative support for the idea that exposure to written eudaimonic narrative fiction is associated with higher mentalising abilities than exposure to visual eudaimonic narrative fiction. Potentially then, given the deeper, thought provoking qualities of eudaimonic narrative fiction and the active construction of character information that written narrative fiction requires, exposure to eudaimonic written narrative fiction may be a relevant source of input for children’s developing understanding of other people’s minds.

### **pap303-11.5 Adolescents' and Young Adults' Sexy Online Self-Presentations: Differential Associations with Self-Perceptions**

Johanna van Oosten, Jochen Peter

*Amsterdam School of Communication Research (ASCoR), University of Amsterdam, Netherlands*

**Aim:** Recent research suggests that social media may be influential for young people's (sexual) self-perceptions, but longitudinal research on the antecedents and consequences of sexy self-presentations in social media in particular, and how this differs by gender and age, is scarce. This study therefore longitudinally investigated reciprocal relationships between either engaging in, or looking at others', online sexy self-presentation and self-perceptions (i.e., self-esteem, sexual satisfaction and body satisfaction), and compared these relationships between adolescent boys and girls and young adult men and women.

**Method:** A two-wave longitudinal online panel survey was conducted among a nationally representative sample of 953 Dutch adolescents aged 13-17 (mean age = 14.90, SD = 1.43; 50.7% male) and 899 young adults aged 18-25 (mean age = 22.32, SD = 2.07; 43.9% male), between April and June 2015 with two months between waves.

**Results:** Lower levels of sexual satisfaction predicted engagement in sexy self-presentation, but only among adolescent girls ( $B = -.04$ ,  $SE = .02$ ,  $p = .01$ , 95% BCI =  $-.07/-.01$ ). Exposure to sexy self-presentations of others was predicted by higher self-esteem among young adult men ( $B = .10$ ,  $SE = .04$ ,  $p = .02$ , 95% BCI =  $.03/.22$ ) and higher sexual satisfaction among young adult women ( $B = .05$ ,  $SE = .02$ ,  $p = .02$ , 95% BCI =  $.01/.09$ ). Engaging in sexy self-presentation or looking at others' sexy self-presentation did not predict self-perceptions.

**Conclusion:** This study is one of the first to show that self-perceptions that were found to be associated with social media use in previous cross-sectional research and that were considered consequences of social media use may in fact constitute antecedents of such use, at least for sexy self-presentations. This knowledge may be crucial in relativizing current concerns about how young people are influenced by social media.

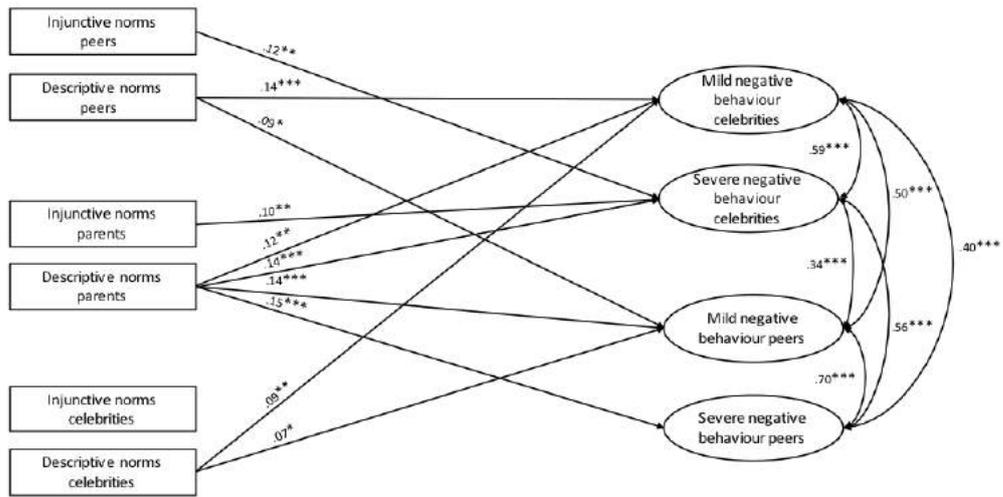
### **pap303-11.6 Setting a bad example? Peer, parental and celebrity norms predicting celebrity-bashing/peer-cyberaggression**

Gaëlle Ouvrein, Sara Pabian, Juan Manuel Machimbarrena, Sara Erreygers, Charlotte De Backer, Heidi Vandebosch

*University of Antwerp, Belgium*

News media increasingly engage in celebrity-bashing. Moreover, in the context of Web 2.0, active audience members also insult or ridicule celebrities. These types of negative online behaviour share many resemblances with what has been labelled as "cyberbullying" or cyberaggression among peers. However, few studies have studied the link between both. As social norms appear to be highly relevant in the context of peer-cyberaggression research, the current study aims to investigate whether norms of the three most important role models for adolescents (peers, parents and celebrities) are related to their negative online behaviour towards celebrities. An additional aim is to examine whether there is a "spill-over" effect to the peer context, resulting in cyberaggression targeted at peers.

Cross-sectional data were gathered from a sample of 1255 adolescents (52.4% girls) with a mean age of 14.17 (SD = .47). Adolescents indicated what their peers, parents and favourite celebrities think of (injunctive norm) and whether they engage in (descriptive norm) celebrity-bashing. They were also asked how often they themselves had participated in mild and severe negative behaviors towards celebrities and peers. Structural Equation Modelling (SEM) indicated that descriptive norms are better predictors of adolescents' participation in both forms of aggression, compared to injunctive norms (Figure 1). More specifically, mildly negative behaviour towards celebrities and peers was predicted by descriptive norms of the three role models: peer, parents and celebrities. Severe negative behaviour towards celebrities and peers was only significantly related to descriptive norms of parents, who overall appear to be the most influential. Finally, the results showed a significant correlation between negative online behaviour towards celebrities and the same behaviour towards peers. Based on the results of this study, adults (parents) may help to decrease adolescents' negative online behaviour by modelling appropriate online behaviour.



Note: \*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; RMSEA = .061 (90% CI: .057-.064), CFI = .891, TLI = .870,  $\chi^2(260) = 1454.397, p < .001$ . Values reflect standardized coefficients. Ellipses represent latent variables. For clarity, the measurement details (such as the error terms and the measurement model of the latent variables) and the correlations between the norms are not shown.

Figure 1: Structural model

**pap303-12.1 Development of childhood cognitive and emotional self-regulation: divergent trajectories and their predictors**

Cressida Brown, [Areana Eivers](#), Brooke Andrew  
*Queensland University of Technology, Australia*

Normative self-regulatory development is key to adaptive outcomes across the lifespan, while deficits have been linked to childhood psychopathology and adverse long-term outcomes. This study examined children's cognitive and emotional self-regulatory development (N = 2,311), predicted by gender, maternal education, vocabulary and time usage, utilizing longitudinal data from the Growing up in Australia: Longitudinal Study of Australian Children (LSAC) (six year span). Latent Class Growth Analysis (LCGA) identified four distinct self-regulatory trajectories, with a small proportion of children displaying adverse trajectories (i.e., low cognitive self-regulation 8.4%; moderate-declining emotional self-regulation 6.0%; low-declining emotional self-regulation 2.5%). Higher maternal education increased the likelihood of membership in the high cognitive and emotional self-regulation subgroups; while more advanced vocabulary was associated with more likely membership in the high cognitive self-regulatory subgroup. Structured time use outside of school hours (e.g., organised sport) was associated with lower trajectories of emotional self-regulation in earlier childhood (4-5 and 6-7 years old); while structured time use in middle childhood (8-9 years old) was associated with more developed cognitive and emotional self-regulation. Discussion: The findings of this study suggest a critical 'tipping' point at which structured time use becomes more beneficial for development of self-regulation, and/or unstructured time use becomes less beneficial. Another potential explanation for the findings is that social selection factors increase the likelihood of children who demonstrate better cognitive and emotional self-regulation at older ages being engaged in structured activities versus those with poorer self-regulation. These hypotheses indicate directions for further study. Overall, the findings of the present study provide insight into factors promoting the development of self-regulation and may potentially inform methods of identification and intervention for those at risk of adverse self-regulatory development.

**pap303-12.2 How much regulation help do preschoolers need in a self-regulatory task?**

[Niamh Oeri](#), David Buttelmann, Annik Völke, Claudia M. Roebbers  
*University Bern, Switzerland*

**Aim:** The present study aimed to experimentally explore preschoolers' need for external regulation assistance when solving an executive attention task.

**Method:** A sample of 159 3- and 4-year olds participated in the study. There were four different experimental conditions, varying in their degree of external regulation assistance: There was one condition with no regulation assistance, one with medium regulation assistance and two conditions with high regulation assistance. Subjects were randomly assigned to one of the conditions.

**Results:** Analyses revealed a strong, age-dependent pattern: Three-year olds assigned to the condition with medium or high external regulation assistance outperformed those assigned to the condition with no external regulation assistance ( $F(1, 83) = 10.9, p < .000, \eta^2 = .29$ ). Four-year-olds, in contrast, showed a stable performance throughout all conditions ( $F(1, 74) = 2.4, p = .07, \eta^2 = .09$ ). Besides, age-differences between 3- and 4-year olds were only significant for the condition with low external regulation assistance ( $F(1, 36) = 14.3, p = .001, \eta^2 = .29$ ) but not for the medium or high external regulation condition. This was partly due to the stable performance of the 4-year olds throughout all conditions, but even more so due to the performance boost among the 3-year olds assigned to the condition with external regulation assistance (i.e. medium and high).

**Conclusion:** The present findings are in line with theoretical assumptions on the development of self-regulation. That is, by the age of three, self-regulation is on the verge of emergence and seems to develop steadily throughout preschool years. Beyond that, with this experimental approach we were able to show that external regulation support can influence performance positively in situations when self-regulation is fragile.

### **pap303-12.3 Neural and behavioural impact of WM and self-regulation training in school-aged children**

Ana Isabel Cubillo Fernandez, Henning Mueller, Daniel Schunk, Ernst Fehr, Todd Hare  
*University of Zurich, Switzerland*

Previous work indicates the association between working memory (WM) performance, attention and impulsive behaviours (Klingberg 2010). Cognitive training programs may enhance the progressive maturation of fronto-parietal networks underlying the age-related increase in cognitive control (Crone et al 2006) however, their impact on the cognitive and academic dimensions of human capital have not yet been systematically investigated. Therefore, we conducted a longitudinal study of the impact of WM and self-regulation training on cognitive abilities and school performance in 7-8 year-old, typically developing children. Here, we focus on neural and behavioural effects of WM training during a WM task.

#### **Methods:**

Twenty-eight children, representing a subsample of the larger behavioral study, performed an N-Back task (baseline: 0-1 back; WM: 2-3 back) together with fMRI. The data were analysed using a repeated measures ANOVA 2x2 (group condition: WM training (N=14)/control treatment(N=12); task condition: baseline/WM).

#### **Results:**

Behaviourally, the WM training group showed a higher percentage of correct responses and reduced number of commission errors during baseline, together with reduced variability of their responses (standard deviation of RT) both in the baseline and WM conditions relative to those of the control group.

The fMRI data showed that group differences in performance were accompanied by significantly increased activation in a network of regions typically recruited during WM, attention and inhibition processes including putamen, dlPFC, IFC/insula and anterior cingulate cortex. Furthermore, increased activation in the caudate/putamen was associated with less commission errors across all subjects. Activity in prefrontal and parietal cortex during the N-back task was associated with performance on attention, WM and inhibitory control measures at one-year follow up.

#### **Conclusion:**

The working memory training showed a significant impact on behaviour and neural networks, which appear to be strongest for attention and inhibition processes, pre-requisite skills for working memory as well as many other high-level cognitive processes.

### **pap303-12.4 Self-regulation in families and the impact of children's socialization**

Lars Goellner, Simon Forstmeier  
*University of Siegen, Germany*

Several studies showed the impact of children's self-regulation on different important outcomes, such as academic achievement or health behavior. In the present investigation, the relationship of child and parent self-regulation is investigated. The ability to self-regulate was tested using a delay of gratification (DoG) test that is suitable for children as well as for adults and, thus, allows comparing child and parent DoG on a behavioral level. A sample of mother-father-child-triads with children in the age between 9–11 years was examined. Special attention was paid to the father's role because optimal investment in the relationship between child and father has not been sufficiently explored. Positive relationships between the parental and children's DoG were expected. Furthermore a model of children's socialization was developed to detect potential mediators of the relationship between paternal and children's DoG, which includes parenting style, attachment style or quality of partnership. Besides, potential moderators were measures, e.g. SES, education or satisfaction with life. Data collection is currently under way, first results will be presented at the conference. The findings will help to investigate potential negative influences on the development of children's self-regulation and will inform prevention strategies.

### **pap303-12.5 Age Effects in Students' Self-Regulation of Learning Activity**

Tatiana Fomina, Olga Eftimova, Varvara Morosanova

*Psychological Institute of the Russian Academy of Education, Russia*

The aim of our study was to investigate the age-related differences in self-regulation of educational activity at different stages of schooling (11-18 years). The pilot study gave us the reason to hypothesize the non-linearity in changes of learning activities self-regulation.

We develop an approach in which the self-regulation is considered as the integrative cognitive-personal construct. Individual student self-regulation can be characterized by a self-regulation profile, including indicators of cognitive functional processes (planning, modeling of the conditions important for goal achieving, programming, results evaluation) regulatory and personal qualities (flexibility, self-consistency, responsibility, reliability).

To evaluate the regulatory features we used Morosanova's «Self-Regulation Profile of Learning Activity Questionnaire – SRPLAQ» measuring the level of self-regulation of students' learning activity and different aspects of self-regulation.

1250 students of Russian secondary schools participated in the study. Analysis of variance revealed significant differences in all self-regulation parameters among the younger, middle-aged and older adolescents. Younger teens were significantly higher in all the self-regulation indicators. This fact can be explained, firstly, by the importance of learning activity itself for this age group and its appreciation by significant social environment, and secondly, by the regulation and control of educational activity on the part of parents and teachers. In middle adolescents, this impact is reduced due to the growing need for autonomy and overall decrease of the learning motivation. Moreover, the pubertal changes take place impeding the conscious self-regulation of educational activity on the background of the growing interest in social interaction. In older adolescence, the new goals and tasks emerge which are primarily associated with certain social interaction and then - with professional self-determination.

The study allows to draw the main conclusion: there is the age effect in the dynamics of the learning activities self-regulation throughout the schooling period.

**pap303-13.1 Development change of time perspective in adulthood and aged person**

Manabu Tsuzuki  
 Chuo University, Japan

Time perspective has an important psychological function to motivate people from here (present) to there (future). Many studies clarified developmental characteristics and functional meaning of time perspective in adolescents. However, life span development of time perspective was not investigated in previous studies. This study aimed to tackle this unsolved task and to examine developmental change in adulthood and aged person. Participants were 2,060 men and 2,060 women of 20~29 years, 30-39 years, 40~49 years, 50-59 years, and 60-69 years (each age group consisted in 412 men and 412 women). Participants were asked answered a sheet of questionnaire including Goal Consciousness Scale (Tsuzuki, 1999) and other scales in web survey. Two-way ANOVAs (Age stage (5) x Sex (2)) was conducted to investigate age related change on six subscales of Goal Consciousness Scale. Three main effects on sex were significant; desire for having future goal,  $p < .01$ ; hope for the future, and emptiness,  $p < .05$ . It was suggested that women had higher score of desire for having future goals and emptiness than men, while men had higher score of hope for the future than women. These results showed slightly difference on findings on undergraduate students of which Tsuzuki (1999) didn't find any sex difference on subscales of Goal Consciousness Scale. Six main effects on age stage were significant; hope for the future, presence or absence of future goal, time management, planning, desire for having future goals, and emptiness, ( $p < .01$ ). Score of hope for the future, time management, and planning were gradually increased with age. On the contrary, score of desire for having future goal and emptiness were gradually decreased with age. It was suggested that from twenties to sixties people further acquire basic abilities of time perspective in daily life so that they have positive and realistic future outlook.

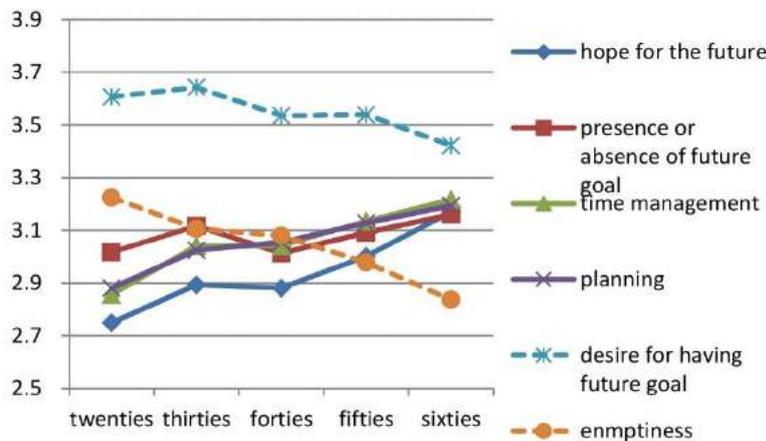


Fig. 1 Mean score of Goal Consciousness Scale by age

**pap303-13.2 Segregation in relation to maternal education appears at toddler age**

Anneloes van Baar, Marjolein Verhoeven  
 Utrecht University, Netherlands

Aim: Infants and toddlers of high educated mothers showed better cognitive and language development than those of medium and low educated mothers in the norming sample of the Dutch Bayley-III-NL. A replication study is done and parenting characteristics that might be involved are studied as well.  
 Methods: 1445 Children (mean (sd) age = 17,17 (12,27); range=0-42 months; 52,2% boys; 18% Non-Dutch) were tested with the cognitive, language and motor scales of the Bayley-III-NL (Van Baar et al., 2014). Their mothers (mean (sd) age = 31,94 (4,88); range=18-54 years; education: low= 10,8%, medium= 38,5%, high=50,7% ) also answered the (Comprehensive Early Childhood Parenting Questionnaire (CECPAQ; Verhoeven et al., 2017), with the dimensions support and stimulation for all children, and for toddlers older than 12

months structure, positive and negative discipline as well. Four age groups (0-3; 4-11; 12-22; 23-43 months) were used.

Results: MANCOVA (corrected for sex, age, ethnicity, region) showed overall significant differences on the Bayley-III-NL between children of high, medium and low educated mothers in cognition and language, but not in motor development, specifically in the 12-22 and 23-42 months age groups. High, medium and low educated mothers of infants younger than 12 months, differed in stimulation, according to a MANCOVA (corrected for sex, age, ethnicity, region); For toddlers differences in relation to maternal education were found on the CECPAQ in stimulation and in negative discipline.

Linear regression analyses showed for all children that maternal education, and stimulation were related to cognition and language; for infants younger than 12 months no significant relations were found, whereas for toddlers maternal education, and stimulation were related to language; and maternal education, stimulation and positive discipline were related to cognition.

Conclusion: Stimulation provided by mothers in infancy, needs further study in relation to maternal education and should be improved to decrease segregation.

### **pap303-13.3 Family Income Dynamics and Child Cognitive Outcomes – Exploring Mechanisms of Effect**

Edward Sosu

*University of Strathclyde, United Kingdom*

Background and Aim: Studies suggest that income dynamics (poverty, income loss, gain and volatility) have significant impact on child cognitive outcomes. However, we do not fully understand the psychological mechanisms by which these various forms of income dynamics influence cognitive outcomes and whether they operate through the same mechanisms (Miller & Votruba-Dzral, 2016). Drawing on previous research, this ongoing study examined how different forms of income dynamics affect early cognitive outcomes through family stress and investment pathways (Conger, Conger, & Martin, 2010).

Methods: Data for the study is based on the Growing Up in Scotland longitudinal survey (n=3621). Predictors (income dynamics), mediators (parental investment, mental health, and household chaos) and outcome variable (child cognitive outcomes) were selected in line with the temporal ordering of hypothesised pathways. Data were analysed using structural equation modelling techniques. All analyses took into account longitudinal weights, stratification, and clustering in the data. Analyses were undertaken using Mplus 7.4 software.

Results and conclusion: Preliminary results suggest that income levels influence child cognitive outcomes through parental educational investment, mental health, and household chaos. Specifically, higher family income was associated with high cognitive outcomes through high levels of educational investment, good levels of parental mental health, and low levels of household chaos. Income gain and income loss on the other hand influenced child cognitive outcomes through household chaos. Income gain was associated with low levels of household chaos while income loss resulted in higher levels of chaos. The policy and practice implications will be explored.

References:

Conger, R. D., Conger, K. J., & Martin, M. J. (2010). Socioeconomic status, family processes and individual development. *Journal of Marriage and Family*, 72(3), 685-704.

Miller, P., & Votruba-Dzral, E. (2016). The role of family income dynamics in predicting trajectories of internalizing and externalizing problems. *Journal of Abnormal Child Psychology*, 1-14.

### **pap303-13.4 What factors influence attitudes towards life and death among Japanese primiparous women?**

Miho Tanaka, Seiichi Saito,

*Kobe University, Japan*

Pregnancy is a time in which women contain not only their own lives but also fetal life in their bodies (Cohen & Slade, 2000). This experience is important for nurturing the child and has been known to change a pregnant women's attitudes towards life and death (Taguchi, 2012). However, not much is known about these specific attitudes in the lives of pregnant Japanese women. This study aims to examine pregnancy details and personal experiences that influence pregnant Japanese women's attitudes towards life and death. Participants were 126 women pregnant with their first-born children (M = 31.21 years). This questionnaire consisted of scales on

attitudes towards life and death (fear of death, purpose of life, belief in an afterlife, relationship of life and death, concern for others) and yes/no questions about having religious faith, pregnancy details (obstetric history, morning sickness, fetal movement, risk of abortion), and personal experience during the last 2 years (Bereavement, Life-threatening accidents, and Hospital stays). Multiple regression analysis revealed that “fetal movement” ( $\beta = .23, p < .01$ ) and “having religious faith” ( $\beta = .20, p < .05$ ) had positive relationships with “purpose of life” ( $R^2 = .10$ ). “Fetal movement” had a positive relationship with “concern for others” ( $\beta = .25, p < .01, R^2 = .06$ ), and “having religious faith” had a positive relationship with “belief in an afterlife.” ( $\beta = .25, p < .01, R^2 = .06$ ). These findings suggest that the experience of pregnant women feeling their fetal life influences Japanese primiparas’ attitudes towards life and death. Further study is necessary to examine to attitudes towards life and death among Japanese men whose partners are pregnant.

	purpose of life	belief in an afterlife	concern for others
fetal movement ( $\beta$ )	.23 **	—	.25**
having religious faith ( $\beta$ )	.20 *	.25**	—
$R^2$	.10 **	.06**	.06**

\*\* $p < .01$ . \* $p < .05$ .

Table 1: Predictors of Japanese primipara's attitude towards life and death scores

### pap303-13.5 Networks of aggressive and prosocial behavior: Alternative evidence from a Chinese society

Yuan Hsiao, Arwen Chiu, Ching-Ling Cheng,  
University of Washington, United States

The study of how social networks interact with aggressive/prosocial behavior draws enticing interest, as aggressive/prosocial behavior relates to significant adjustment outcomes for both initiators and recipients (e.g., Loeber & Burke, 2011; Parker & Asher, 1987; Weinstein & Ryan, 2010). While a longstanding question, only very recently do statistical techniques of network analysis allow for the separation of network selection (e.g., how aggressive behavior affects friendship formation) and network influence (e.g., how friends influence individual levels of aggressive behavior) (Ripley et al., 2016). The current handful of studies available suggest that aggressive/prosocial behavior has little impact on network selection, but strong effects are found for network influence (e.g., Dijkstra, Berger, & Lindenberg, 2011; Logis et al., 2013; Sijtsema et al., 2009). However, all current studies were conducted in European-American societies, leaving open the question of the generalizability of results in other social settings. Being one of the first to draw a sample from a Chinese society, we test network mechanisms in a context where interpersonal values are stressed (Markus & Kitayama, 1991), and classrooms are of higher social density and stability (Wu & Lei, 2012). Utilizing a sample of 702 8th-grade students in Taiwan, we found very different results. As seen in Table 1, in contrast to the European-American consensus that aggressive/prosocial behavior do not impact network selection, we found statistically significant effects of network selection. Furthermore, divergent mechanisms were found for different behavior. In contrast to the effect of overt aggression decreasing others’ willingness to be friends, relational aggression and prosocial behavior increases the number of friend nominations received. Furthermore, individuals do not seem to select friends based on similar levels of overt aggression, but do on relational aggression. We suggest that cultural context should be paid additional attention when explaining network dynamics of aggressive/prosocial behavior.

	Estimate	S.E.
<i>Network selection effects</i>		
<b>Overt aggression</b>		
Effect overt aggression nominations received	-0.09*	0.04
Effect overt aggression nominations given	-0.02	0.04
Selection of similar overtly aggressive friends	-0.09	0.25
<b>Relational aggression</b>		
Effect relational aggression nominations received	0.10*	0.04
Effect relational aggression nominations given	0.01	0.04
Selection of similar relationally aggressive friends	0.65*	0.32
<b>Prosocial behavior</b>		
Effect prosocial behavior nominations received	0.10*	0.03
Effect prosocial behavior nominations given	0.01	0.04
Selection of similar prosocial friends	0.03	0.21

Note:  $N = 702$ , \* $p < .05$

Table 1: Network selection effects of aggressive and prosocial behavior

### pap303-13.6 Electrocortical Reactivity to Self- and Social-oriented Pleasant Stimuli in Children and Adults

Xinmei Deng

Shenzhen University, China, People's Republic of China

Age-related differences in the processing of self- and social-oriented pleasant emotional stimuli may imply the process of individual socialization. It reflects the priority of affective processing by turning from the self-oriented rewards to the complex social interactions. However, little is known about the development of the electrocortical reactivity to self- and social-oriented pleasant stimuli. In this study, we examined event-related brain potential (ERP) modulations during processing of self- and social-oriented pleasant stimuli in children and adults. EEG was recorded from 20 (18-22 years) adults and 14 children while they viewed developmentally appropriate pictures selected from the International Affective Picture System. The results showed that (1) for both adults and children, the P1 and P2 was larger for emotional than neutral pictures; (2) for adults, N2 was larger for social-orientated than self-orientated pictures; (3) the LPP was larger for social than nonsocial pictures but had no significant differences between emotional and neutral pictures; (4) the LPP was large for children than adults. Taken together, from late childhood to early adulthood, individuals undergo age dependent changes in processing different pleasant stimuli.

## Poster presentations

Wednesday August 30

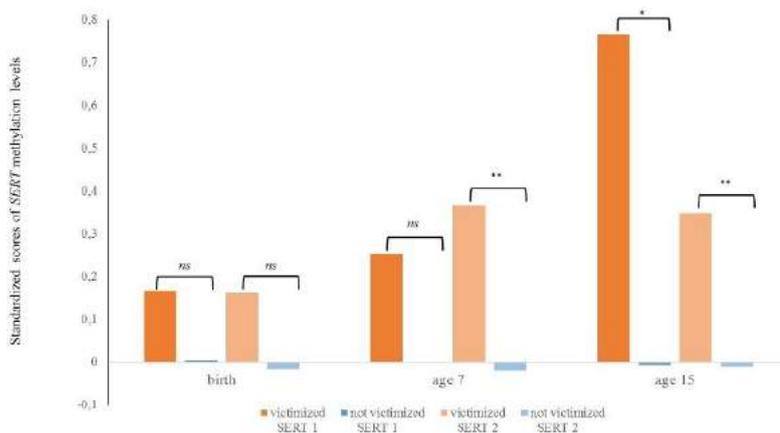
Session 101, 11:00 – 12:00 hrs.

### Biological Development

#### pos101.1 Bullying-victimization and DNA methylation: A longitudinal study from birth to adolescence

Marieke Buil, Charlotte Cecil, Pol van Lier, Edward (Ted) Barker  
Erasmus University Rotterdam, Netherlands

**Background.** Chronic bullying-victimization can have life-long effects on the emotional and behavioral development of affected children and adolescents (Arseneault, Bowes, & Shakoor, 2010). Emerging evidence emphasizes the importance of epigenetic mechanisms that regulate gene expression, including DNA methylation, as a potential etiological pathway explaining why these long-lasting effects might occur (Ouellet-Morin et al., 2013). The current study investigated whether DNA methylation patterns of the serotonin transporter gene (SERT) at birth, age 7 and age 15, were different for children who were chronically bullied during elementary school, versus children who were not chronically bullied. **Method.** Participants were 734 children (48% boys) followed from birth until age 15 years. These children were part of the Avon Longitudinal Study of Parents and Children (ALSPAC). Children reported on victimization (Bullying and Friendship Interview Schedule; Wolke et al., 2000) at ages 8, 10 and 12 years. SERT methylation levels were retrieved from cord blood samples at birth and peripheral blood at ages 7 and 15. **Results.** Latent class analysis indicated that 6.3 percent ( $n = 46$ ) of our sample was chronically bullied during the elementary school years and 93.7 percent ( $n = 688$ ) was not chronically bullied. Repeated-measures ANOVAs indicated that, on average, bullied children had higher SERT methylation than non-bullied children (see Figure 1). Furthermore, results in Figure 1 show that no differences were found between victims and non-victims for SERT methylation levels at birth. However, from age 7 onwards, chronically victimized children showed higher SERT methylation compared to non-victimized children. **Conclusion.** Our results imply that children's experience of chronic bullying-victimization during elementary school may alter epigenetic regulation of this key stress-related gene over time. Furthermore, our finding that methylation levels at birth were similar for victimized and non-victimized children, supports an effect of victimization on methylation level, but not vice versa.



*Figure 1.* Graphical illustration of differences in standardized methylation levels of the serotonin transporter gene (SERT) for chronically victimized versus non-victimized children. *Note.* Probes for SERT were reduced into two dimensions based on factor analyses (i.e., EFAs followed by CFAs). SERT 1 represents the first factor that was retrieved from the SERT probes ( $n = 7$  probes), SERT 2 represents the second factor of the SERT probes ( $n = 2$  probes). Values above zero indicate that children have higher than average methylation levels, values below zero indicate that children have lower than average methylation levels. Results from repeated measures ANOVAs indicate that chronically victimized children had overall higher methylation levels than non-victimized children for both SERT dimensions (SERT factor 1:  $F(1,732) = 8.87, p < .01, \eta^2 = .01$ , SERT factor 2:  $F(1,732) = 12.15, p < .001, \eta^2 = .02$ ). ns = non-significant, \*  $p < .05$ , \*\*  $p < .01$ .

**Figure 1.** Graphical illustration of differences in standardized methylation levels of the serotonin transporter gene (SERT) for chronically victimized versus non-victimized children.

## pos101.2 Statistical Learning and Orthographic Preferences among Kindergarten and First Native Arab Graders

Haitham Taha  
Haifa University, Israel

**Aim:** Statistical learning is defined as a cognitive process where the individual learns about the frequencies of the occurrence and re-occurrence of events. Such learning is considered as an implicit process while there is no necessary for further explicit understanding why the event is expected to occur in certain circumstances. Recent research findings reported about the role of statistical learning in reading and spelling acquisition among children. The current study investigated the effect of the orthographic features of the Arabic orthography and their frequency on the orthographic preferences among preschoolers and first grade readers measured by an orthographic choice task.

**Method:** 40 first grade and 40 kindergarten native Arab children were tested. Each participant was tested with an orthographic choice task. Two sets of written patterns were developed for the purposes of the current study: 90 real words patterns and 90 pseudo-orthographic patterns (the non-words which were composed from non-alpha symbols and real letters). The real words' group itself consisted from three types of written words: a) 30 Full connected words <كَلْب> <dog> b) 30 partially connected words <سور> <wall> and, c) 30 Non-connected words <رأس> <head> .

**Results:** The results of the current study revealed that for the first grade group, high accuracy levels for acceptance real words and rejection pseudo-orthographic patterns were found. In addition, the first grade group showed significant preferences for accepting the connected patterns among the non-connected patterns as real words. For the kindergarten group, the participants showed a high tendency to accept the connected pseudo-orthographic patterns as real words than the non-connected patterns.

**Conclusions:** These findings were explained in light of the fact that in Arabic orthography there are high proportions of full-connected than non-connected patterns and this might affect the orthographic preferences of first grade and pre-school children.

Grade	FC- words	PC- words	NC- words	FC- PO	PC- PO	NC-PO	Total words	Total PO
1 <sup>st</sup> grade	97.91 ±3.27	97.50 ±3.83	96.08 ±4.65	96.92 ±4.91	96.42 ±5.03	96.50 ±5.23	97.16 ±3.2	96.61 ±4.23
Kindergarten	78.92 ±23.73	74.92 ±26.86	74.83 ±28.97	66.83 ±31.60	66.33 ±31.40	70.92 ±28.21	76.22 ±24.51	68.03 ±29.45

(Abbreviations: FC= full connected, PC= partially connected, NC= non-connected, PO= pseudo-orthographic)

Table 1: Means and ±SDs for the accuracy levels of the first grade and the kindergarten groups within the different conditions.

## pos101.3 Continuities in mental health problems during childhood in the Bergen Child study

Kjell Morten Stormar, Tormod Bøe, Astri Lundervold, Mari Hysing  
Uni Research/Uni Research Health/University of Bergen/Department of Health Promotion and Development, Norway

Longitudinal studies have found that mental health problems tend to continue across the lifespan and that there is trait-like stability for disorders like anxiety, depression and ADHD. This has been taken to indicate high levels of stability in the individual differences in vulnerability for psychopathology. The purpose of this study was to determine the stability of parent and teacher screen scores across a 3-year course during childhood. The

study draws on scores on the Strengths and Difficulties Questionnaire (SDQ), obtained from the first two waves of the Bergen Child study, a prospective community child-cohort study. 7,012 and 5,182 children took part in the first and second wave of the study, when the children were 7-9 and 10-13 year olds, respectively, forming a longitudinal sample of 4,018 children. The results showed strong homotypic stability reflected in the correlations across the three year period particularly in the parent reports, ranging from  $r=.43-.64$ ). There was also evidence of heterotypic continuity, except that emotional problems in girls did not predict subsequent conduct problems, and hyperactivity in boys did not predict subsequent emotional problems. Finally, the likelihood that the children were suffering at 10-13 years were suffering from any psychiatric disorders was predicted by their parents and the teacher screen scores three years earlier. For girls, this was predicted by their parents' ratings on the emotional problem (OR 1.41 (1.21-1.64) and impact score (OR 1.34 (1.05-1.72)) subscale of the SDQ. For boys, it was predicted by their parents (OR 1.30 (1.09-1.57) and teacher (1.55 (1.26-1.91) ratings on conduct problems and their parents ratings on the hyperactivity/inattention (OR 1.31 (1.16-1.48) SDQ subscale. These finding suggests that there are considerable stability in the individual differences in psychopathology among children across the childhood period, along with gender- and informant-specific correlates.

#### **pos101.4 hopelessness and self-efficacy of refugee Afghan youth with native Persian cohorts**

Amir Mohammad Shahsavarani  
*University of Yerevan, Armenia*

**Introduction:** International migrations in the context of war, civil war, and political instabilities are increasing. Afghan refugee in Iran have high levels of susceptibility to psychological difficulties like dissatisfaction, sorrow, frustration, and anxiety. The aim of the present study was to compare Afghan refugee youths with native Persian youths in hopelessness and self-efficacy.

**Method:** The population comprised all Afghan immigrant and native Persian youths who lived in Karaj in year 2015. 32 Afghan refugee and 31 native Persian youths were chosen by purposive sampling and their hopelessness and self-efficacy were assessed.

**Results:** MANOVA showed that Afghan refugee youths achieved significant higher scores in hopelessness ( $p<.001$ ) and lower scores in self-efficacy ( $p<.024$ ), compared to Persian native youths.

**Discussion and conclusion:** These findings indicate that Afghan refugee youths are in higher risk of mental problems than their native Persian cohorts. Therefore, social and psychological services shall urgently pay more attention to improve their specific psychosocial needs as well as facilitate their social and life skills training for this population sector in order to improve their mental and psychological health.

## **Cognitive Development**

### **pos101.5 Electronic gaming: Associations with self-regulation, emotional symptoms and academic performance.**

Sue Walker, Susan Danby, Maria Hatzigianni  
*Queensland University of Technology, Australia*

Drawing on data from the Longitudinal Study of Australian Children (LSAC), this poster reports on the use of electronic games by young children (8-9 years old) and the associations with cognitive self-regulation, academic performance (mathematics, language and literacy) and emotional symptoms two years later when children were 10-11 years of age. The analyses presented in this poster used parent report and data from teacher questionnaires for the Birth cohort collected from Wave 1 (2004) to Wave 6 (2014). There were 3090 children who had teacher reports of their cognitive self-regulation, emotional symptoms and academic achievement at 10-11 years of age (Wave 6). Key socio-demographic variables considered in the analyses included child age, sex and temperament and socio-economic position. At Wave 1, the children were aged between birth and 1 year ( $M = 8.8$  months;  $SD = 2.6$  months). At Wave 6, the children were aged between 10 and 11 years ( $M = 10$  years and 9 months;  $SD = 4.1$  months). The total number of electronic game minutes for an average week was assessed when children were 8 to 9 years (Wave 5). This measure was categorized into quartiles (420 minutes per week). Results from four ordinary least squares regression analyses for the outcome measures indicated that, compared to children who played electronic games for 120 minutes or less per week, playing games for between 121 and 240 minutes per week was associated with better scores on Language and Literacy and Mathematical Thinking at 10 to 11 years of age. Conversely, use of electronic games for more than an hour per day (more than 421 minutes per week) was associated with lower cognitive self-regulation and an increase in emotional symptoms at 10-11 years of age.

### **pos101.6 Relationship between executive function, self-regulation, and agility during early childhood**

Kyoko Imai-Matsumura, Sho Aoyama, Noriko Yamamoto  
*Graduate School of Education, Hyogo University of Teacher Education, Japan, Japan*

Several studies have observed that executive function (EF) and self-regulation (SR) influences scholastic ability and social competence. More recently, studies have explored the relationship between EF and physical ability. However, research has not focused on the relationship between EF, and motor skills during childhood, which is important for developing future physical ability. Thus, the current study investigated the relationship between early childhood EF, SR, and motor skills agility to determine the possibility of approaching physical ability through cognitive functions. The sample consisted of 6-year-old ( $N = 53$ ) Japanese children. They performed a series of EF tasks including the Fruit Stroop task (Archibald & Kerns, 1999; Roebbers et al., 2012) as the inhibition task, Hand movement task (K-ABC- II) (Matsubara et al., 1993) as the spatial working memory (WM) task, backwards digit span as the auditory WM task, Head-Toes-Knees-Shoulders task (HTKS task; McClelland et al., 2007) as the SR task, and the repetition side hop (Idemura et al., 2011) as the agility task. Results revealed significant correlations between children's performance on EF and SR tasks, and on EF and agility tasks after controlling for gender. Furthermore, path analysis was used to evaluate whether EF and gender affected SR and agility performance. The path model indicated that auditory WM directly influenced SR, and inhibition and spatial WM directly influenced agility performance. These findings suggest that inhibition and WM abilities during early childhood can positively impact agility competence, which may have implications for future athletic development. The current study also suggests that EF is not only important for academic ability but also physical ability during early childhood.

### **pos101.7 Gender Differences in Executive Function and Behavioral Self-regulation in 5-year old**

Noriko Yamamoto, Kyoko Imai-Matsumura

*Graduate School of Education, Hyogo University of Teacher Education, Japan, Japan*

In recent years, associations between executive function and the social ability of children have been investigated around the world. The present study examined gender differences in kindergarten students' ability for behavioral self-regulation and executive function in East Japan. Furthermore, we investigated whether executive function is related to behavior problems in classroom. We used direct measurement, teacher evaluation, and children's responsive behaviors to the teacher's instruction in the classroom by video analysis. One-hundred eleven young children (Mage = 71.44 months, SD = 3.6) were assessed on behavioral self-regulation, inhibitory, and working memory tasks. Teachers assessed behavior problems in the classroom. Children's responses to the teacher's instructions were video recorded and analyzed separately. Results demonstrated that, while there were no significant gender differences in direct measurement or classroom observations, there were differences in teachers' evaluation of social problems, attention problems, and aggressive behavior, with girls demonstrating lower levels than boys. These behavior problems in the classroom correlated with gender and behavioral self-regulation. These results suggest that it is necessary to provide support for children who have low executive function and self-regulation.

### **pos101.8 Chinese Adoptees in the Netherlands: physical growth and cognitive development**

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**Aim.** The Chinese adoptees in the Netherlands (CAN)-study is a 'natural experiment' investigating correlates of heterogeneity in adopted children's development. One possible correlate is pre-adoptive care. The current study investigates associations between pre-adoptive care – institutional versus foster care – and physical growth and cognition.

**Methods.** Participants of the CAN-study are 92 girls adopted from China to the Netherlands at a mean age of 13 months (SD = 1.35). The first two waves (N = 92) took place two and six months after adoption. Recently, the third wave (N = 87) was completed nine years after adoption. Physical growth was measured by converting height to z-scores using the WHO2007 growth reference.

Cognition was measured with the Bayley Scales of Infant development at waves 1 and 2, and with the Information and Vocabulary subtests of the WISC-III and the Analogies and Categories subtests of the SON-R-6-40 at wave 3.

**Results.** The first two waves (van den Dries et al., 2010) revealed physical growth delays and below average cognitive functioning (Table 1). Whereas the height of the post-institutionalized children did not differ from the height of the post-foster children, the post-institutionalized children scored lower on cognitive functioning than the post-foster children. Wave 3 revealed that both groups still showed modest delays in physical growth. However, the children showed catch-up and even above average functioning in cognitive development. No differences on physical growth and cognitive development were found between the post-institutionalized and the post-foster children.

**Conclusions.** The CAN-study is one of the first longitudinal studies that investigates the associations between pre-adoptive institutional versus foster care and developmental adjustment. Both groups showed modest delays in physical growth at all three waves. In contrast, children adopted from institutional care and children adopted from foster care showed complete catch-up in cognitive development nine years after adoption.

Outcome		Group				t	df	Total				
		Post-Institut.		Post-foster				M	SD	Comp. value	t	df
		M	SD	M	SD							
z-scores	W1	-0.88	1.05	-0.59	1.03	-1.33	90	-0.75	1.04	0	-6.91***	91
height	W2	-0.83	1.03	-0.52	1.03	-1.42	90	-0.69	1.04	0	-6.39***	91
	W3	-0.55	1.16	-0.35	1.13	-0.83	88	-0.46	1.14	0	-3.81***	89
Cognitive development	W1	74.04	18.41	84.40	17.62	-2.74**	90	78.77	18.69	100	-10.89***	91
	W2	84.38	20.01	92.26	17.83	-1.98*	90	87.98	19.35	100	-5.96***	91
	W3-WISC	113.63	15.02	112.39	14.28	0.39	85	113.05	14.60	100	8.33***	86
	W3-SON	108.98	16.33	109.27	15.96	-0.08	85	109.11	16.06	100	5.29***	86

Note: Post-Institut. = Post-institutionalized; comp. value = comparison value; W1 = Wave 1; W2 = Wave 2; W3 = Wave 3; \* p < .05. \*\* p < .01. \*\*\* p < .001

Table 1. Results of one-sample t-tests and independent sample t-tests, and descriptive statistics for z-scores height and cognitive development

### pos101.9 Joint attention patterns in child-parent communication on mathematics: a dual eye-tracking study

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Joint attention is considered to be a crucial mechanism of language acquisition in early childhood. Better acquisition was shown in case a parent followed attention of the child instead of redirecting it (Farah & Tomasello, 1986), both a parent and a toddler take into account multiple cues in order to determine a focus of the partner's attention (Yu & Smith, 2016). We suppose that joint attention plays a significant role in mathematics acquisition as well. This research aims to describe a variety of joint attention dynamics and the role of a parent's and a child's activity in its emergence in multimodal teaching-learning process.

In a qualitative study we used dual eye-tracking technology to catch joint attention while parents were teaching their first grade children (7 years old) to approach coordinates of points on the Cartesian plane. A parent and a child were sitting together in front of the same monitor and were able to gesture and to point at the diagrams. Videos of overlapping gazes from 5 parent-child pairs were synchronized with audio and video records of their communication and then data were analyzed frame by frame.

In archiving joint attention, a parent does not only guide the child's attention but also discloses its focus and adjusts his explanations accordingly. At the same time the child does not simply follow the parent's guiding but actively anticipates the parent's directions; he combines different sources such as gestures, visual diagrams, and verbal explanations with his own ideas about solutions of the tasks.

The novel combination of dual eye-tracking technology with video records of gestures and verbal conversations allowed description of the variety of joint attention emergence during the mathematics learning. More research on efficiency of leading joint attention by a teacher or by a student for learning outcome is needed.

## **Developmental psychopathology and disabilities**

### **pos101.10 From Spontaneous to Reflective Theory of Mind. How Do Gestures Render Development?**

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**Aim:** Spontaneous gaze reactions as an index of theory of mind (ToM) in a false belief task (FBT) were observed in 3-year-olds. We aimed to describe whether there is a developmental change from gaze through gesture to verbal answer in a modified FBT over the first half of the fourth year. Based on the role of mutual interaction and gestures (Liszkowski, 2013), we assumed that the ability to use informative pointing gestures at 2 years of age predicts later developmental transition from spontaneous to reflective ToM.

**Method:** We used longitudinal design and tested 174 children at three time points. At T1, 2-year-olds (44% girls) were tested using a protoinformative pointing task (Bialek et al., in review). At T2 and T3, a modified FBT (Rubio-Fernandez & Guerts, 2014) was used with the same children at 3 and 3.5.

**Results:** Between the ages of 3 and 3.5 there is a significant decrease in the number of children who failed in the modified FBT ( $\chi^2(1)=8.89$ ;  $p=.003$ ) and a significant increase in the number of children who answered properly with a gesture or gaze and gesture ( $\chi^2(1)=5.54$ ;  $p<.02$ ). The logistic regression showed that the best-fitting model ( $\chi^2(1)=7.49$ ;  $p=.006$ ) explained 23% of variance in passing the FBT (failed=0; passed with gaze/gesture/verbally=1) in 3-year-olds and 11% of variance ( $\chi^2(1)=7.65$ ;  $p=.006$ ) in 3.5-year-olds. The significant predictor of this change was ability to use protoinformative pointing at 2 years ( $B=0.46$ ,  $Wald=6.43$ ,  $p<.01$  for 3-year-olds and  $B=0.44$ ,  $Wald=7.20$ ,  $p<.01$  for 3.5-year-olds).

**Conclusions:** In our study we found evidence for developmental transition from spontaneous to reflective ToM between the ages of 3 and 3.5. We revealed that ability to coordinate interaction and provide relevant information is longitudinally related to ability to predict others' actions, and thus found support for a usage-based approach to ToM development.

### **pos101.11 Theory of Mind Development in Israeli-Arab Muslim Children**

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Previous studies examining the developmental pathways of theory of mind (ToM) found two different sequences. The first sequence is ordered as follows: Diverse Desires (DD) > Diverse Beliefs (DB) > Knowledge Access (KA) > Hidden Emotion (HE). For the second sequence, the order of KA and DB are reversed. The first sequence tends to characterize individualistic cultures, whereas the second one characterizes collectivistic cultures. The leading explanation for such differences focuses on parenting values and child-rearing practices in those cultures. Our aim was to study the sequence of ToM developmental steps in a culture undergoing a modernization process that is characterized by an intermediate and mixed combination of collectivism and individualism. In our case, we studied the Israeli-Arab Muslim Community. A sample of 109 Israeli-Arab Muslim kindergarten children participated in this study (50 boys, 59 girls, M age = 5.79 years, SD = .35, range 5.0 – 6.45), from three Arab villages (Bartaa, Kfar-Qara, and Araa) in the Wadi-Ara area of central Israel. Ninety-six percent of the children lived with two parents; 75% of mothers declared themselves as religious, and 27% declared themselves as traditional. We used the original four tasks of the ToM development scale (Willman & Liu, 2004). Our results show that the children acquired ToM in the following sequence: KA > DD > DB > HE, which is a sequence different from the two previously reported in the literature. To our knowledge, this research is the first to examine a culture that is undergoing a modernization process. It seems that the main difference between the three sequences is primarily due to the relative location of KA. The results suggest that a modernization process might selectively affect some aspects of the culture, for example, enhancing or prioritizing the importance of knowledge acquisition.

### **pos101.12 Improving the understanding of true and false belief: a training study**

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Children's Theory of Mind has been a lively area of research in developmental psychology for the past three decades. ToM is a multifaceted psychological construct, which has been widely investigated in children by using tasks assessing the understanding of false beliefs. Beside the more classical studies aimed to evaluate ToM through the use of the false belief tasks, there are several evidences highlighting the role played by conversations "about the mind" in supporting and improving ToM development. Such researches envisage the application of custom-built trainings, mainly involving children in conversations reflecting psychological states and mental lexicon. Results highlighted how participation in conversations about mental states improves the children's understanding of others' mental contents. However, the efficacy of such trainings in school-age children with typical development has not been entirely investigated and there are many aspects that still need to be clarified. In order to address this issue, we designed a conversation-based training program for 10-year-olds focused on understanding of true and false beliefs with an increasing level of difficulty. The twenty-six children, whom compose the sample, were divided into two groups (training and control) and were presented with a battery of classical ToM tasks, administered pre and post-training. Performance on ToM tasks was compared within the training-group to assess possible improvement in ToM abilities due to the training. Results were also compared with scores obtained from the control group.

Our results show that children in the training-group significantly improved their understanding of second-order false belief compared to control and indicate that training facilitates ToM development with respect to the specific contexts of false-belief reasoning. This is relevant considering that, in middle childhood, the ability to recognize other's behaviour - in terms of understanding their mental contents and beliefs - is strongly evolving and constitutes the basis of social understanding.

### **pos101.13 Neurobiological stress reactivity in youth: Relevance of maltreatment and social support**

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Maltreatment is associated with the development of internalizing and externalizing disorders during childhood and adolescence. Moreover, it impacts on the hypothalamic-pituitary-adrenal (HPA) axis. There is evidence for blunted cortisol reactivity in maltreated children as well as for a moderating (i.e., normalizing) effect of social support on HPA axis function. Yet, the effects of maltreatment and social support on the reactivity of other neuroactive steroids besides cortisol and DHEA are still unknown. The present study examined these effects in a psychosocial stress task with children and adolescents.

Stress was induced in a sample of 93 children (41 girls) with a mean age of 12.4 years (SD=1.5 yrs) using the Trier Social Stress-Test for Children (TSST-C). The sample included children with maltreatment experiences (N=41) and a healthy control group (N=52). Maltreatment was assessed with the Maltreatment Classification System, whereas the Arizona Social Support Interview Schedule was used as a self-report measure of children's social support. During the stress test saliva cortisol and plasma steroid levels (e.g., cortisol, cortisone, androstenedione, pregnenolone-sulfate) were determined for nine and two time points, respectively. Preliminary data analyses showed significantly increased levels of saliva cortisol and most plasma steroids after the TSST-C ( $p \leq .016$ ). No direct effects of maltreatment emerged. However, interaction effects of maltreatment and social support were found for saliva cortisol ( $\beta = -.51$ ,  $p = .002$ ) and several neuroactive plasma steroids (i.e., cortisol, cortisone, androstenedione, pregnenolone-sulfate;  $p \leq .044$ ) showing a higher hormonal stress reactivity in the non-maltreated group with more social support. This effect will be explored in further analyses. Our study is the first to investigate the interplay of maltreatment and social support on the reactivity of several neuroactive plasma steroids in a psychosocial stress task with children and adolescents. The results emphasize the importance of social support for HPA axis functioning.

**pos101.14 The vicious cycle of loneliness: Peer- and parent-related loneliness examined over time**

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**Aim.** Loneliness can be experienced in different relationships, such as in relation to peers and in relation to parents. Based on cross-sectional findings, it has been suggested that loneliness experiences form a negative vicious cycle, in which loneliness in one relationship (e.g., parents) might put one at risk for experiencing loneliness in another relationship (e.g., peers). The current longitudinal study examined the relation between peer- and parent-related loneliness. **Method.** Three independent samples were used to examine these relationships, consisting of 1,552 adolescents (46.60% male, Mage = 12.93) in Sample 1, 551 adolescents (37.20% male, Mage = 14.82) in Sample 2, and 1,474 adolescents (35.94% male, Mage = 15.45) in Sample 3. A random intercept cross-lagged panel model was estimated for each sample. A meta-analysis was conducted in order to synthesize the result across the three samples. **Results.** Both peer- and parent-related loneliness proved to be stable over time. In addition, peer- and parent-related loneliness were found to be concurrently and longitudinally related to each other in a bidirectional manner (see Figure 1). In other words, peer-related loneliness was found to predict subsequent parent-related loneliness, and vice versa. However, although all these effects were significant in the meta-analysis, they were not or not consistently found to be significant in the separate samples. **Conclusion.** The current study provides only little evidence for a within-person loneliness carry-over effect between relation-specific types of loneliness.

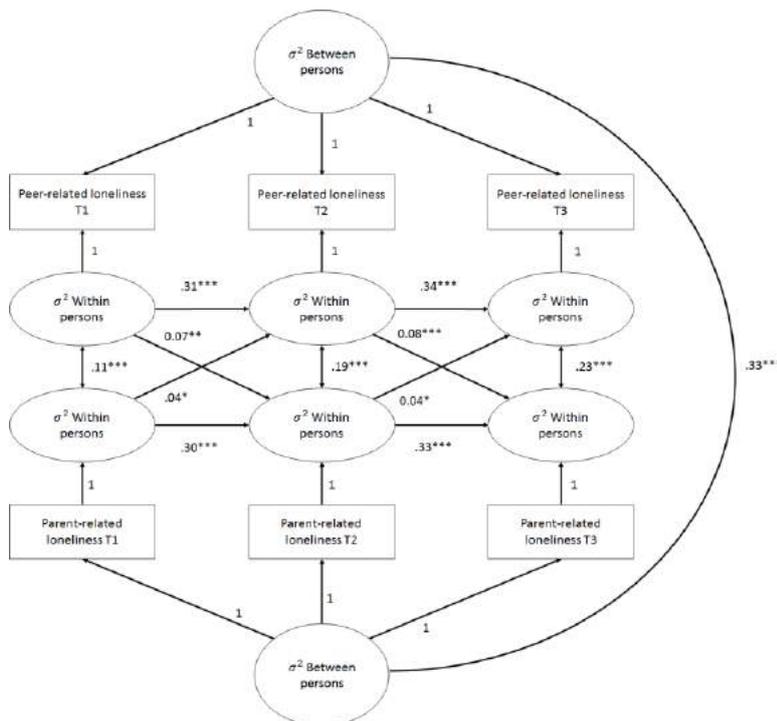


Figure 1. Random intercept cross-lagged model with standardized path coefficients from the meta-analysis. T = Time. \* p = .05, \*\* p = .01, \*\*\*p < .001.

**pos101.15 Longitudinal mediational pathways linking peer victimization and exclusion to adolescent drinking**

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**Aim:** Negative peer experiences, such as peer victimization and peer exclusion, are common during adolescence (Rubin, Bukowski, & Bowker, 2015). Although negative peer experiences have been linked to adolescent alcohol use, developmentally informed pathways from peer victimization and exclusion to adolescent alcohol use and alcohol-related consequences remain unexplored. Informed by developmental

theories of adolescent alcohol use (Catalano & Hawkins, 1996; Hussong, Jones, Stein, Baucom, & Boeding, 2011), we examined two developmental pathways from chronic peer victimization and exclusion in early adolescence to alcohol use and consequences in late adolescence. One pathway involving externalizing symptoms as the mediator and the other involving internalizing symptoms as the mediator.

Methods: The longitudinal sample consisted of 387 families (1 caregiver, 1 child), was evenly split on gender (55% female). Data were taken from annual surveys that spanned ages 11-12 at Wave 1 to ages 19-20 at Wave 8. Retention was strong across these waves (91%). Adolescents completed self-report measures assessing a range of psychosocial and contextual factors related to substance use at each wave.

Results: Results from structural equation modeling supported indirect risk pathways from both chronic victimization and exclusion to alcohol use and consequences through internalizing symptoms and coping drinking motives. Indirect effects also demonstrated a significant risk pathway from chronic exclusion to alcohol consequences through externalizing pathology (See Table 1).

Conclusions: The present study found support for both an internalizing and an externalizing pathway to alcohol use and consequences from peer victimization and peer exclusion. Further, our findings lend support to developmental theories linking negative peer experiences to alcohol use and suggests overlap among the mediational pathways involving chronic exclusion and victimization.

Indirect Effects	95% CI
<i>Model 1</i>	
Total Indirect Effect from Negative Peer Experience to Alcohol Use	(-0.42, 0.14)
Negative Peer Experience to Internalizing Pathology to Alcohol use	<b>(-0.82, -0.06)</b>
Negative Peer Experience to Internalizing Pathology to Coping Motives to Alcohol Use	<b>(0.07, 0.32)</b>
Negative Peer Experience to Externalizing Pathology to Alcohol Use	(-0.07, 0.32)
<i>Model 2</i>	
Total Indirect Effect from Exclusion to Alcohol Use	(-0.37, 0.10)
Exclusion to Internalizing Pathology to Alcohol use	<b>(-0.70, -0.05)</b>
Exclusion to Internalizing Pathology to Coping Motives to Alcohol Use	<b>(0.06, 0.33)</b>
Exclusion to Externalizing Pathology to Alcohol Use	(-0.05, 0.18)
<i>Model 3</i>	
Total Indirect Effect from Negative Peer Experience to Alcohol Consequences	(-1.67, 0.05)
Negative Peer Experience to Internalizing Pathology to Alcohol Consequences	<b>(-2.68, -0.33)</b>
Negative Peer Experience to Internalizing Pathology to Coping Motives to Alcohol Consequences	<b>(0.02, 0.65)</b>
Negative Peer Experience to Externalizing Pathology to Alcohol Consequences	(-0.02, 1.17)
<i>Model 4</i>	
Total Indirect Effect from Exclusion to Alcohol Consequences	<b>(-1.55, -0.06)</b>
Exclusion to Internalizing Pathology to Alcohol Consequences	<b>(-2.23, -0.34)</b>
Exclusion to Internalizing Pathology to Coping Motives to Alcohol Consequences	<b>(0.003, 0.52)</b>
Exclusion to Externalizing Pathology to Alcohol Consequences	<b>(.002, 0.64)</b>

Note. Significant indirect effects are bolded.

Table 1. Indirect Effects from Chronic Victimization and Exclusion to Alcohol Use and Consequences

## **Education, Schooling, Child care**

### **pos101.16 Child Sexual Abuse in India: An unexplored Treasure**

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Background: Information about sexual abuse among child and adolescents in India is very less and unexplored due to socio-cultural taboo, faulty and unattended concentrate by responsible department and man-made sensitiveness of issues related to it.

Methods: A case study of all Class IX-XII students in senior secondary school in rural Haryana (n =404) was conducted in February 2016. The schedules piloted in collaboration with the adolescents, school teachers and principal, elicited information on education, reproductive health, sexual behaviours and the experience of violence and sexual abuse. One potential co-curricular method (Question Box Activity) adopted among all adolescents to know the hidden, personal and sensitive issues of adolescents.

Results: Twenty three percent of adolescents had experienced some form of sexual abuse in studied school. Coercive sex had been experienced by approximately 4 % of adolescents and this was done by known person to the child as reported by students. The main favourable conditions for sexual abuse are during social ceremony in family/society, in nuclear family, illiterate mothers, alcoholic fathers and brothers of that family. These adolescents had significantly poorer academic performance, more stress and hostile, poorer mental and physical health, greater substance abuse, poorer parental relationships and higher rates of consensual sexual behaviours. Sexual abuse found in both gender. However, there was no big difference between boys and girls in the rates of making boy/girl friend for their love at this age. Differences in risks were found for poor and non-poor school students; while poor adolescents were more likely to have experienced sexual abuse than non-poor adolescents (27.3% v. 12%), lower economic households girls were more likely to have experienced any form of sexual abuse than non-poor girls (35 % vs 114%). Five percentage of girls have already been engaged forcibly done by parents by this age (15 years).

### **pos101.17 The co-dependency and dynamics of teacher and student fixed- versus growth-mindset behavior**

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The importance of students' theories of intelligence has been largely established, where students with a growth mindset tend to show more progress and motivation in school than students with a fixed mindset. Adult feedback plays an important role in eliciting children's 'growth-oriented' responses to difficult tasks versus 'fixed-oriented' responses. But how do teacher feedback and child responses regulate each other within the classroom? Using a process approach, this study is the first to delve into the co-dependency of these behaviors. We filmed 10 different elementary-school teachers as they interacted with their students during math lessons. Each teacher and student utterance/action was coded based on whether it can be characterized as being 'growth-oriented' or 'fixed-oriented', and as 'positive' versus 'negative', resulting in a taxonomy of 'positive-growth', 'negative-growth', 'positive-fixed', and 'negative-fixed'. Transition diagrams were created for each dyad based on the teacher- and student-utterances and behavior. The transition diagrams reveal how patterns of actions and reactions are variable within and across teach-student dyads. By investigating continuous teacher-child interactions as they naturally occur within the classroom this study provides unique insight into the within- and between-individual variability of teachers' feedback and children's responses related to fixed and growth mindsets, and into the bi-directional nature of these behaviors. This approach is in contrast with existing research, which commonly focuses on group differences based on highly controlled snapshots of adult feedback and child responses, which has thus been unable to explore the variability and dynamics of these relationships.

## **pos101.18 Maternal sensitivity and social skills: Moderating effect of quality of teacher-child interactions**

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Teachers' relationships with children can serve as a model for other classroom relationships (Curby, Brock, & Hamre, 2013), and, in particular, for the development of social skills. Previous research has also provided support for the relationship between higher levels of maternal sensitivity and the development of subsequent social skills (e.g., Mintz, Hamre, & Hatfield, 2011). However, there is little consistent data on how the quality of teacher-child interactions affects the relationship between family context (e.g., maternal sensitivity) and children's social skills in the preschool context. Within this framework, we aim to test the moderating effect of the quality of teacher-child interactions on the relationship between maternal sensitivity and social skills, when controlling for children's individual characteristics (i.e., temperament, verbal ability, sex, age). To this purpose, 30 randomly selected preschool classrooms and teachers (Area of Lisbon), 180 typically developing preschoolers (six randomly selected children, three boys and three girls, aged 4 to 6 years, in each classroom), and 180 mothers (of the randomly selected children) participated in this study. The following procedures were adopted: (a) assessment of maternal sensitivity with the Three Boxes Task (NICHD Early Child Care Research Network, 1999); (b) observation of classroom quality with the Classroom Assessment Scoring System (Pianta, La Paro, & Hamre, 2008); (c) assessment of temperament with the Children's Behavior Questionnaire (Putnam & Rothbart, 2006); (d) assessment of verbal ability with the Portuguese version of Wechsler Preschool and Primary Scale of Intelligence – Revised (Wechsler, 2003); and (e) assessment of social skills with the Social Skills Rating System (Gresham & Elliott, 2007) for teachers. Multilevel analysis will be conducted and associations between variables presented. We expect to contribute to the knowledge of factors predicting social skills in preschool-aged children, identifying potential promoting or compensatory effects of the quality of teacher-child interactions.

## **Family, parenting, parent-child relationships**

### **pos101.19 The relationship between maternal mind-mindedness and child's responsiveness: The role of playfulness**

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The notion that maternal mentalization, or Maternal mind-mindedness (MM) comments has a crucial impact on parent-child interaction, has been established over the last decade. High MM was found to be related to more positive mother-child interaction. Moreover, MM abilities were found to mediate the links between maternal behavior and child's attachment. Most research, however, focus on maternal sensitivity, intrusiveness and structuring, however maternal playfulness, has rarely been studied. The lack of studies examining maternal playfulness is salient, as play and parental involvement in play have been found to be important to children's development.

The current study aims to better understand the role of maternal playfulness as a mediator and a moderator of the link between MM and child's responsiveness. The sample included 111 children and their mothers, (child age =1-3 years). Parent-child play interactions were videotaped and coded using the Emotional Availability Scales, the Mind-Mindedness Coding system, and the Parental Playfulness System. Results revealed that child's level of responsiveness was significantly related to MM ( $r = 0.21^*$ ). Furthermore, using regression analysis, it was found that maternal playfulness, but not MM, significantly predicted child responsiveness. Moreover, maternal playfulness significantly moderated the link between MM and children's responsiveness ( $\beta = -2.90^{**}$ ). Post-hoc analysis revealed that the link between MM and child responsiveness was significant only for mothers with low levels of playfulness ( $\beta = .47^{**}$ ). When mothers had high levels of playfulness, this effect was no longer significant ( $\beta = .17$ , ns). Finally, maternal playfulness mediated the links between MM and child responsiveness (Sobel mediation test:  $z = 1.98^*$ ), meaning that mothers who were low in mentalization, tend to be lower in playfulness. This in turn was related to less child's responsiveness to the mother.

These findings demonstrate the importance of considering parental playfulness when studying parent-child interaction and in particular, the way MM and behavior are related to children's behavior.

### **pos101.20 Styles of Emerging Adults' Individuation in Relation to Parents**

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Individuation in relation to parents remains an important developmental task during emerging adulthood, with achievement of autonomy and maintaining relatedness to parents representing a successful outcome. Five dimensions of individuation appear especially relevant for emerging adults: seeking parental support, connectedness to parents, perceived parental intrusiveness, self-reliance, and fear of disappointing parents. Our aim was to identify intra-individual patterns of these dimensions in relation to parents. A sample of 2040 emerging adults (73% female), aged 18 to 28 years ( $M = 21.5$ ,  $SD = 2.3$ ), filled-in the Individuation Test for Emerging Adults (Komidar et al., 2014) for mothers and fathers separately. A two-step clustering procedure revealed four internally replicable and structurally consistent styles of individuation across parents. The Individuated style (33% of the sample) was characterized by connectedness, self-reliance, and low levels of relational difficulties. It included more students, those residing partly with parents, and involved in an intimate relationship. Participants exhibiting the Independent style (15% and 16% in relation to mothers and fathers, respectively) scored high on self-reliance and low on connectedness. They were more likely male, older, in an intimate relationship, living out of parental home, and (un-)employed. The Anxious style described individuals with high levels of relational difficulties (25% and 21% in relation to mothers and fathers, respectively). They were more likely single and living in parental home. Dependent emerging adults relied on parents rather than themselves and showed high levels of fear of disappointing the parents (27% and 30% in relation to mothers and fathers, respectively). They were the youngest, more likely students, single, and residing partly in parental home. We suggest that the person-centred approach offers potential for studying developmental trajectories of individuation, and may be particularly useful in family counselling as the styles consider configuration of several dimensions instead of relying on its single dimensions.

### **pos101.21 Emerging-adults' psychosocial adjustment to university: Role of attachment and family functioning**

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Background. Entering university is a time of transition: contextual transition (high-school to university), developmental transition (issue of being adult) and modification in the family relations. To succeed at university, psychosocial adjustment is required. Indeed, these transitions create deconstruction of the living conditions (Boyer, Coridian & Erlich, 2001). This is a time when emerging adults become more independent and self-sufficient (Tanner, 2006), consequently relations between them and their family change, which can be analyzed from the attachment theory.

Aims of the study. The purpose of the study was first to identify attachment profiles and family functioning profiles of emerging-adults in their first year at university, and second to determine if these profiles bring to specific psychosocial adjustment.

Method. Our sample consisted of 218 emerging-adults, first-year students (89.4% women; Mage=18.7) recruited in the University of Bordeaux, France. Psychosocial adjustment comprised 4 dimensions: academic results, self-esteem (Self-Perception Profile for College Student, SPPCS), depression (Beck Depression Inventory, BDI) and anxiety (State Trait Anxiety Inventory, STAI). The Adult Attachment Scale (AAS) was used to measure attachment, and the Family Assessment Device (FAD) was applied to evaluate family functioning. Results. Using an iterative k-means clustering procedure, we found 3 attachment profiles in line with the literature: secure, anxious and avoiding ones. Concerning the family functioning, 3 clusters were derived: problematic, healthy and neutral (neither problematic nor healthy) ones. MANOVA analysis indicated that attachment profiles and family functioning profiles were associated with psychosocial adjustment. Moreover, Tukey post-hoc tests showed that the students within the secure attachment profile and those included in the healthy family functioning profile had highest scores in self-esteem and lowest scores in depression.

Conclusion. These results highlight the role of familial relational factors in emerging adults' psychosocial adjustment in the first year of university. Implications for future research will be discussed.

### **pos101.22 Relationship of mother's cognition of infant emotions with child-rearing difficulties**

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We examined the relationship between the accuracy of a mother's cognition of their infant's emotions and sense of difficulty with child-rearing, with focus on differences according to child age. Our previous findings suggested that difficulties with child-rearing by a mother inhibited healthy development of their infant, thus it is thought important for mothers to not to have intense feelings of difficulty related to child care. Moreover, in studies of internal factors of mothers, such as emotional empathy, it has been pointed out that mother-child interactions might be an important factor in regard to sense of difficulty with child-rearing.

For determining mother-child interactions, the mother's awareness of her infant's emotions is important. Notably, accurate cognition of the child's emotions is considered to have a great impact on feelings of difficulty with child-rearing. However, as the infant develops, it is expected that the relationship between accuracy of cognition and sense of difficulty may vary. In the present study, we surveyed 74 mothers with infants using a semi-structured interview and questionnaire. Findings obtained with partial correlation coefficient analysis that included emotional empathy of the mother as an internal factor as a covariate suggested that the relationship between accuracy of the mother's awareness and sense of difficulty with child-rearing varied depending on the age of the infant. In particular, mothers with 3-month-old infants had more intense feelings of difficulty as their accuracy for cognition of their infants' emotions increased, while no such correlation was observed for mothers with 6-month-old infants. Furthermore, the sense of difficulty was reduced as cognition increased in mothers with 9-month-old infants. These results are discussed in regard to the developmental characteristics of infants at each stage and the context used by their mother for perceiving emotions.

### **pos101.23 The Effects of Parenting Styles on Emerging Adults' Adaptation to the College**

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Adaptation is the process by which an individual adapts himself/herself to changing environmental conditions. College life adaptation includes meeting students' academic demands and integrating the college into the social environment. Baker and Siryk (1986) examined the college adaptation process in four dimensions: academic adjustment, social adjustment, personal–emotional adjustment and institutional attachment. Studies examining the factors affecting these dimensions have mainly dealt with separation-individuation, attachment to family, and self-efficacy. However, in recent studies, the relationship between family relations and college adaptation has gained importance. A healthy parenting style not only gives emotional support and security, but also provides the necessary psychosocial development and competence to successfully adapt to the college for the individual. According to Baumrind (1991), parenting styles were examined in four dimensions (authoritative, authoritarian, permissive and neglecting) based on parents' methods of limiting their children's wishes and finding solutions to their problems. The multidimensional nature of parenting styles and its ability to directly influence the individual's life and contribute to her/his personality formation and individuation process enabled researchers to work on this variable within the context of adaptation to college. Studies conducted in Western cultures suggest that authoritative parenting style has positive effects on the adjustment process to the college. Nevertheless, intercultural differences can lead to different outcomes, and this issue has not yet been studied in Turkey. In this study, we examined the role of parenting styles on college students' adaptation to college in a Turkish sample.

Participants were college students (N=400; Mage =21.2 years, SD=1.4; 50% girls) who provided information on their parenting styles (Parental Authority Questionnaire, Buri, 1991) and adaptation to college (The Student Adaptation to College Questionnaire, Baker & Siryk, 1989). We are currently conducting statistical analyses. Findings will be discussed in the light of parenting theories.

### **pos101.24 Attachment and internalizing problems in adolescence: The mediating role of personality**

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Insecure attachment to parents has been proven to contribute to the development of internalizing problems in children and adolescents. However, many questions concerning this relationship remain unanswered. The aim of this study was to examine three research questions. First, does the quality of adolescents' attachment to parents relate differently to different internalizing problems, that is, anxiety versus depression? Second, do attachment to mother and attachment to father relate differently to adolescents' internalizing problems? Third, does adolescent personality mediate the links between attachment to parents and internalizing problems?

The study was conducted on 1066 1st grade high-school students (Mage=15.18, SDage=0.511), from six counties in Croatia, using measures of sociodemographic variables, attachment to parents (Inventory of Parent And Peer Attachment – IPPA, Armsden & Greenberg, 1987), personality (NEO FFI, Costa & McCrae, 1992), adolescents' depression and anxiety (Depression, Anxiety and Stress Scale – DASS 21, Lovibond & Lovibond, 1995).

Hierarchical regression analyses showed that attachment to parents was better predictor of adolescents' depression than anxiety, while the attachment to father was better predictor of internalizing problems than attachment to mother. The mediation effects were examined by using the PROCESS macro in SPSS. Multiple mediational analyses were conducted to test whether the effects of attachment to mother and father on depression and anxiety were mediated by personality traits of neuroticism, extraversion, openness to experience, conscientiousness, and agreeableness. Neuroticism, extraversion, and agreeableness partially mediated the relationship of attachment to father and depression, whereas neuroticism, openness, and agreeableness partially mediated the relationship of attachment to father and anxiety. Relationships between attachment to mother and depression and anxiety were partially mediated by agreeableness.

Results suggest different roles of personality traits in mediating relationship between attachment to parents and adolescents' internalizing problems and have important implications for prevention and intervention programs for reducing internalizing problems in adolescence.

### **pos101.25 Attachment and intelligence in adolescence: reciprocal relation and mediating mechanisms**

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Introduction: Mother-child attachment has been studied for a long time. And the predictive role of attachment over IQ has been highlighted during preschool and elementary school years. However, several important points related to attachment theory have been few studied. First, few studies have focused on the reverse prediction, from IQ to attachment. Second, a limited number of studies have been conducted among adolescents. Third, previous literature mainly focused on mother-child attachment while attachment to father and peers were less studied. Aim: The purpose of this study was to address these gaps by exploring reciprocal relations between adolescents' attachment representations and IQ, as well as potential mediating mechanisms. Method: Data were collected, among 1500 adolescents in a three wave-longitudinal design. Both their IQ and attachment representations (towards mother, father and peer attachment figures) were assessed in waves 1 and 3, while mediating mechanisms have been considered in wave 2 using a multimethod and multi-informant perspective. Results: Strong stability of the two main constructs, i.e. attachment representations and IQ, was displayed. Reciprocal relations were found implying specific mediators from attachment to IQ on the one hand, and from IQ to attachment on the other hand. The results were discussed for their research and clinical applications. Keywords: Attachment ; Intelligence ; Adolescence ; Mediating mechanisms ; Longitudinal design

### **pos101.26 Maternal responses to children's negative emotions and preschoolers' emotional and behavioral problems**

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It is well-known that parental reactions to child's negative emotions are significantly related to child's psychosocial outcomes in pre-school age (Eisenberg et al., 1999; Spinrad et al., 2007), but the characteristics of children (e.g. temperament) are not always taken into account.

The aim of this study is to examine the effects of different maternal strategies to deal with child's negative emotions, related to emotional and behavioral problems in the age of 4. Further, the study analyzes whether child's temperamental traits moderate the relationship between maternal strategies and child's problems in different settings.

The participants of the longitudinal study are 203 children (49.3% girls), their mothers and teachers of kindergartens. For the current study, variables were selected from the seventh [Time 1, 2012] and eighth [Time 2, 2013] measurement waves. During the measurements the children were 3 and 4 years old respectively. At Time 1, child's temperamental traits were rated by mothers using Child Behavior Questionnaire (CBQ; Rothbart, Ahadi, & Hershey, 1994) and mother's coping strategies were assessed using Coping with children's negative emotions scale (CCNES; Fabes, Eisenberg, & Bernweig, 1990). At Time 2, mothers provided the ratings on the Child Behaviour Checklist (CBCL/ 11/2-5; Achenbach & Rescorla, 2000) and the teachers of the kindergartens completed the Caregiver-Teacher Report Form (C-TRF; Achenbach & Rescorla, 2000).

The results revealed that non-supportive responses to children's negative emotions were positively related with mother-rated emotional problems of 4 y.o. children. Mother- and teacher-rated behavioral problems were predicted by lower scores of supportive maternal responses, even after controlling for child's gender and maternal educational level. Effortful control significantly interacted with supportive responses in prediction of mother-rated emotional problems. For children rated low in effortful control, high maternal supportive responses predicted more emotional problems. This may show that parenting might have a differing impact on certain children.

### **pos101.27 How do German pupils react with regard to different forms of cyberbullying?**

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Data about the prevalence of cyberbullying in Germany vary considerably. Wachs (2009) reports a prevalence of 3.3% regarding victims and of 7.6% regarding perpetrators. Katzer et al. (2009a, 2009b) refer to prevalences of 36.2% respectively 32.8%. Studies which analyse how often pupils witness cyberbullying are rare. Also, a distinction between forms of cyberbullying like harassment, denigration, exclusion, impersonation, outing / trickery, cyberstalking or sexual harassment is rarely made.

Furthermore, Greve and Strobl (2004) distinguish between defensive, proactive and accommodative strategies to cope with cyberbullying. Most pupils try to ignore or avoid cyberbullying (defensive coping), take a stand against cyberbullying or aim to take revenge (proactive coping) or try to stay positive (accommodative coping) (Price & Dagleish, 2010). Studies which analyse the reaction of German pupils regarding the different forms of cyberbullying are missing, too.

Therefore, the following questions were analysed in an empirical study: (1.) How often do German pupils face cyberbullying? (2.) How do they respond to the different forms? (3.) To what extent do gender, age, use of media, previous experiences and personality traits influence their coping strategies?

The study was realised as a questionnaire-based survey on a sample of 431 pupils. Firstly, personal data of the pupils were acquired. Taking into consideration the differing perspectives of perpetrators, victims, and witnesses, three of 21 possible cyberbullying scenarios (with regard to the seven forms of cyberbullying) were randomly chosen and presented secondly. The participants of the study were asked how they assess the specific situation and how they would react.

Nearly half of the pupils had experience with cyberbullying. Most frequently mentioned were denigration and exclusion. The majority of the pupils stated to react proactively. The severity of the scenarios was assessed differently. Girls reacted stronger than boys. Pupils with previous experience as victims showed defensive reactions more often.

### **pos101.28 Cross-Generational Coalitions in Post-Divorce Families: Occurrence, Predictors, and Consequences**

Paula Vrolijk, Inge van der Valk, Rianne van Dijk, Susan Branje  
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The relationship between parent and child is among the most important factors in children's psychological development. After a divorce, parent-child relationships are often subject to substantial changes in quality. A divorce can entail the polarization of children's relationship with both parents, in which the relationship with one parent becomes stronger, whereas the relationship with the other parent becomes weaker. When the child is very close to one parent while having a very poor relationship with the other parent, this is referred to as a Cross-Generational Coalition (CGC). While there are strong indications that these coalitions are a serious risk factor for the development of children in intact families, empirical studies on its occurrence after divorce are lacking. In the current study we examined the occurrence of CGCs in divorced families. Further, a potentially important predictor of these coalitions was examined, in the form of interparental conflicts, as well as a possible outcome, namely, adolescents' internalizing problems. We hypothesized that the development of CGCs mediates the relation between interparental conflicts and internalizing problems. We analysed two waves of self-report data from 109 adolescents (43% boys,  $M_{age} = 13.7$ ,  $SD = 1.5$ ), 95 mothers and 61 fathers from high- and low-conflicted divorced families. Respondents reported on parent-child relationship quality, interparental conflicts, and adolescents' internalizing problems (i.e., depression, anxiety, and well-being). A latent sum and difference model was conducted to re-express mother-child and father-child relationship quality into combined and differential latent constructs to measure CGC. These constructs were used to examine the combined, and differential effect of the two parent-child relationships on internalizing problems. We also tested whether interparental conflicts have an effect on the two constructs. Finally, we examined whether interparental conflicts affect internalizing problems, and whether this relationship is explained by CGCs. Theoretical and practical implications of the findings are discussed.

**pos101.29 The consequences of parental divorce on children's adjustment; a meta-analysis**

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The number of divorces has been consistently high during the last decades. Previous meta-analyses have shown that parental divorce has negative consequences for children's adjustment. However, due to changes on society level and divorce legislation, the consequences of parental divorce on children's adjustment may be different compared to previous meta-analyses. The aim of this study is to examine the consequences of parental divorce on children's adjustment over the previous 16 years. We hypothesized that the negative effects for children following divorce may have increased, decreased or remained stable.

We searched for relevant studies in PsychINFO and ERIC. Studies were considered eligible when they compared children from divorced with children from intact families and when at least one measure of adjustment was considered (internalizing or externalizing problem behavior, academic achievement, social relations or self-concept). Moreover, studies were included when children were not older than 18 years old. Articles were excluded when parents separated for other reasons than divorce (e.g. death). Of 5,547 unique hits, 225 articles were read full-text. Of these, approximately 80 studies were included in the meta-analysis. A multilevel approach was taken, as this approach allows for including multiple effect sizes of one study while controlling for their dependency. Effect sizes and relevant moderators will be presented. Updated knowledge on current divorce effects can function as a new benchmark for researchers. Moreover, it can be used to implement new strategies and programs for both parents and children in order to prevent children for detrimental, far-reaching effects of a parental divorce.

## Peer relationships

### pos101.30 Do students in high status group bully?

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Recently in Japan, Suzuki (2012) showed students in high status peer groups behave dominantly in classroom and they show aggressive behaviors toward lower status group students. It is known that high status (i.e. popular) students tend to bully others. Although popularity reflects individual status, it is unclear whether popularity can accurately reflect inter-group status among peer group. Therefore, we investigated the relationships between inter-group statuses and bullying, among Japanese junior high school students.

Participants were 2384 Japanese junior high school students (girls=1164). We asked them the following, (1) group affiliation, (2) inter-group status, and (3) frequency of bullying behavior. Only students with group affiliation were asked about their inter-group status. Bullying behaviors included "ignoring", "saying bad things directly", and "kicking or punching".

First, about 92% of students affiliated with peer group. Second, we used GLM to investigate the link between inter-group status and bullying. Independent variables were gender, inter-group status, and interaction term of gender×inter-group status (Table1). Inter-group status did not predict bullying significantly. However, the interaction term significantly predicted "ignoring" and "saying bad things directly". According to simple slope test, we revealed that for girls inter-group status had marginally positive effects on "ignoring", but for boys no significant effect. Also, inter-group status had marginally positive effect on "saying bad things directly" for girls, but for boys, significantly negative effect.

From this result, we revealed that girls in the high statuses group tended to bully others in relational and verbal forms, but not boys. Although it is known that boys (e.g., Garandeau et al., 2014) and popular boys (e.g., de Bruyn et al., 2010) tend to bully than girls, we revealed the effects of gender and status on bullying is moderated by inter-group status.

	"Ignoring"		"Kicking or punching"		"Saying bad things directly"	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Intercept	.189	.010	.161	.010	.195	.011
Gender(boys=0)	-.089	.020 ***	-.199	.020 ***	-.163	.022 ***
Inter-group status	.002	.010	-.014	.011	-.009	.012
Gender×Inter-group status	.040	.020 *	.030	.021	.069	.024 **
$\chi^2$	24.57***		102.977***		66.082***	
$R^2_{DEV}$	.015		.061		.041	
<i>N</i>	2158		2149		2153	

\*\*\*  $p < .001$  \*\*  $p < .01$  \*  $p < .05$

Table 1: Predicting bullying behaviors by using GLM (poisson distribution)

### pos101.31 Children's elementary school social experiences affect their social decision-making

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Background. Approximately 10-15 percent of the children in elementary school are socially rejected by their peers (Rubin et al., 2006) and are at risk for behavioral difficulties (Parker et al., 2006). A possible mechanism by which social rejection can lead to behavioral difficulties is through altered social decision-making (e.g. prosocial behavior). We hypothesize that (1) a history of negative school social experiences like being disliked or victimized is negatively related to prosocial behavior, and (2) a history of positive school social experiences such as being liked is positively related to prosocial behavior. Interactive effects of gender with previous social experiences on prosocial behavior are also examined.

Method. In this study 561 boys (mean age=9.14, sd=.93) and 519 girls (mean age= 8.99, sd= 0.98) were assessed on prosocial behavior using the Dictator Game (Kahneman et al., 1986); a task used to measure sharing behavior. Children performed three different rounds with a different recipient each (i.e. unknown peer, liked peer, and disliked peer). They were instructed to divide 10 coins between themselves and the recipient. Children's history of social preference over grades 1-4 were assessed using peer nomination scores. Children's experiences of victimization over grades 1-4 were assessed using teacher report.

Results. Our results show (Table 1) that fewer positive social experiences decreased prosocial behavior directed to liked peers. Previous negative social experiences decreased prosocial behavior directed to unknown peers and disliked peers. Boys were less prosocial towards unknown peers when they were less liked. However, liked girls were less prosocial to a disliked peer. Victimized boys were less prosocial towards unknown peers.

Discussion. The results suggest that social experiences of a child can influence prosocial behavior already during the early years of elementary school and appear to have differential effects on prosocial behavior in boys and girls.

Those who Fare Well Share Well: Children's Elementary School Social Experiences Affect Their Social Decision-Making  
Poster submission

Table 1

Regression Coefficients of Hierarchical Multiple Regression Analyses Predicting Prosocial Behavior Directed to a Neutral Peer, Someone Liked and Someone Disliked From Previous Positive Social Experiences or Previous Negative Experiences.

	Predictor			Dislike			Relational victimization			Physical victimization		
	Like			Neutral peer	Some-one liked	Some-one disliked	Neutral peer	Some-one liked	Some-one disliked	Neutral peer	Some-one liked	Some-one disliked
	Neutral peer	Some-one liked	Some-one disliked									
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
1 Age	-.027	-.052 <sup>†</sup>	-.075*	-.027	-.052 <sup>†</sup>	-.075*	-.016	-.044	-.064 <sup>†</sup>	-.016	-.044	-.065 <sup>†</sup>
2 Age	-.027	-.061*	-.059 <sup>†</sup>	-.012	-.049	-.056 <sup>†</sup>	-.003	-.046	-.039	-.008	-.047	-.045
Gender	.063*	-.033	.161**	.046	-.037	.139**	.074*	-.029	.158**	.064 <sup>†</sup>	-.029	.136**
Predictor	.058	.070*	-.028	-.119**	-.064*	-.081**	-.063 <sup>†</sup>	-.008	-.106**	-.036	.004	-.093**
3 Age	-.028	-.062*	-.060 <sup>†</sup>	-.013	-.049	-.058 <sup>†</sup>	-.007	-.045	-.039	-.012	-.045	-.043
Gender	.064*	-.033	.162**	.047	-.037	.142**	.073*	-.029	.158**	.067 <sup>†</sup>	-.031	.135**
Predictor	.132**	.112*	.046	-.127**	-.065 <sup>†</sup>	-.105**	-.165**	.017	-.112*	-.088*	.042	-.075 <sup>†</sup>
Gender x Predictor	-.105*	-.060	-.105*	.013	.001	.041	.141**	-.033	.008	.085*	-.062	-.029

Note. The predictor in the hierarchical multiple regression analysis is the participant like or dislike score assessed with peer nominations or the level of relational victimization or physical victimization assessed with a teacher report.

<sup>†</sup>p < .10. \*p < .05. \*\*p < .01

Table 1. Children's elementary school social experiences affect their social decision-making

## pos101.32 Gender and age difference of interpersonal acceptability in children and adolescents

Emi Matsumoto

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There were two purposes in this study. The first was to examine the gender and age difference of the interpersonal acceptability in elementary and secondary school students. The second was to examine the effect of the degree of interpersonal experience and the width of interests on the interpersonal acceptability. Subjects were 98 (53 boys, 45 girls) fifth grade students and 272 (128 boys, 144 girls) eighth grade students in Japanese public schools. Main results were as follows: (1) Girls possessed higher interpersonal acceptability and lower exclusivity than boys. (2) There was no significant difference of interpersonal acceptability between fifth grade students and eighth grade students. (3) Eighth grade students possessed higher exclusivity than fifth grade students. (4) Students who had more experience of the interaction with various people and wider interest possessed higher interpersonal acceptability. This study showed that the interpersonal acceptability differed between boys and girls, and the interpersonal acceptability was influenced by the degree of interpersonal experience and the width of interest. Therefore, it is important for students to provide many opportunities to interact with various people and to stimulate their interest.

### **pos101.33 Person-Group Dissimilarity in Personality and Peer Victimization**

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We examined whether the person-group dissimilarity model of Wright et al. (1986) is also applicable to personality traits in the explanation of peer victimization. The person-group dissimilarity model states that the group norm defines how peers evaluate behavior, and that peers have a low social status when their behavior deviates from the group norm. In line with this, prior research showed that person-group dissimilarity in social behavior is related to a lower status and less peer acceptance. Although studies on dyadic (dis)similarity in personality indicate that (dis)similarity affects interpersonal attraction, it remains unknown to what extent person-group dissimilarity effects on social status also exist for person-group dissimilarity in personality. As victimized adolescents often show a low status, we hypothesized that person-group dissimilarity is related to more peer victimization. We examined this hypothesis with data from 1,108 adolescents ( $M_{age} = 13.56$ ,  $SD = 1.13$ ) from 54 classrooms. Data included measurements of self-reported and bully-disclosed victimization, and Big Five and Dark Triad personality traits. Results of generalized mixed models including polynomial equations and subsequent Response Surface Analyses partly supported our hypothesis. Person-group dissimilarity in personality profile was related to more bully-disclosed victimization but not to self-reported victimization. Dissimilarity in neuroticism and Machiavellianism were related to more self-reported and bully-disclosed victimization. Dissimilarity in extraversion, openness to experience, and psychopathy were only related to more self-reported victimization. The person-group dissimilarity effects indicated linear (i.e., individual trait score lower or higher than the classroom norm) and absolute dissimilarity (i.e., individual trait score can be both lower or higher than the classroom norm). Hence, the current study is the first to show that victimized adolescents are more likely to deviate from the classroom norm with respect to personality. Our findings can help teachers and other professionals in detecting adolescents who might be vulnerable for peer victimization.

### **pos101.34 Effective components of universal secondary school-based interventions: A meta-analysis.**

Esther Mertens, Maja Dekovic, Monique Van Londen, Ellen Reitz  
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There is a large number of universal secondary school-based interventions targeting adolescents' social safety and socio-emotional adjustment. These interventions aim to improve adolescents' social skills, and/or attitudes about the school and social topics (i.e., social safety) and cognitive and affective skills, and/or attitudes about the self (i.e., socio-emotional adjustment). However, still little is known regarding their effectiveness and the components associated with this effectiveness in particular. This meta-analysis aims to (1) examine general effectiveness of these interventions, (2) identify most commonly used components to establish change, and (3) analyze which components are most strongly associated with effectiveness immediately after treatment and at follow-up.

PubMed, PsycInfo, ERIC, and CENTRAL were systematically searched until November 2016 for controlled studies of universal secondary school-based interventions aiming to improve the social safety and socio-emotional adjustment of adolescents. The search resulted in 7968 unique articles that are currently being selected for inclusion. Variables concerning research design, participants, and intervention components will be extracted from the studies. In order to code the components as accurately as possible, additional information concerning program content of the intervention will be gathered from published outcome articles, related publications and freely available materials. Effect sizes will be calculated for all comparisons between the intervention and control group to analyze general effectiveness. Characteristics of the program (i.e., practice, instructional, and program components) will be used to predict the effectiveness on measures of social safety (e.g., aggression, bullying) and socio-emotional adjustment (e.g., emotion regulation, resilience). We will use a multilevel meta-analytical approach to analyze the data.

By identifying components that appear effective in improving adolescents' social safety and socio-emotional adjustment, insight is gained in which components address which behavior. This enables schools to be more critical about which intervention to select and which components are necessary to target specific behaviors.

### **pos101.35 Why normal behavior should be rewarded? Consequences of positive behavior support**

Sami Määttä

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Disruptive behaviors in classrooms pose a significant challenge for learning in schools. At the same time they are also a risk factor for students' academic achievement. An intervention program (Good Learning Climate for All; Närhi, Kiiski and Peitso, 2013), based on clear behavioral expectations, positive behavior support and rapid actions in response to disruptive behavior, was developed to address these problems in Finnish upper comprehensive school. In present study a quasi- experimental design was used to evaluate the effects of this class-wide intervention on learning climate and disruptive behavior and different motivational covariates. Approx. 600 7th and 8th grade students took part in measurements during one school year at 4 time points. Results suggest that the intervention was successful in promoting school climate. In addition, surprisingly, the intervention influenced the students' motivation – something it was not explicitly designed to achieve. This study was a part of a larger ProKoulu project, funded by Ministry of Education and Culture.

### **pos101.36 Patterns of change and stability in identity processing styles**

Rita Žukauskienė, Inga Truskauskaitė-Kunevičienė, Goda Kaniušonytė, Elisabetta Crocetti

*Mykolas Romeris University, Lithuania*

In adolescence, changing life circumstances, together with biological and cognitive development, trigger identity formation (Erikson, 1968). Adolescent can explore different alternatives and reflect on their own commitments, in order to enact meaningful identity choices, in line with their plans and talents (Marcia, 1966). In this process, adolescents show stylistic differences in their reliance on different strategies to process self-relevant information (identity styles; Berzonsky, 1989). However, it is largely unknown how identity styles develop in adolescence. Thus, in this study we sought to address this gap in the literature, examining for the first time multiple patterns of change and stability in Berzonsky's identity styles (informational, normative, and diffuse-avoidant) in a four-annual-wave longitudinal study with 468 adolescent boys and girls from Lithuania. A combination of mean level changes, high rank-order stability, and high profile stability has been found in this study. First, levels of informational and normative identity styles remained stable for girls, but decreased significantly for boys; levels of diffuse-avoidant identity styles remained stable for girls and boys. Second, the rank-order stability of the normative and diffuse-avoidant styles was lower for boys, than for girls. Third, the mean profile stability was high for girls and moderate for boys. In general, our findings highlighted substantial gender differences in multiple indices of change and stability of identity styles. Therefore, our findings demonstrate the value of a longitudinal approach to the study of identity formation. We hope that these results would inspire more longitudinal research into change and stability in adolescent identity styles across different cultural contexts.

## **Social, and personality development**

### **pos101.37 Axio-factor OC-value's in personality development: cross-cultural study values' model in postcommunist space**

Lyudmyla Romanyuk

*Taras Shevchenko National University of Kyiv, Ukraine*

This study makes use of Schwartz's Portrait Values Questionnaire (PVQ; Schwartz, 1994; Schwartz et al., 2001) to examine the psychometric properties of Openness-to-Change (OC) axio-factor in large sample of young adult from Poland, Romania, Ukraine for studying value differences across cultures by applying an one-factor model focused on OC as salient process of personality development. Participants were 603 students aged from 18 to 45 years from Poland (n = 220), Romania (n = 183) and Ukraine (n = 200). Results support for the generalizability of the one-factor model on openness to change values in Ukraine and Romania. Two separate models were tested in the Romanian and Ukrainian groups, respectively. The models showed a very good fit. The CFA model estimated via SEM is shown in Figure 1 and was analyzed for the Polish data set  $\chi^2(N = 603) = 72.01$ ,  $p = .026$ , CFI = .919, RMSEA = .095) for the Romanian data set  $\chi^2(N = 603) = 26.03$ ,  $p = .026$ , CFI = .939, RMSEA = .069) and for the Ukraine data set  $\chi^2(N = 603) = 25.91$ ,  $p = .017$ , CFI = .929, RMSEA = .071) separately. The associations of self-direction and stimulation item loadings within three groups were all statistically significant. The results showed a consistent relation between factor loadings for OC one-factor model in Ukrainian, Polish, Romanian groups. We found support for path models for both samples testing two separate models in the Polish, Romanian and Ukrainian groups, respectively. The results of the models fit statistics were largely satisfactory. The prospective of future research is cross-cultural comparison with data for Belgian, Polish, Romanian, Ukrainian samples to study such basic concept about personality development and values' becoming in social and cultural space as openness to changes in the personal system of values including west&east-European spaces.

### **pos101.38 Self-Regulation of Unattainable Goals in Identity Development**

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Identity processes and self-regulation of unattainable goals represent key factors in lifelong development, both being related to meaning in life and well-being, but also to distress and depressive symptoms. Nevertheless, little is known about the manner in which these two constructs may be related. The aim of the present study was to gain new insight into identity development in emerging adulthood by analyzing the relation between identity processes and self-regulation of unattainable goals.

To measure the two constructs, we used a cross-sectional design in which 97 Romanian emerging adults (71% girls) completed two self-reported instruments: The Dimensions of Identity Development Scale (Luyckx et al., 2008) and The Goal Adjustment Scale (Wrosch et al., 2003). The first scale measures a five-process identity model which includes: exploration in breadth, commitment making, ruminative exploration, exploration in depth, and identification with commitment. The second scale measures goal disengagement and goal reengagement, these two concepts representing the self-regulation of unattainable goals tendencies. Multiple regression analyzes (Table 1) highlighted that only exploration in breadth and commitment making were significant negative predictors for goal disengagement. This suggests that participants who are in the identity cycle of commitment formation do not tend to use disengagement, instead they tend to invest more effort and commitment into the goals they are pursuing. Also, results pointed out that only exploration in breadth was a significant positive predictor for goal reengagement. This indicates that both exploration processes and goal reengagement imply searching for different alternatives with respect to their goals. These results were not moderated by participants' gender or age.

These findings provide a first evidence that there is a possible relation between identity processes and self-regulation of unattainable goals, encouraging future research aimed at analyzing the relations between the two constructs. Further theoretical and practical implications are discussed.

*Predictors of goal disengagement and goal reengagement*

Variable	Goal disengagement	Goal reengagement
	B	$\beta$
Commitment making	-.32*	-.27(*)
Exploration in breadth	-.30*	.33*
Ruminative exploration	.10	.06
Identification with commitment	-.08	.13
Exploration in depth	-.09	-.03
R <sup>2</sup> (adjusted)	.14***	.16***

Note: (\*)  $p < .1$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .005$

Table 1.

### pos101.39 Political Participation and Psychological Engagement for the European Union

Dagmar Strohmeier

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It was investigated whether the visions and worries for the future of Europe of young persons aged 16 to 25 years translate into conventional and non-conventional political participation and psychological engagement for the European Union. The main theoretical idea of the present study is that two mechanisms are driving participatory behavior for the European Union. To begin with, we assume that the content of the visions and worries of a future Europe matters. Second, we hypothesize that more generalized efficacy beliefs are important as well.

To test this theoretical idea, a mixed method study was conducted in seven European countries. Based on qualitative interviews a comprehensive list of 39 future visions and 31 future worries was developed and integrated in a large scale Pan-European quantitative survey. Young people also filled in validated scales to measure internal, external and collective efficacy as well as conventional and non-conventional political participation and psychological engagement.

In Austria, 1348 young persons aged 16 to 25 years answered the online-survey. Exploratory factor analyses were conducted to check the newly developed worries and visions scales. Result revealed that conventional political participation (=future voting) was not associated with any worry or vision among the Austrian youth. It was also revealed that internal efficacy but not external or collective efficacy was moderately related with the 3 kinds of participatory behaviors.

To summarize, the present study breaks innovative grounds to better understand some of the correlates for different kinds of political participation on the European level among young people.

### pos101.40 Adolescents' Economic Socialization in the Modern Russia: Experience of Investigation

Tatiana Sadovnikova

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The article describes two researches devoted to revealing some particularities of adolescents' economic socialization in the modern Russia.

We studied the relation between the level of adolescents' moral thinking development, specific features in the sphere of their monetary relations and their self-assessment in this sphere (N = 159), using Semenov's Questionnaire of Attitudes Towards the Money among Teenagers (2009) based on the A. Fernam's questionnaire; the modification of Kohlberg's Moral Dilemma (Karabanova, Podolsky, 2011); Self-Esteem Scale by Dembo and Rubinshtein (Prikhogan, 1988), the School's Moral Atmosphere Questionnaire (SMAQ) by Brugman in Karabanova's version (1999) and Projective technique «The composition about...» on the subject "Money in the teenagers' life» in the author's adaptation.

We collected data about the teenagers' experience in monetary relations and their feelings and attitudes to money.

Our previous studies revealed that teenagers' value orientations and their type of the school's moral atmosphere perception (SMAP) – democratic, authoritative, ambivalent -- are interconnected (Karabanova, Sadovnikova, 2011). We have assumed the interconnection between the type of teenagers' SMAP and the features of their orientation in the sphere of monetary relations (OMR). So, our hypothesis has been confirmed.

Gender distinctions in development of teenagers' OMR were revealed: boys are more concentrated on money. The level of teenagers' moral thinking development (L. Kohlberg) and their OMR features, according to our data, are linked: the teenagers with a higher level of moral development are more mature in their monetary relations.

The study can be a valuable contribution to a better understanding of adolescents' economic socialization in the context of their moral development and the role of school community in adolescents' economic activity formation. More detailed investigation of reasons and mechanisms leading to the formation of OMR competence in the adolescents of different SPMA is required to provide a better basis for preventive actions.

#### **pos101.41 The influence of beliefs on young people's visions for Europe 2038**

Carmen Hortensia Bora, Simona Trip, Gabriel Roseanu  
*University of Oradea, Romania*

Rational emotive and behavioral therapy states that beliefs are at the core of emotions and behaviors, as Ellis stated in 1962. Our attitudes toward the events we encounter will affect our emotional and behavioral responses, also the choices we make regarding our life. The purpose of this paper is to emphasize the influence of beliefs/attitudes in what concerns young people's choices regarding their own future and the future of Europe. A number of 420 young people aged between 16 and 25 completed an online survey regarding visions for own future, future of Europe, worries regarding future and their attitudes and values. The survey is part of the international project Europe 2038 – Voice of the Youth. Results showed that attitudes like tolerance of ambiguity and frustration intolerance are related to what young people want for their future or the future of Europe and to their worries related to future. Also, these attitudes are linked to values like human rights, diversity, justice and rule of law, etc. Dysfunctional attitudes affect young people's visions regarding future and this could be an important topic regarding the skills for the 21st Century, skills which help young people to be more adapted, proactive and healthy.

#### **pos101.42 Right-wing authoritarianism in Czech young adults: the picture of "ego weakness"**

Jan Sirucek  
*Masaryk University, Czech Republic*

Authoritarian attitudes are widely studied in association with emotional and interpersonal dispositions. Among many approaches based on work of Adorno and colleagues, Allport simplified picture of authoritarian personality into concept of "ego weakness" characterized by insecurity and fearfulness. In our current project "From decisiveness to authoritarianism", we try to test Allport's point of view on sample of Czech young adults, using later theoretical constructs of Kruglanski (need for cognitive closure), Bornstein (interpersonal dependency) and Downey et al. (rejection sensitivity) as predictors of right-wing authoritarianism as operationalized by Altemeyer.

Using sample of 200 of Czech middle class young adults (ages ranging from 21 to 30 years, methods used were Need for Cognitive Closure Scale (Roets, van Hiel, 2010), Right-Wing Attitudes Scale RWA3D (Funke, 2005), Rejection Sensitivity Questionnaire (Downey and Feldman, 1996) and Relationship Profile Test (Bornstein et al., 2003), we test the hypothesis that specific profile of dispositions relating to Allport's broader concept of "ego weakness" form authoritarian attitudes. Our preliminary results show that especially need for cognitive closure, fear of rejection and destructive overdependency are moderate predictors of authoritarian attitudes, while dysfunctional detachment and rejection probability expectancy do not relate to authoritarianism. Healthy dependency lowers probability of authoritarian attitudes. Structural equation modelling proves that general latent variable of "fearfulness" could explain authoritarianism in large extent, or that authoritarianism seems to be more a facet of "ego weakness", than a specific personality trait or structure of attitudes.

Our result proves more support to Allport's theory because of specific nature of Czech sample, in which situational and cultural experience with heterogeneity is very occasional or distant, provided almost only by media. In context of today's immigration crisis, we can say that fear of loss of cultural identity emphasized in public discussions is based more on personality configuration than on real experience.

**Brain Development**

**pos102.1 Self-representation in spatial perspective taking relates to equilibrium in the elderly**

Masayuki Watanabe  
 Shiga University, Japan

Spatial perspective taking involves mental self-rotation and information processing. Mental self-rotation is a process of rotating an embodied representational self to a target position, involving sensorimotor mechanisms that are also responsible for actual movement. This implies that movement of the embodied self-representation and physical movement use similar neurological pathways. Thus, it could be predicted that those who perform poorly at physical activities would also perform poorly at spatial perspective taking tasks. Additionally, sensorimotor activation would improve their spatial perspective taking performance more substantially than it would for those who perform better at physical activities. These hypotheses have already been verified with university students. To test them in the elderly, 56 old adults were asked to play a video game involving spatial perspective taking (SPT task) with two conditions of sensorimotor activation (restrained and unstable) and postural sway test. In the SPT task, linear function formulae that considered the degree of rotation and response times were calculated; the slope represented theoretical mental self-rotation speed. Pearson’s correlation coefficients were calculated between the SPT slope and postural sway score (Table). A significant positive correlation was found in male participants between the SPT slope in the restrained condition and postural sway score, indicating that lower the postural stability, the faster the embodied self-rotation. Subsequently, Pearson’s correlation coefficients were calculated for discrepancies between the two conditions of SPT slopes and postural sway score. A significant positive correlation was found in male participants between the discrepancy of slopes and the postural sway score, indicating that lower the postural stability, the better the sensorimotor activation accelerated embodied self-rotation. These results suggest that the relationship between embodied self-representation in spatial perspective taking and equilibrium is unbroken in aging.

		SPT slope		
		restrained	unstable	discrepancies between conditions
postural sway	male	r=-.464	r=.086	r=-.434
		t=2.565	t=.418	t=2.360
	p<.05	n.s.	p<.05	
	female	r=.288	r=.290	r=.010
t=1.648		t=1.661	t=.057	
		n.s.	n.s.	n.s.

Figure 1: Pearson’s correlation coefficients between SPT slope and postural sway score

**pos102.2 Dissociable heritability patterns in childhood subcortical-prefrontal cortex functional connectivity: A twin study**

Michelle Achterberg, Marian Bakermans-Kranenburg, Marinus van IJzendoorn, Mara van der Meulen, Nim Tottenham, Eveline Crone  
 Leiden University, Netherlands

Connectivity between limbic-subcortical and cortical brain regions are developing across childhood, but very little is known about the heritability of these networks. This study tested heritability of subcortical-cortical and subcortical-subcortical brain connectivity in 7- to 9-year-old twins (N=220), focusing on two key subcortical structures: the striatum and the amygdala. Whole brain analyses with ventral and dorsal striatum (VS, DS), and amygdala as seeds in split-twin groups showed replicable connectivity patterns (Figure 1). Furthermore, VS-prefrontal cortex connections were best described by a heritability factor. In contrast, DS-prefrontal cortex connectivity and amygdala-prefrontal cortex connectivity were best explained by shared environmental influences, with 48% of amygdala-orbitofrontal cortex connectivity being explained by shared environmental factors. VS and DS connectivity with other subcortical regions were also best explained by shared

environmental influences whereas amygdala connectivity with other subcortical regions was best explained by a heritability factor. Thus, dissociable contributions of heritability and shared environment were observed for the striatum and the amygdala. These findings may inform interventions that target behavioral control and emotion regulation, by also taking into account environmental factors such as parental sensitivity.

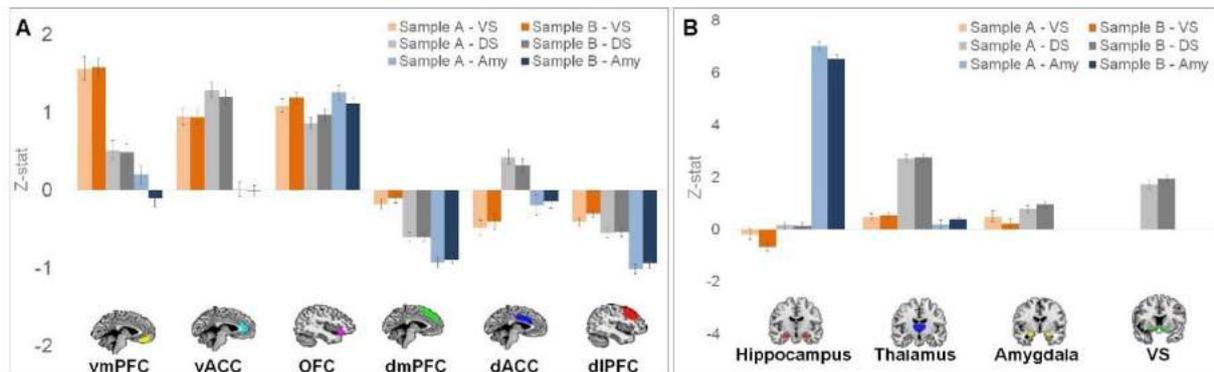


Fig 1. Subcortical-cortical and subcortical-subcortical brain connectivity. A) Connectivity between subcortical seeds ventral striatum (VS), dorsal striatum (DS), amygdala (AMY), and prefrontal cortical regions ventral medial prefrontal cortex (vmPFC), ve

### pos102.3 Unraveling the contribution of different executive functions to math abilities in children

Sonia Guerra, Ángela Conejero, J. Paul Pozuelos, M. Rosario Rueda  
University of Granada, Spain

Executive functions (EF) refers to cognitive processes that are utilized in planning, problem solving, and goal-directed activity, such as attention shifting, working memory, and inhibitory control (Miyake et al, 2000). There is evidence that EF have a central role in the acquisition of academic skills and particularly in math performance (Clark et al, 2013; Welsh et al., 2010). Recent evidence shows that the flanker interference effect measured with amplitude of event-related potentials is a significant predictor of math grades in 12 years old children (Checa & Rueda, 2011). The aim of this study is to understand the neural basis of the development of the different domains of EF and its relationship with mathematical competence. For this purpose, different domains of EF were assessed using flanker and stroop-like (conflict processing), Go-NoGo (inhibitory control) and visual Span (working memory) tasks. Besides, we obtained a measure of intelligence with WPPSI-III test, and assessed mathematical ability with standardized test (TEMA 3), in a sample (N = 39) of boys/girls aged 5 to 6 years. Results show a strong relationship between EF and intelligence, and between these skills and mathematical competency. Multiple regression analysis showed that among the different EF domains, conflict processing is the best predictor of mathematical competency. The analysis of ERPs showed a correlation between the mean amplitude in N2 component associated with conflict and maths competence. These results support prior evidence of a connection between executive functions and the development of numeracy and mathematical thinking, and inform of neural mechanisms underlying the contribution of EF skills to math competence.

### pos102.4 Intervention with games: teasing challenges to the child

Ana Lucia Petty, Maria Thereza De Souza  
University of Sao Paulo/ Institute of Psychology, Brazil

The purpose of this paper is to present the analysis of observation protocols in which children's attitudes and procedures were registered while playing games in an intervention program context. Children with learning difficulties aged from 7 to 11 took part in this qualitative research held at a laboratory of the Institute of Psychology. They were seen once a week during three semesters. The theoretical framework is based on Piaget's concepts (grasp of consciousness and self regulation) as well as empirical studies about the use of games and psychological development, in particular the ones related to executive functions. The protocols

collected data from four moments that children had to face: (1) introducing the game, (2) playing the game, (3) dealing with conflicts and (4) analyzing the experience. They included two categories to be observed - interest and autonomy - in addition to a particularity of each one, respectively: control of impulsiveness, strategy procedures, strategies to overcome conflicts and willingness to evaluate. 65 protocols were analyzed in accordance with these four moments. Results showed that children were interested as a starting point, and this attitude implied a predisposition to control impulsiveness and to build up strategies to achieve good results. As a consequence, these procedures enabled most of them to grow in autonomy when dealing with social and/or intellectual conflicts and to become aware of their actions, willing to discuss the experience. The conclusion was that the intervention program using games brought up different challenges related to the four moments of the game context. They stimulated not only children's interest and autonomy, but also motivated them to control impulsiveness and develop solutions to overcome difficulties and conflicts. Therefore they became able to act with intention and aim at building up changes that resulted in better performances in the learning and development processes.

## Cognitive Development

### **pos102.5 Baseline cortisol and cortisol reactivity in relation to cognitive functioning in infants**

Dide van Adrichem, Stephan Huijbregts, Kristiaan van der Heijden, Stefanie van Goozen, Hanna Swaab  
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**Aim.** To elucidate cortisol-cognition associations during infancy, the study examined associations of baseline stress level and stress reactivity with measures of cognitive function in 12-month-old infants (n=150).  
**Methods.** During a laboratory visit, infant's saliva was sampled 30 and 5 minutes before, and 15 and 30 minutes after a stress protocol for the analysis of cortisol levels. The stress protocol consisted of a combination of a stranger approach and the mechanical toy task of the Laboratory Assessment Temperament Assessment Battery (Lab-TAB).

**Results.** On average, cortisol level increased significantly from baseline to 15 minutes after stress, followed by a decrease in cortisol level at 30 minutes after stress. As shown in Table 1, baseline cortisol level 5 minutes prior to the stress paradigm was negatively related to the cognitive task measuring social referencing (precursor of Theory of Mind). Stress reactivity was positively related to vocabulary (comprehension and production) and inhibitory skills. No effect of cortisol levels on the infants' attention regulation were found.

**Conclusions.** These results show that in late infancy relatively low baseline cortisol (or stress) levels and relatively high cortisol reactivity are associated with better cognitive outcomes. This pattern has previously only been observed in older children (e.g. Blair, Granger, & Razza, 2005), and supports the notion of a very early start of the development of the stress systems in relation to cognitive development.

	Baseline 1	Baseline 2	Reactivity	Recovery
	T1	T2	$\Delta T2-T3$	$\Delta T3-T4$
Vocabulary (comprehension)	-.11	-.104	.22**	-.14
Vocabulary (production)	-.13	-.15 <sup>†</sup>	.20*	-.12
Attention	.04	.06	.00	.07
Inhibition	.00	-.07	.26**	-.14
Social Referencing	-.05	-.18*	.02	.02

\*\* $p < .01$ ; \* $p < .05$ ; <sup>†</sup> $p < .10$

Table 1: Correlations between cortisol levels and cognition.

### **pos102.6 Preschoolers' attitudes towards learning from robots across different domains**

Cansu Oranç, Aylin Küntay  
*Koç University, Turkey*

Robots are increasingly used in educational settings as in language and mathematics teaching (Mubin et al., 2013). While children's approach towards robots as a source of information has been studied (e.g. Breazeal et al., 2016), their attitudes towards learning from them across different educational domains are not yet explored. This research investigates the domains in which children perceive robots as a source of information compared to other sources they are experienced with: adults and cartoon characters.

Eighteen 4- to 5-year-old children were shown two of the three informants (robot, cartoon character, human) on a screen along with an image of one of the domains: language, physics, biology, psychology, machines. Children were asked to point at either informant to obtain correct information about the domain in question (e.g. "Who can give us the correct definition of this word?"). Forty-five trials were administered, with three trials for each domain and for each informant pair.

A within-subjects 2x5 ANOVA (Opponent: Human, Cartoon and Domain: Language, Physics, Biology, Psychology, Machines) revealed a main significant effect of opponent (compared to the robot),  $F(1, 17)=8.615$ ,  $p=.009$ , and a significant interaction between opponent and domain,  $F(4, 68)=4.101$ ,  $p=.005$ . Regardless of the domain, robot was more likely to be chosen to learn from when it was put up against a cartoon character ( $M=2.06$ ,  $SD=0.99$ ) than a human ( $M=1.4$ ,  $SD=1.18$ ). When the domain was language, physics or machines

compared to biology, children chose the robot instead of the cartoon character. They also chose the robot when the domain was language compared to psychology. When the human was put up against robot, there were not any significant differences between domains (see Figure 1). These results indicate children's selective approach towards different informants across educational domains.

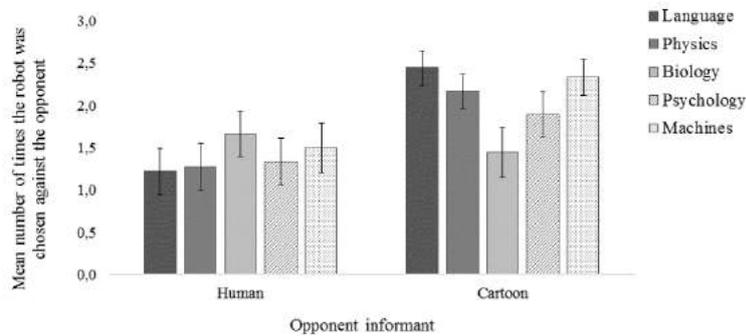


Figure 1. Mean number of times children chose the robot against either informant across five domains.

**pos102.7 Emotional facial stimuli, pupillary responses and child behavioral difficulties. A pilot study.**

Mona Bekkhus, Bruno Laeng  
 Department of Psychology, University of Oslo, Norway

Background: The aim of the current study was to examine pupil responses as an index of changes in threshold for visual emotional stimuli.

Method: We used the N-1 memory task, to examine pupil responses in children with behavioral difficulties. Children (age 6 to 9) and their families were recruited at the school psychologist office. The target child was referred to the school psychologist for behavior problems (n=6), and the control child was a non-referred sibling (n=6). In addition sibling pairs with the same age range and socioeconomic background, have been recruited from schools in the municipalities. Child behaviour was examined using the child Behaviour Checklist, the Wechsler Intelligens scale for children (Wisc-IV), in addition to questionnaire data on parental conflict, mental health and background.

Results: Preliminary findings are shown in Figure 1, and indicate that children with behaviour problems have larger pupil responses as compared to their siblings when exposed to sad and neutral emotional face expressions (P=0.07).

Conclusion: Pupillary responses occur from birth and are involuntary; pupillometry may be a window to understanding the neurological underpinnings of behaviour problems in children. Additional data from this pilot study are needed to draw any conclusions.

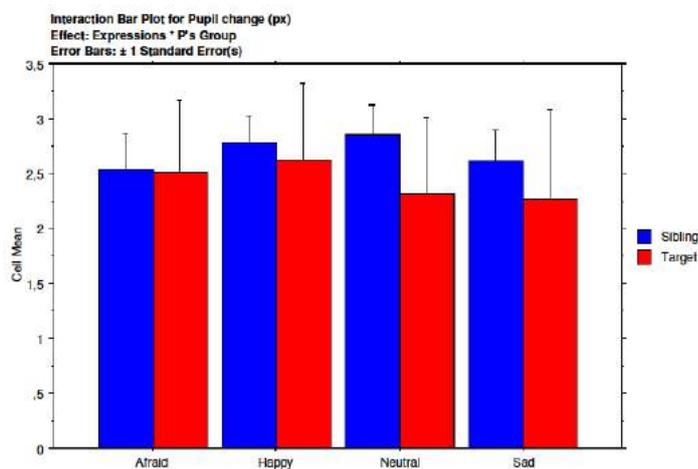


Figure 1: Change in pupil response in children with behavior problems and their sibling

## pos102.8 The Dynamics of Development of Executive Functions in Late Childhood.

Malgorzata Cuzytek

*Institute of Psychology, Jagiellonian University, Poland*

**Aim.** The aim of the research was to determine how individual trajectories of specific executive functions (EF) such as: inhibition, shifting, updating, planning fluctuate among 6 and 9/10-year-olds and what are the differences in development of EF at the beginning and at the end of late childhood. There were two groups of participants: 38 younger children (aged 6.3 to 6.9; 20 females) and 36 older children (aged 9.6 to 10.3; 15 females).

**Method.** The microgenetic method was used. Each participant took part in 9 microgenetic sessions every three weeks. The single session consisted of 4 computer tasks (Inquisit software) adjusted to children's cognitive potential and lasting around 25 min. Children represented a similar level of general computer skills. Flanker Task was used for inhibition, Corsi Block Tapping Task for updating, Winconsin Card Sorting Task (two-dimensional version) for shifting and The Tower of London Task for planning.

**Results.** The data was analyzed quantitatively and qualitatively. 296 trajectories for 74 children were drawn. Groups of universal and individual characteristics of EF were observed. They were categorised based on shape. Additionally a group of trajectories showing transition from lower to higher level of EF was analyzed qualitatively. Transitions within updating and shifting were observed in younger children whereas transition in planning was observed in older ones. Inhibition results were similar in both groups. Development of EF in older children was more balanced while younger children tend to follow their individual paths of development.

**Conclusions.** The microgenetic method was applied in research on development of EF for the first time. The data shows that it is suitable for detailed investigating of individual paths of development of different executive processes in late childhood.

## Development of social cognition

### **pos102.9 Infants' Performance In Spontaneous-Response False Belief Tasks: Review Of Paradigms And Results**

Pamela Barone, Antoni Gomila  
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Evidence obtained with new experimental paradigms has renewed the debate on the development of theory of mind (ToM). In particular, several studies contend that false belief ascription is already present in infants. In this review, we compile all the evidence about spontaneous-response false belief tasks (FBT) in children younger than 2 years old. We aim to summarize the empirical evidence available and analyze whether the assertion that infants attribute false belief to an agent to surpass the tasks is supported.

A total of 26 articles using violation-of-expectation (VOE), anticipatory looking (AL) and interactive paradigms to measure false belief attribution have been reviewed (see table 1). Following Wellman et al.'s meta-analysis (2001) we constructed a list of parameters to code and examine the tasks.

VOE paradigm, despite being the most common employed procedure, have the following shortcomings: long or many familiarization trials, a great variability and inconsistency in confirmatory looking times across studies, lack of replication and the existence of conflicting evidence.

Studies employing AL paradigm are criticized for removing the target object in order to facilitate the adequate look, including long familiarization periods, providing contradictory results regarding infants' first look, not including a true belief condition, and not keeping the criterion of inclusion constant among studies.

Interactive paradigms face some difficulties as a high amount of excluded participants from the analyses, long familiarization periods, equivocal results and the lack of control conditions.

In conclusion, when taken together, the evidence does not consistently support that infants understand false beliefs before 24 months of age. A dynamicist account is outlined as an alternative explanation of performance in these tasks. We suggest to reconsider the idea that false belief is the right criterion of a ToM to articulate previous forms of intentional development and attribution.

Paradigm	Articles	N	Participants excluded	Conditions	FB conditions
VoE	13	904	232	50	21
AL	6	208	80	12	8
Interactive	7	404	205	23	13
<b>Total</b>	<b>26</b>	<b>1516</b>	<b>517</b>	<b>85</b>	<b>42</b>

**Note:** Summary of articles reviewed using each paradigm: violation of expectation (VOE), anticipatory looking (AL) and interactive paradigms.

*Table 1. Summary of articles reviewed.*

### **pos102.11 Recognizing the connection between emotion understanding and social cognition in infant development**

Daniel Dukes, Peter Reschke, Eric Walle  
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Social cognition and emotion understanding both involve appreciating others' motivational states. Indeed, part of the inferential process involved in predicting others' behaviour is carried out on the basis of recognizing the significance of the relation they have with their environment – in other words, recognizing their emotional state. When expressed like this, it seems that the link between areas of social cognition and emotion understanding is undeniable. However, this link has been largely underemphasized in the field of social cognitive development, which, we argue, is due to relying too heavily on traditional operationalizations of emotion in developmental research (e.g., facial signals).

In this presentation, we advocate a more relational approach to emotion understanding that can address this conceptual divide, encompassing the entire person-object-context relation. Indeed, the link between social

cognition and emotion is particularly strong when 'context' is understood, not only in terms of geographical circumstance, but also in terms of goals. It as if the understanding of the other's goal frames how the emotional state can be understood.

We illustrate our argument by focusing on three areas of study in developmental social cognition in which a more relational treatment of emotion understanding leads to novel lines of inquiry and new interpretations of results: goal-understanding, prosocial behaviour, and understanding false beliefs. For example, we argue that prosocial behaviour in infants can often be explained by their understanding of the person-object-context relation, even in the absence of facial expressions of emotion, while some false belief paradigms are structured on the presupposition that the infants have understood the affective relation between the protagonist and the object in question. Furthermore, given that emotional understanding and social cognitive capacities likely develop in tandem, we hope to demonstrate how research in one domain benefits from greater acknowledgment of the other.

### **pos102.12 False Belief Understanding Facilitates Level-2 Perspective Taking But Not Vice Versa**

Adam Putko, Agata Złotogórska-Suwińska, Katarzyna Jaworska  
*A. Mickiewicz University in Poznań, Poland*

The aim of the study was to verify whether training in false beliefs understanding, sentence complements understanding and Level-2 visual perspective taking has an impact on the development of these abilities, and whether the effects of the training are limited to the target of training, or whether there is transfer across theory of mind, language, and visual representations. The study involved 45 children between the ages of 3 to 5 years, who failed false belief, sentence complements, and Level-2 perspective-taking pretests. The children were randomly assigned to one of the three groups that were trained in solving tasks measuring one of the three aforementioned abilities. The study showed that training in false beliefs understanding led to a significant improvement in Level-2 perspective taking, sentence complements tasks and marginally in false beliefs tasks. On the other hand, training in perspective taking increased scores only on sentence complements tasks. In turn, training in sentence complements understanding led to improved scores on sentence complements and false beliefs tasks. These findings indicate that training in false beliefs understanding was the most effective way of improving all three studied abilities. This suggests that a core component of all of them may be the understanding of wrong mental representations. The implications of the findings for the issue of different paths in the theory of mind development are discussed.

### **pos102.13 Dynamics of mental health in childhood**

Elena Kozlova, Helena Slobodskaya  
*Research Institute of Physiology and Basic Medicine, Russia*

Most of mental health disorders originate in the early stages of development (Bayer et al., 2008; Moore, 2014; Rutter et al., 2006). Beginning of disorder in childhood is clinically significant, as it is very likely accompanied by additional disorders and substantially increases the risk of subsequent internalizing and externalizing problems (Beesdo et al., 2009; Costello et al., 2003; Dougherty et al., 2013; Rapee et al., 2009). This prospective longitudinal study aimed to examine continuity of child mental health problems.

Participants represent a community sample of children and their parents from urban and rural areas of Siberia and nearby regions. The sample included 70 participants (54% girls); the children's average age was 18.6 months (SD=10.6) at Time 1 and 8.3 years (SD=1.9) at Time 2; the average time interval was 7.1 years (SD=2.3). Mental health was measured by the Russian versions of the Child Behavior Checklist (CBCL/1½-5; Achenbach, Rescorla, 2001) at Time 1 and the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001) at Time 2; both measures have been validated in previous studies.

Prospective correlations and multiple regression indicated that sleep problems in early childhood predicted higher levels of mental health problems in preschool and school age; emotional symptoms showed homotypic continuity, whereas rates of total problems in early childhood, particularly externalizing and attention problems, predicted the impact of later psychiatric problems on the child's life. The models explained from 10 to 12% of the variance in subsequent child mental health.

The findings of this study provide empirical evidence on the predictive significance of mental health in early childhood for subsequent child well-being. Although the sample was not large, results have confirmed the continuity of mental health problems from early childhood to preschool and school age.

#### **pos102.14 Trajectories of mental health problems during adolescence and early-adult functioning**

Johan Ormel, Klaas Wardenaar, Dennis Raven, Anoek Oerlemans  
*UMCG, Netherlands*

**Aim:** Mental health problems among youths may create a poor starting position to enter adulthood. This study adopts a dimensional, longitudinal approach to relate early-adult functioning to individual trajectories of mental health problems during adolescence. We aimed to establish the independent contribution of adolescent trajectories, i.e., adjusted for childhood functioning and selected confounders, as well as investigate to what extent these trajectories explained early-adult functioning in excess to the explanatory power of current mental health.

**Methods:** Participants were 1778 youths from the Dutch TRAILS study. Internalizing (INT) and externalizing (EXT) symptoms were measured with the Youth/Adult Self-Report (Y/ASR), which was administered five times (T1-T5; ages 11.1, 13.6, 16.3, 19.1 and 22.3). We used Parallel-processes Latent Class Growth Analyses (PP-LCGA) to identify different developmental trajectories based on T1-T4 Y/ASR data; T5 ASR yielded current mental health status. Current mental health was also assessed with the parent-reported Adult Behaviour Checklist (ABCL). At T5, we further assessed 20 economic, social, psychological, and health-behavior outcomes. Childhood functioning (intelligence, temperament, SES, and parenting) was assessed at T1.

**Results:** PP-LCGA identified four distinct trajectories of course variation in INT and E symptoms across adolescence: (1) consistently high INT+EXT (n=298), (2) consistently low INT+EXT (n=460), (3) more INT than EXT, both increasing in severity (n=414), and (4) more EXT than INT, both decreasing in severity (n=352). Compared to the consistently low symptom trajectory class, all other trajectory classes predicted less favorable outcomes across all functioning domains. After controlling for current mental health, some of the trajectory effects attenuated.

**Conclusions:** Both current mental health and adolescent mental health trajectories predicted early-adult functioning. Youth with relatively stable high problem levels across adolescence, about 10% of the population, may be at risk of an unsuccessful transition into adulthood.

#### **pos102.15 The association between executive functioning and psychopathology: general or specific?**

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**Aim:** Findings on how executive function (EF) relates to psychopathology have been inconsistent and have not led to distinct EF profiles for distinct disorders. We modeled both psychopathology and executive function (EF) as bi-factor models to study if EF impairments are transdiagnostic or relate to individual syndromes, and concurrently, if such associations are with general EF or specific EF impairments.

**Methods:** Data were obtained from the Tracking Adolescents' Individual Lives Survey (TRAILS; N=2230). Psychopathology was assessed with parent-report questionnaires at ages 11, 14, 16, and 19, and EF with tasks from the Amsterdam Neuropsychological Tasks program at ages 11 and 19. Bi-factor models were fitted to the data using confirmatory factor analysis. Correlations were estimated to study the associations between general or specific components of both psychopathology and EF.

**Results:** A bi-factor model with a general psychopathology factor, alongside internalizing, externalizing, attention deficit/hyperactivity (ADHD) and autism spectrum (ASD) problem domains, and a bi-factor model with a general EF factor, alongside specific EFs were adequately fitting measurement models. The best fitting model between EF and psychopathology showed substantial associations of specific EFs with the general psychopathology factor, in addition to distinct patterns of association with ASD, ADHD, and internalizing problems (see Figure 1).

Conclusions: By studying very diverse psychopathology domains simultaneously, we show how EF impairments cross diagnostic boundaries. In addition to this generic relation, ADHD, ASD and internalizing symptomatology show separable profiles of EF impairments. Thus, inconsistent findings in the literature may be explained by substantial transdiagnostic EF impairments. Whether general EF or specific EFs are related to psychopathology needs to be further studied, as differences in fit between these models were small.

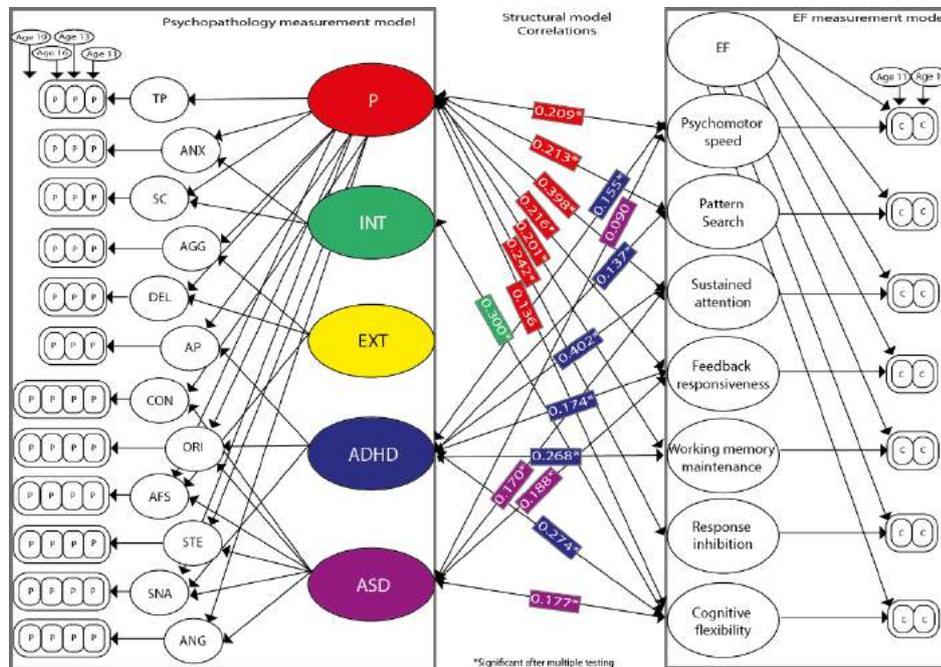


Figure 1. Associations between specific EFs and psychopathology

## **Education, Schooling, Child care**

### **pos102.16 Knowledge of undergraduate students about development and intellectual disability**

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The inclusion of the students with intellectual disability (ID) in regular school will depend on several factors, such as teacher training and their conceptions about school inclusion and human development. Thus, this research aims was to analyze the knowledge undergraduate students have about intellectual disability and human development. It is a descriptive research whose instrument used was a questionnaire available on an online platform with nine questions related to the topic. The invitation to participate was made through e-mails from the coordinators of the courses to their students. All the ethical issues required by the University's Ethics and Research Committee were observed. In total, 46 university students participated. The data were systematized using a qualitative approach. The results allowed to affirm that 70% of the participants reported knowing the ID, but none of them managed to delve into the correct concept; 63% reported that students with ID can attend common education. Of the participants, 35% believe that students with ID have a limit on their development and greater learning difficulties, requiring early stimulation work, specific guidelines and incentives. The remaining 65% related that the student with ID has some limits like any other student, but nothing specific because of the deficiency if effective interventions are performed. In general, the information obtained through this research allows to suggest the urgent need for adaptations and deepening in the disciplines curriculum of the courses that deal with developmental and educational psychology, as well as in the theme of inclusion. The study concludes that knowledge about the correct definitions of intellectual disability and human development will assist teachers in the elaboration of more efficient and necessary teaching practices so that the student can have a sense of competence and independence, ensuring them and assuring their rights legal and educational.

### **pos102.18 How stable are different roles in the bullying process?**

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**Aim:** The term “bullying” is used, when a member of a school class is repeatedly harmed by his or her classmates – be it physically, verbally or through isolation – and is unable to defend himself or herself properly (Olweus, 1994). According to the Participant Role Approach (Salmivalli, Lagerspetz, Björkqvist, Österman & Kaukiainen, 1996), the whole class is involved in the bullying process, not only as victims and bullies, but also as assistants, reinforcers, bystanders or defenders. The aim of the following study was to investigate the prevalence and stability of the Participant Roles in a German sample. Furthermore, it was examined if the stability depends on grade, gender, and the initial sociometric status.

**Methods:** The development of the Participant Roles during a school term was traced on a sample of 1056 pupils from secondary schools. A German version of the Participant Role Questionnaire (Salmivalli et al., 1996, Schäfer & Korn, 1996) was used to identify the different roles.

**Results:** Circa 30 percent of the pupils are involved in the bullying process as victims, pro-bullying actors or defenders. These roles prove to be very stable, whereas the bystander role is less steady. The stability is lower in grade 6 compared to higher grades. The victim role is more stable in boys, whereas the defender role is more stable in girls. Constant victims are initially more rejected than pupils, who can get rid of their victim role.

**Conclusions:** Bullying turns out be very stable during a school term. Partly, this might be due to the large number of pupils who remain passive as bystanders (Salmivalli, 2010). The results of this study demonstrate that systematic intervention is needed to reduce bullying and victimization and encourage defending behavior.

## **pos102.19 Effect of workshop constructing goals based on time perspective theory**

Akane Ishikawa

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Although future time perspective is important for undergraduates, it is also important to think about their past and integrate with the future in the present (Tsuzuki, 1999). Ishikawa (2014) revealed that students who have connected and accepting view on the past could construct future goals and take the action necessary to achieve their goals. This study examined the effect of workshop constructing goals based on the theory of time perspective on changes of satisfaction and quality of practical training in undergraduates to qualify for kindergarten teachers using a short longitudinal design. Thirteen Japanese undergraduates were asked to take part in a workshop where constructing “Goals of practical training”, which is based on time perspective theory and to participate interviews and questionnaire after practical training. In the workshop, at first, they looked back on their experiences of previous practical training. Next, they set goals for practical training and the plan to achieve the goals. After the workshop and practical training, participants were asked to answer a questionnaire that was composed of the scales which measured time perspective, satisfaction to the practical training, and impression to the workshop by free descriptions. The interviews and questionnaire were collectively conducted. In the result, experiencing the workshop, participants could learn more through the practical training and felt more satisfaction to the practical training than previous training they experienced. The qualitative data from free descriptions indicated that having clearly goals and plans to achieve the goals leads to concrete actions. Moreover, concrete actions based on clear goals led high satisfaction to practical training. These results suggested that the workshop constructing goals based on the theory of time perspective have effect on their consciousness to the practical training in undergraduates who attending a school for kindergarten teachers.

**Family, parenting, parten-child relationships**

**pos102.20 Parenting self-efficacy across the transition to parenthood**

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Parenting self-efficacy (PSE) reflects parents’ beliefs about the success of their own parenting skills, and is positively related to parenting competence and child adjustment (Jones & Prinz, 2005). However, few studies examined PSE and its predictors across the transition to parenthood, and most only examined women (e.g., Kunseler et al., 2014). In the current study we examined (1) stability and change in PSE of both fathers and mothers across the transition to parenthood, and (2) correlates of pre- and postnatal PSE.

The current sample is part of the international, longitudinal NewFAMS study and consisted of 123 primiparous couples, who were visited at home around 36-weeks pregnancy and 4 months after birth. At both time points they completed questionnaires to measure psychopathology (composite score based on GHQ-12, CES-D, and STAI; Goldberg, 1972; Radloff, 1977; Marteau & Bekker, 1992), social support (MSPSS; Zimet et al., 1988), and PSE (SEN-R; Pedersen et al., 1989), and performed the Hearts and Flowers computer task (Diamond et al., 2007) to measure cognitive flexibility.

PSE was stable across the transition to parenthood in both mothers and fathers,  $r(121) = .55, p < .001$  and  $r(121) = .54, p < .001$  respectively. Mothers, but not fathers, reported higher PSE after birth than during pregnancy,  $t(122) = -3.47, p < .001$ . Parents with less social support and more psychopathology during pregnancy had less prenatal PSE, while parents with less PSE during pregnancy and more psychopathology after birth had less postnatal PSE (see Table 1).

The current study is the first to examine PSE and its predictors across the transition to parenthood in both women and men. The results are in line with Bandura’s self-efficacy theory (e.g., Bandura, 1997), and highlight the importance of prenatal interventions in both mothers and fathers with low social support, high psychopathology, or low PSE.

	Mothers			Fathers		
	Mean $R^2$	Pooled $\beta$	Pooled $SE$	Mean $R^2$	Pooled $\beta$	Pooled $SE$
Prenatal Parenting Self-Efficacy:	0.11			0.28		
Prenatal Psychopathology		-0.11*	0.10		-0.32**	0.09
Prenatal Social Support		0.30*	0.09		0.38***	0.08
Prenatal Cognitive Flexibility		-0.05	0.09		0.05	0.09
Postnatal Parenting Self-Efficacy:	0.48			0.43		
Prenatal Parenting Self-Efficacy		0.48***	0.08		0.58***	0.10
Prenatal Psychopathology		0.12	0.09		0.06	0.10
Prenatal Social Support		0.08	0.10		0.00	0.12
Prenatal Cognitive Flexibility		-0.03	0.09		0.07	0.11
Postnatal Psychopathology		-0.31***	0.09		-0.18***	0.10
Postnatal Social Support		0.14	0.09		0.19	0.12
Postnatal Cognitive Flexibility		0.15	0.10		0.64	4.18

Note. Pooled estimates were retrieved by multiple imputation of missing data with 100 imputed datasets;  $n = 123$ . Harel’s method was used to calculate mean  $R^2$  (Harel, 2009).

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

Table 1: Multiple Regression Analyses Predicting Prenatal and Postnatal Parenting Self-Efficacy in Mothers and Fathers at 36-Weeks Pregnancy and 4 Months After Birth

## pos102.21 Associations Between Parenting and PYD: a Person Centered Approach

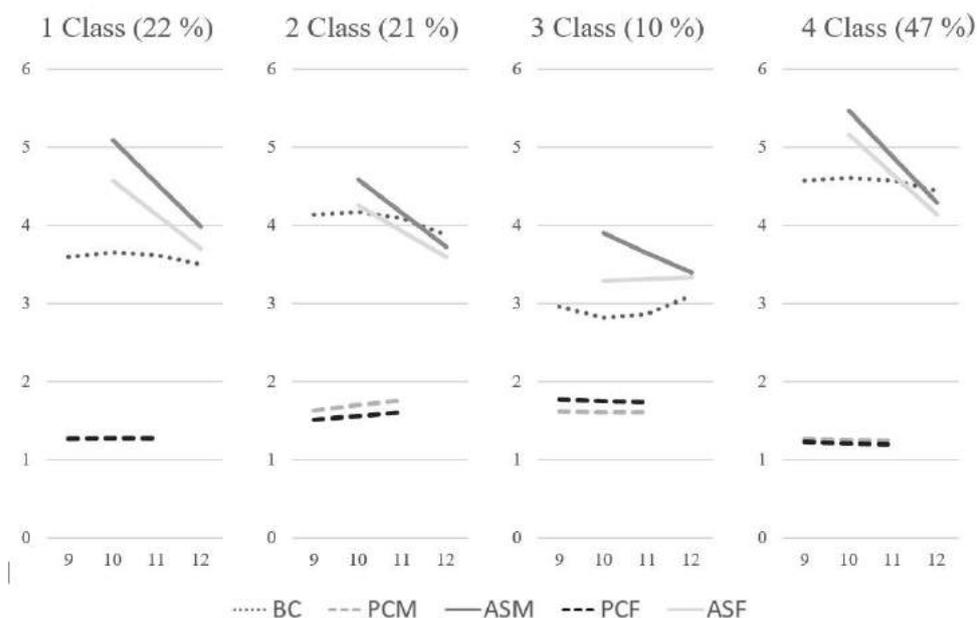
Goda Kaniusonyte, Rita Žukauskienė  
 Mykolas Romeris University, Lithuania

**AIM:** Along with the great importance of individual characteristics of the adolescent, positive youth developmental model (PYD) emphasizes the importance of family context and parent-child relationships (Lerner et al., 2005; Chand et al, 2013). According to the self-determination (SDT) theory, there are three most important aspects of parenting: autonomy support, behavioral control, and psychological control. Thus, this study aims to investigate the relationship between family context and positive youth development.

**METHODS:** Family contexts was operationalized with three dimensions of parenting: Behavioral control (assessed 4 times using Parental Monitoring scale, Small & Kerns, 1993); Psychological control (assessed 3 times separately for mother and father using Psychological Control Scale-Youth Self Report, PCS-YSR; Barber 1996); Autonomy supportive parenting (assessed 3 times separately for mother and father using Transformational Parenting Questionnaire; Morton et al., 2011). PYD was measured with Measure of Positive Youth Development (Lerner et al., 2005). Sample consisted from 458 adolescents (52.2 % girls), followed 4 times annually from 9th grade ( $M = 15.14$   $SD = 0.48$ ) to 12th grade in one region of Lithuania.

**RESULTS.** Parallel process latent class growth model (LCGM) was used to obtain different classes from the longitudinal change of the analyzed parenting dimensions and simple LCGM to obtain PYD trajectories. We identified three PYD trajectories: High, Medium, and Low and four classes of Family context (Fig. 1). Analysis of PYD trajectories as distal outcomes revealed that all family context classes differed from each other in their relation to PYD. The fourth class had the highest probability to be in high PYD trajectory, and third in low.

**CONCLUSIONS:** Altogether the optimal family context for positive youth development consists of relatively high levels of autonomy support and behavioral control and low levels of psychological control.



*Figure 1. Different Class Solutions for the Family Context. Notes. BC – Behavioral control, PCM – Mother’s psychological control, ASM – Mother’s autonomy support, PCF – Father’s psychological control, ASF – Father’s autonomy support.*

## pos102.22 Parental Psychological Control among Turkish Adolescents

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Psychological control is the intrusive attempts of parents to manipulate their children's development (Barber, 1996). Since autonomy and independence are one of the main developmental tasks of adolescence (Zimmer-Gembeck & Collins, 2006), parental psychological control can have negative effects on developmental outcomes such as problems of identity formation, dysfunctional and pathological separation-individuation, and perception of unhealthy family-functioning. The aim of this study was to examine the reliability and validity of the Turkish version of Dependency and Achievement Oriented Psychological Control Scale (DAPCS) (Soenens et al., 2010).

Participants were 640 adolescents (Mage=16.04, SD=.82; 53% girls) who provided information for both of their parents on dependency (DPC; alpha: .68 to .73) and achievement (APC; alpha: .85 to .90) oriented psychological control, psychological control scale, perceptions of parents scale (autonomy support, warmth), and EMBU (overprotection). Findings indicated that both DPC and APC were positively related to overprotection. APC showed significant and negative correlation with autonomy support and warmth. In addition, APC's relationships with other parenting dimensions are in line with previous Western studies whereas DPC showed different results. Although psychological control is assumed to be the opposite of autonomy support, findings suggest that this may not be true for DPC. According to Kagitcibasi's Family Change Theory, psychological interdependency model is more common in Turkish families, where autonomy can rise within close relationships (Mayer, et al., 2012). However, independent family model is more common in Western cultures, where being (inter)dependent to others is perceived as the opposite of being autonomous. Turkish adolescents may not perceive their parents' DPC as a restraint to their autonomy due to the emphasis on emotional closeness within family. Consequently, in the psychologically interdependent cultures, DPC and autonomy support may be separate dimensions of parenting which means a dependency oriented controlling parent should not necessarily be autonomy restraining or supporting.

## pos102.23 The story of parenting dimensions told through the eyes of K-means clustering

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**Introduction.** Although a variable-centered approach in parenting, distinguishing parenting dimensions, is useful in research on adolescent behavior, it does not take into account the covariation of these dimensions at the same time. A person-centered approach is able to look at the whole functioning of the family. The current study combines both a categorical and dimensional approach. Based on five dimensions in parenting namely support, proactive control, punitive control, harsh punitive control and psychological control, parenting types will be identified and linked to adolescents' internalizing and externalizing problem behavior. We expect types high in psychological control and harsh punishment to show significant more problem behavior.

**Methods.** Data were gathered during a longitudinal study, STRATEGIES (i.e., Studying Transactions in Adolescence: Testing Genes in Interaction With Environments). The ongoing study started in 2012 and data were gathered on a yearly basis. Participants were recruited in Flemish schools, where students from Grades 7-9 were invited to participate. In Wave 1, 1095 Flemish adolescents (M = 13.79 years; SD = 0.941, 51% boys). Data from three waves was used. To analyze the data gathered on multiple time points (cross-sequential) a Subspace K-means cluster data analyzes approach was chosen.

Data from adolescents were collected during school visits. The five dimensional parenting model is based on the Leuven Adolescent Perceived Parenting Scale (LAPPS) and the Parental Behavior Scale Short (PBS-S). Outcome measures used in the study were the Youth Self Report (YSR) and the Self-Descriptive Questionnaire (SDQ-II)

**Analyses.** Results showed two family types: authoritative and authoritarian parent cluster. Adolescents from the authoritative parents cluster report less harsh punishment, less punitive control, less psychological control and more support, they do not differ significantly? on reported proactive control. Outcome measures indicate favorable outcomes for authoritative parents cluster.

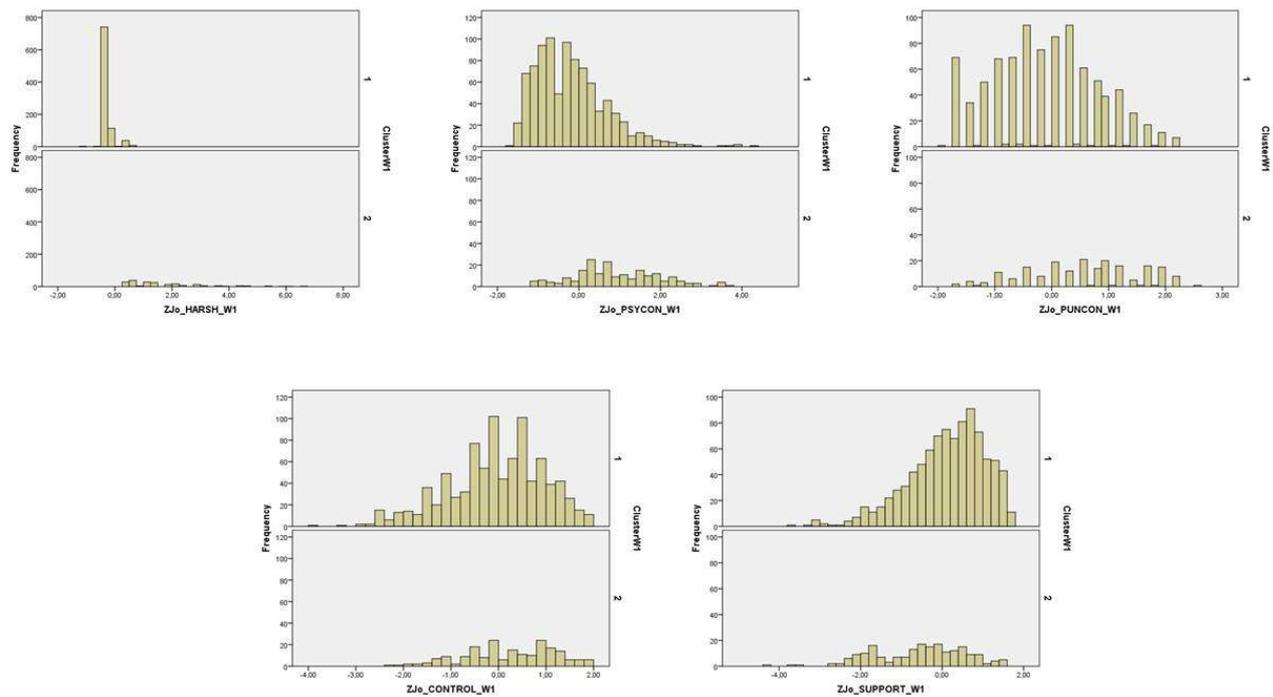


Figure 1: 2familyClusters

## pos102.24 Parenting motivation and parental psychological need predict psychological control

Hung-Yang Chen, Ching-Ling Cheng

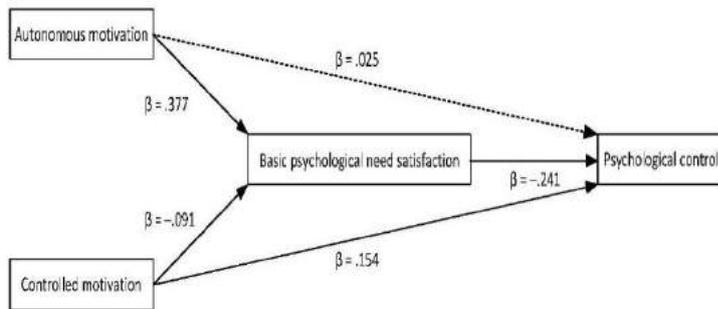
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**Aim:** The detrimental effects of psychological control on child development have been demonstrated, yet issues concerning the antecedents of such manipulating parenting have received less attention. From a self-determination perspective, how parents are motivated to play the parenting role and to what extent their psychological needs are satisfied were expected to lead to certain parenting strategy. Specifically, this study examined the mediating role of parental psychological need satisfaction on the association between (autonomous and controlled) parenting motivation and psychological control.

**Methods:** Participants were 600 parents (69% were mothers; Mage = 45.02, SD = 5.64) of Taiwanese junior high school students. Self-reported parenting motivation ( $\alpha = .81$ ), psychological need satisfaction ( $\alpha = .94$ ), and psychological control ( $\alpha = .87$ ) were administered.

**Results:** While controlled parenting motivation positively predicted psychological control ( $\beta = .154$ , 95% CI = [.121, .186]), there was no significant effect of autonomous parenting motivation on psychological control ( $\beta = .025$ , 95% CI = [-.034, .084]). In addition, autonomous ( $\beta = .377$ , 95% CI = [.324, .431]) and controlled ( $\beta = -.091$ , 95% CI = [-.124, -.059]) parenting motivation positively and negatively, respectively, predicted psychological need satisfaction, which in turn negatively predicted psychological control ( $\beta = -.241$ , 95% CI = [-.318, -.164]). Bias-corrected bootstrap confidence intervals for the indirect effects of autonomous ( $\beta = -.091$ , 95% CI = [-.123, -.063]) and controlled ( $\beta = .022$ , 95% CI = [.012, .035]) parenting motivation on psychological control based on 10000 bootstrap samples were below and above zero, respectively.

**Conclusions:** While parents who invest themselves in the parenting role with interests and meaningfulness are less psychologically controlling because of greater satisfaction of psychological need, parents who invest themselves in the parenting role with external or internal pressures are more psychologically controlling, partially as a result of the less fulfillment of psychological need.



**Figure 1** Path diagram of the associations between autonomous and controlled parenting motivation, psychological need satisfaction, and psychological control.  
 Note. Significant pathways are presented as solid lines; non-significant pathways are presented as dotted lines.

Figure 1 Path diagram

### pos102.25 Developmental pathways in maternal MM over the first year of life

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Mind-mindedness (MM) refers to the caregivers' tendency to treat the child as an individual with a mind, rather than merely an entity with needs that must be satisfied (Meins & Fernyhough, 2006). Besides few studies reporting stability of MM between two time points, (e.g., Meins et al., 2011), longitudinal investigations of MM are scant. The study attempts to address this issue by analyzing MM developmental trajectories across infants' first year of life and testing the moderating role of variables shown to be significant correlates of MM, such as maternal sensitivity, age, education and SES (e.g., Bordeleau et al., 2012; Meins et al., 2001; Rosenblum et al., 2008). Ninety-three healthy mother-infant dyads (46 females) were videotaped during play interactions at 3, 6, 9, and 12 months of infants' age. Observations were coded for appropriate (AMRC) and non-attuned (NAMRC) mind-related comments (Meins & Fernyhough, 2010). Proportional frequencies, corrected by the number of maternal utterances, were used in the analyses. Multilevel modeling revealed a significant linear and quadratic average decrease for AMRC over time,  $b=-5.65$ ,  $SE=.77$ ,  $p<.01$ , and  $b=1.80$ ,  $SE=.78$ ,  $p<.05$ , respectively. Dyads showed also significant individual differences with respect to the normative developmental trend,  $X^2(2)=6.735$ ,  $p<.05$ . Mothers' SES and sensitivity showed to significantly moderate the AMRC normative trajectory,  $b=1.72$ ,  $SE=.79$ ,  $p<.05$ , and  $b=-1.67$ ,  $SE=.77$ ,  $p<.05$ : dyads below the poverty threshold and more sensitive mothers showed respectively a steeper decrease and increase of AMRC over time. NAMRC showed a significant average linear decrease,  $b=-7.44$ ,  $SE=.86$ ,  $p<.01$ , even if with significant individual differences over time,  $X^2(2)=34.292$ ,  $p<.01$ . Age moderated such trajectory,  $b=.13$ ,  $SE=.06$ ,  $p<.05$ , with older mothers decreasing and younger ones increasing NAMRC over time. The findings confirm that MM is best conceptualized as a multidimensional construct and that changes over time are related to factors relevant to the caregiving environment.

### pos102.26 Satisfaction with own body in pregnancy and relationship to the unborn child.

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The affiliation a mother feels towards her unborn baby is an important predictor of maternal health (Lindgren, 2001) and infant outcomes (Huang et al., 2004). Thus, it is important to examine psychological factors influencing relationship quality to the unborn baby. Depression was found to be one of the significant predictors of maternal affiliation towards her unborn child (Lindgren, 2001). Pregnancy is the time when woman's body undergoes the most dynamic and visible changes. Woman's ability to adapt to these changes may also affect the attitude towards her unborn baby (Malus et al., 2014). This study examines association

among the satisfaction with specific body parts during pregnancy (PFRS), relationship to the unborn child and depression (PHQ-9), while controlling parity.

Our sample consists of 976 Czech women (mean-age=31.11, SD=4.57) in their third trimester of pregnancy who were involved in our longitudinal survey study (called "the DOMOV project"). Preliminary analysis showed that multiparous women are more dissatisfied with their body during pregnancy than primiparous women and this significant difference represents low-sized effect ( $t(831)=-3.207$ ,  $p=0.001$ ,  $d=0.22$ ). Women who are satisfied with their body have stronger relationship to their unborn child than women dissatisfied with their body during pregnancy, significant difference represents low-sized effect ( $t(788)=2.084$ ,  $p=0.038$ ,  $d=0.24$ ). Women who are dissatisfied with their body are more depressed than women who are satisfied, significant difference represents medium-sized effect ( $t(229)=-2.207$ ,  $p=0.028$ ,  $d=0.49$ ). Additional analysis will be employed for further results.

### **pos102.27 Peer Acceptance and Internalizing Problem Behaviors: The Moderating Effect of Parenting Styles**

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Peer acceptance has been found to predict adjustment in childhood and adolescence. Children with low peer acceptance have been found to be at risk for developing later difficulties, such as internalizing problem behaviors. Based on Bronfenbrenner's ecological systems theory (1979) and stress-buffering model (Cohen & Wills, 1985), supportive parenting could buffer against the negative effects of low peer acceptance. Consequently, the present study examined the joint effects of mothers' and fathers' parenting styles and children's peer acceptance on the development of children's internalizing problem behaviors during middle and late childhood. A total of 608 children (264 girls, 344 boys) were rated by their teachers on their internalizing problem behaviors at grade 1, 2, 3, 4 and 6. Their peer acceptance was measured in first grade using a sociometric nomination procedure. Mothers ( $n = 432$ ) and fathers ( $n = 281$ ) completed questionnaires measuring their levels of affection, behavioral and psychological control when the children were in first grade. The results of a Latent Growth Curve modeling showed that a high level of maternal affection buffered against the negative effects of low peer acceptance on children's internalizing problem behaviors. Further, low maternal psychological control buffered against the negative effects of low peer acceptance on internalizing problem behaviors only among boys. No statistically significant interaction was found between fathers' parenting styles and peer acceptance when predicting children's internalizing problem behaviors. This study expanded the knowledge domain by examining how parenting styles and peer acceptance interact in relation to children's internalizing problem behaviors over time. Overall, the results of this study supported the ecological systems theory and stress-buffering model suggesting that parents may buffer their children from the negative effects of low peer acceptance and stimulating positive development through active engagement and sensitive caregiving.

**Peer relationships**

**pos102.29 Sympathy, Sadness for Excluded Peers, and Positive Relationships in Young Children**

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 Sapienza University, Italy

AIM: Research highlights that both sympathy and an understanding of negatively valenced emotions in multifaceted social encounters represent important factors to promote children’s social adjustment over years (Di Maggio, Zappulla & Pace, 2016; Kienbaum, 2014). The primary focus of our study was to investigate the role of sympathy in the relation between children’s anticipated sadness towards an excluded child and positive relationships with peers and teachers.

METHODS: Participants were 112 Italian children (54 boys) aged from 3.04 to 6.20 years (M = 4.74, SD = 0.84). Teachers evaluated children’s prosocial behaviors ( $\alpha = .90$ ; LaFreniere & Dumas, 1996), the quality of teacher-child relationships in terms of closeness ( $\alpha = .87$ ; Pianta, 2001), and sympathy ( $\alpha = .96$ ; Zhou, Valiente, & Eisenberg, 2003). Children were also interviewed to measure their anticipated sadness for withdrawn and aggressive children in a social exclusion scenario (Malti, 2012).

RESULTS: Results from the first path Model (Figure 1a) indicated positive paths from: (1) children’s sadness for an excluded withdrawn child to sympathy and (2) sympathy to close teacher-child relationships. An indirect effect from sadness to close teacher-child relationships through sympathy was also found (95% CI = .02-.14). Model 2 (Figure 1b) revealed a positive relation from: (1) children’s sadness for an excluded withdrawn child to sympathy and (2) sympathy to prosocial behavior. We also found an indirect effect from children’s anticipated sadness for an excluded withdrawn child to prosocial behavior through sympathy (95% CI = .03-.21).

CONCLUSIONS: Overall, our findings suggested that young children who are able to understand that an excluded withdrawn child feels sad may be more prone to act sympathetically towards others more generally. In turn, these higher levels of sympathy promote close relationships with teachers and prosocial behaviors towards peers.

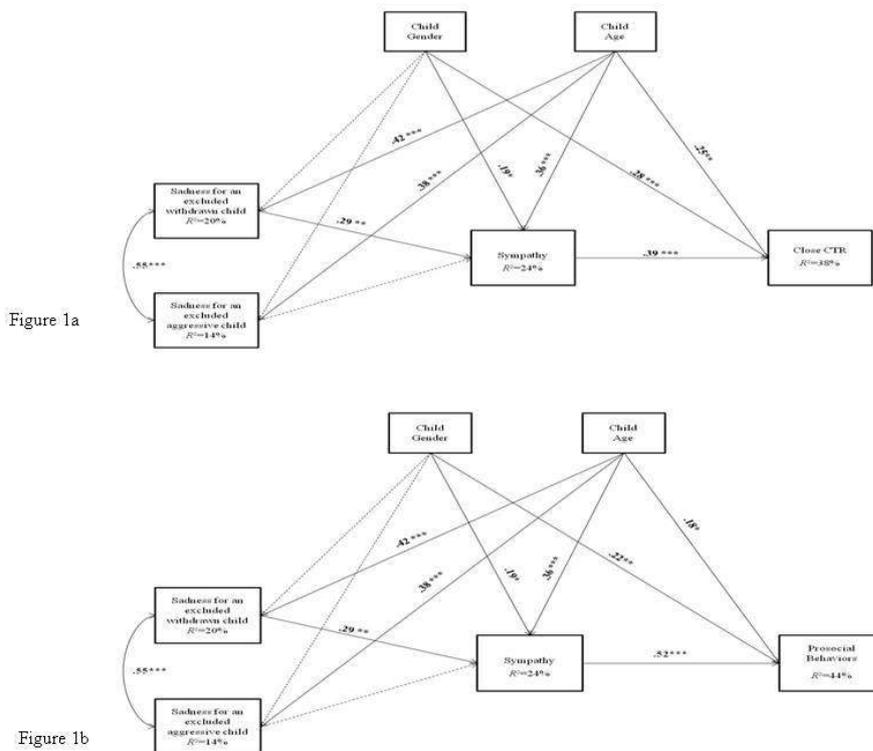


Figure 1: The effect of sadness for excluded peers on positive relationships via sympathy

### **pos102.30 Preschoolers' prosocial behavior and its relation with language & socio-emotional abilities**

Claudia Caprin, Veronica Ornaghi, Elisa Giustarin, Flavia Ottoboni, Elena Corti, Ilaria Grazzani  
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In this multi-method and multi-informant study, that is part of a larger research project, we investigated the relationships among preschoolers' prosocial behaviour on one hand, and their linguistic and socio-emotional abilities on the other hand. Participants were 107 children (mean age = 57.7 months; SD = 9.6; range: 34-77) recruited in 9 urban kindergartens in Milan (Italy). Each child was focally observed during free-play with peers and his prosocial behaviors were codified using a specific and innovative coding system (BIOS-PB1 – Caprin et al., 2015), considering social context (natural interaction vs role-playing), intent (spontaneous vs required) and form (kindness, instrumental help, physical support, psychological support, sharing objects, sharing information, and tutoring). Children's language ability and emotion comprehension were assessed by the administration of the PPVT-R (Stella et al., 2000) and TEC (Albanese & Molina, 2008), respectively. In addition, to evaluate participants' social competence, their teachers filled in the SCBE-30 Questionnaire (D'odorico et al., 2000). Partial correlation (controlling for age) showed positive links between prosocial behavior on one hand, language ( $p=.02$ ) and emotion comprehension ( $p=.02$ ) on the other hand. Further, prosocial behavior was positively correlated with teachers' evaluation of social competence ( $p=.05$ ). Preliminary regression analyses underlines the major role of language and age as indicators of differences in prosocial behavior ( $p<.001$ ). These new findings are in line with the data on the correlates and predictors of social behavior in infancy (Cassidy, et al. 2003).

### **pos102.31 Multiple predictors of peer acceptance in school aged children**

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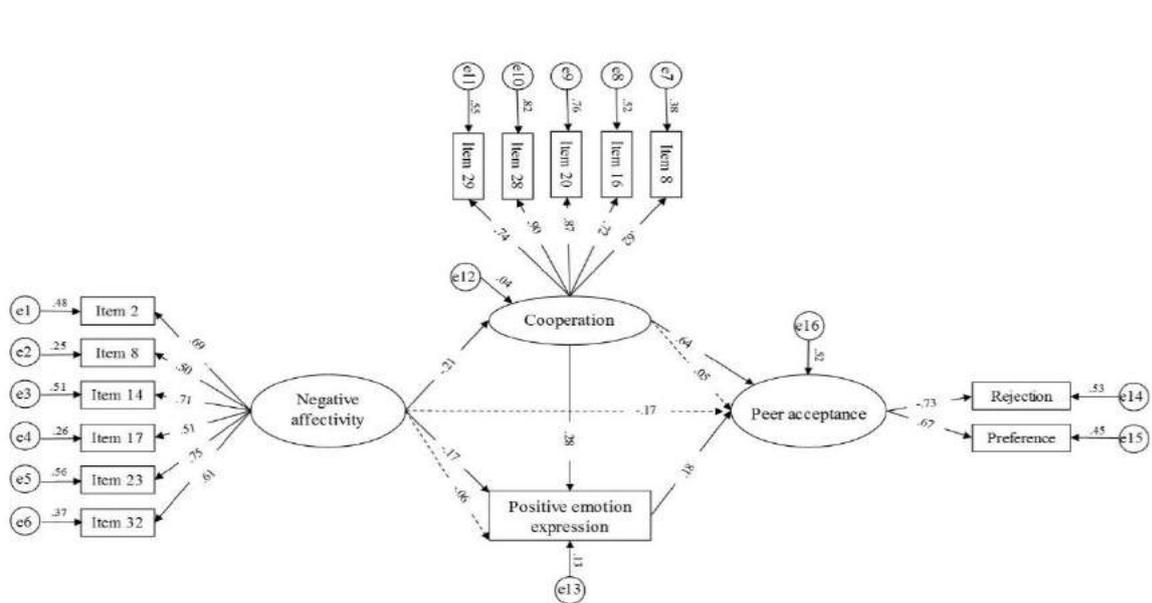
**Aim:** The goal of this work was to examine the complex interaction of children's temperamental characteristics (negative affectivity) social (cooperation) and emotional (positive emotion expression) skills as predictors of peer acceptance in school aged children.

**Methods:** Participants were 106 boys and 94 girls ( $N=200$ ), aged between 6 and 8 ( $M=6.83$ ,  $SD=0.46$ ). Negative affectivity was assessed through mothers' report using the Children's Behavior Questionnaire (Rothbart et al., 2001), positive emotion expression and cooperation were assessed through teachers' reports with the Differential Emotions Scale - Form (Shultz et al., 2004) and with the Social Skills Rating System for elementary school children (Greshman & Elliot, 1990; Lemos & Meneses, 2002), respectively, and peer acceptance was assessed with the self-report Sociometric Questionnaire (Terry & Coie, 1991).

Path analysis were performed using structural equation modeling. The model included the latent variables of negative affectivity, cooperation, and peer acceptance, and the score of positive emotion expression. All variables were significantly correlated with each other.

**Results:** Fit indexes, standardized direct and indirect effects are depicted in Figure 1. The model explained 52% of the variance. Negative affectivity had a direct effect on cooperation and on positive emotion expression, and also an indirect effect on positive emotion expression through cooperation. Cooperation and positive emotion expression had a direct effect on peer acceptance. Additionally, cooperation had an indirect effect on peer acceptance through positive emotion expression. Negative affectivity did not reveal a direct effect on peer acceptance, but an indirect effect through cooperation and positive emotion expression.

**Conclusions:** Results given by the direct and indirect effects reveal the complex and multidetermined nature of peer acceptance. Findings are discussed in the context of their implications for theory and clinical applications, emphasizing the importance of cooperation and positive emotion expression in the contributions of temperament to social functioning/peer acceptance.



Model fit indexes:  $\chi^2(72) = 79.80, p = .25, \chi^2/df = 1.11, CFI = .99, TLI = .99, GFI = .95, RMSEA = .02, p = .96$

Figure 1. Path diagram of peer acceptance. All paths are significant ( $p < .05$ ). Continuous lines represent the direct effects and dashed lines the indirect effects.

## **Prevention and Intervention**

### **pos102.32 Designing a Short-Term, Focused Intervention for Unemployed and Precariously Employed Youth**

Filomena Parada, Marco A. P. Teixeira, Luciana Dutra-Thomé, Richard A. Young  
*Centre for Psychology at University of Porto (CPUP), Portugal*

It is our aim to describe an intervention based on Contextual Action Theory (CAT) to be conducted in Portugal and Brazil. The intervention targets youth with 17-27 years that are unemployed or precariously employed, and is intended to assist these young adults to identify and engage in their goal-directed projects pertinent to educational, occupational, and other life tasks typical of the transition to adulthood. A short-term, focused supportive intervention based on the Action-Project Method (A-PM), the research method associated with CAT, was designed. Consistent with the A-PM, the proposed supportive intervention is multi-phased and integrates the components utilized in the research method. It focuses on, but is not limited to, the joint goal-directed actions and projects that unemployed or precariously employed youth undertake with significant others (e.g., family members, romantic partners, friends, career counsellors or other employment/support workers). A joint project refers to a series of goal-directed actions involving more than one person, that is the unemployed or precariously employed young adult and the person they judge most significant in their employment journey, over a mid-range period of time (several months to a year). Joint projects have common individual and joint goals identified by participants as related to the young adult unemployment/employment situation and, more broadly, to their transition to adulthood. With our intervention we intend to (1) identify and describe these projects, which will be the basis for the intervention next steps; (2) support these joint projects over time by using these actions/projects to identify strategies and means the parties can use to advance the youth's (employment or personal) goals; (3) monitor these joint actions/projects over time; (4) examine the extent to which the intervention reaches both participant objective goals such as greater employment success and their subjective goals as individually determined.

### **pos102.33 Young Adults Facing The Crisis Of Their First Psychiatric Hospitalisation**

Karolina Zalewska-Lunkiewicz  
*SWPS University of Social Sciences and Humanities, Poland*

**Aim:** This presentation focuses on the results of a research on life events, coping strategies and treatment perception of young adults who were on their first psychiatric hospitalisation. The first psychiatric hospitalisation may be experienced by young adults as a situation of doubled crisis: primarily associated with the fact of being hospitalised – accordingly to the concept of Cogswell (1984), secondly strengthened by the reason for their hospitalisation interpreted as a failure of dealing with developmental tasks.

**Method:** The clinical group (N=23) - the patients who were psychiatrically hospitalised for the first time, aged 19-32, diagnosed with adjustment disorders F43.2 (ICD-10). The control group (N=23) - the young adults who had never been hospitalised. There were qualitative form of data collection provided: all the subjects underwent a semi-structured interviews. The data were examined by using the Interpretative Phenomenological Analysis (IPA) methodology.

**Results:** IPA showed that hospitalised patients use more passive strategies of coping with daily stressors, experienced significant situations of loss, had more difficulties with relatives during adolescence and with current partners than young adults from control group. Patients admitted feeling shame and self-contempt because of the fact of hospitalisation, however, they regarded treatment as turning point and the opportunity to achieve developmental tasks.

**Conclusions:** The paths of life experience and problems - dealing diverse between young adults who faced psychiatric hospitalisation with the diagnose of adjustment disorders and those who had never been psychiatrically hospitalised. Psychiatric hospitalisation is the critical point for developmental tasks re-formulation for young adults.

## **Social, and personality development**

### **pos102.34 Toddlers Are Sophisticated Social Beings**

Kiyobumi Kawakami, Kiyoko Takai-Kawakami  
*University of the Sacred Heart, Japan*

We will summarize the results of three longitudinal studies on toddlers' person-directed behaviors in a naturalistic preschool setting. In the first study ( Study 1 ), an observer ( O ) recorded children' behaviors toward O ( Kawakami,2014 ). Seventeen children, as a group, were observed once a week in 3 blocks of 7 weeks ( 21 total hours ). At the beginning of the first session, children were 7-24 months old. Observer-directed behaviors increased with each block. Toddlers' teaching behaviors were classified, and this teaching classification should be the first event of the origins of teaching.

In the second study ( Study 2, Kawakami & Takai-Kawakami,2015 ), toddlers' peer-directed behaviors were recorded much the same as Study1. One-year-old children ( N=13 ) and children under the age of 12 months ( N=8 ) were observed for 15 min, 6 times in a year. Their teaching, caring, and altruistic behaviors were analyzed in detail. Peer-directed behaviors of one-year-olds increased dramatically.

In the third study ( Study 3, Kawakami & Takai-Kawakami,2017 ), teacher-directed behaviors of toddlers were recorded. Behaviors of one-year-olds ( N=23 ) and children under 12 months of age ( N=9 ) that were directed at teachers ( N=9 ) were observed for 15 min, on 12 occasions for each teacher during one year period, such that teachers were observed for three hours each. Results indicated that toddlers' teacher-directed behaviors developed gradually. Toddlers initiated teachers to play, and helped in the daily tasks of teachers.

Across the three studies, toddlers' person-directed behaviors increased with days. The most important behavior for toddlers was Verbalization. Toddlers showed teaching, caring, and altruistic behaviors to others. Toddlers are sophisticated social beings.

### **pos102.35 Influence of ego-experiences and religious consciousness on our afterlife beliefs**

Yuko Amaya  
*Nagoya City University, Japan*

Children's judgment of posthumous occurrences is influenced by their religious perspectives in late childhood. Bjorklund & Bering (2005) demonstrate that older children attending Catholic school were more likely to reason in terms of psychological continuity in their afterlife beliefs than those who attended secular school. Most Japanese people do not have religious beliefs, and they generally are not conscious of themselves as Buddhists. Ego-experiences are defined by questions such as "Why do I exist?" Half of those surveyed in Japanese children reported having an ego-experience (Amaya, 2002). This study proposes two hypotheses: first, Japanese children conscious of themselves as Buddhists are more likely to accept psychological continuity in their afterlife beliefs than those who do not have conscious religious beliefs. Second, compared to those without ego experiences, people with ego-experiences believe that the self continues to function in dead and brain-dead individuals. Three hundred Japanese children in the fifth and sixth grades filled out a questionnaire rating 15 items on ego-experiences, nine items that determined whether they thought dead and brain-dead individuals were capable of performing the nine activities, including the physical and psychological activities; an example of an item from the latter group is, "do the dead wish to return home?" A two-way ANOVA (ego-experience, religious consciousness) was performed on the scores regarding the affirmation of activities in the afterlife. The group with high scores in ego-experience was more likely to accept the continuity of physical and psychological activity for brain-dead people than those having a low score. For the psychological activity of dead and brain-dead people, those not conscious of a religious belief were more likely to deny continuity in the afterlife than those who are consciously Buddhist in their religious beliefs for each of the items by a  $\chi^2$  test.

### pos102.36 Preschoolers prefer immoral characters after they benefit from their actions.

Kasia Myślińska Szarek

*SWPS University of Social Sciences and Humanities Faculty in Sopot, Poland*

**Aim.** The idea of self-interest bias in judgments is old, though it has never been directly explored with respect to preschoolers' moral judgments. We tested two hypotheses that when children benefit personally from an agent's immorality, the agent (1) is perceived in a more positive way, (2) is preferred as a partner for further cooperation compared to a no benefit situation.

**Method.** Sixty-two children (4-5 years old) took part individually in a puppet scene which involved a competition for building a tower of blocks with three characters. One was an active lion, who was on the same team as the participating child. The second was a bear, who tried to build its own tower. The third was a passive lion who only observed the scene. To complete the task, the active lion pulled out a block it needed from the bear's tower thereby destroying it. In the vested interest condition (N = 31) participants received prize stickers for completing the tower by the lion, whereas in the control group (N = 31) no prize was involved. Liking for the active lion was measured before and after the team activity. Finally, participants were interviewed by a condition-blind experimenter, who asked whether the lion acted in a good or bad way, and which character would the child prefer as a teammate for another task.

**Results.** The vested interest did not influence judgments of morality - in both groups children categorized the destructive act as bad. However, the vested interest strongly attenuated the decrease in liking of the immoral character (table 1) and increased the desire to work with that character in subsequent tasks.

**Conclusions.** This study showed that preschoolers prefer and trust in immoral characters when they benefit from their actions. Self-interest biases in judgments appear early on.

	Vested interest group		Control group		<i>t</i>	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Before	4.97	.18	5.00	.00	-1.00	.325	-.26
After	4.45	.96	3.23	1.15	4.56	.000	1.18

*Table 1. Liking for the immoral character before and after the bad act as a function of the self-interest condition.*

### pos102.37 Changes of attitude toward life induced by the Great East Japan Earthquake II

Yuriko Norisada, Hideo Okamoto, Seiichi Saito

*Wakayama University, Japan*

**Aim:** The Great East Japan Earthquake in 2011 caused severe damage in the lives of disaster victims. The objective for this research is to reveal the influence of the Great East Japan Earthquake experience on attitude to life of each individual.

**Methods:** The survey was conducted by online in December 2016. Participants were 300 men and women between 20 and 69 years old who lived in Miyagi and Fukushima that suffered the most damage as a result of the earthquake, and Osaka.

**Results:**

1. "Changes of attitude toward life" by age and area

Two-way ANOVA was performed, which took age and area of residence as explanatory variables, and "active involvement in society and life" and "occurrence of motivations for help others"—which are subcategories of "Changes of attitude toward life"—as dependent variables. No interaction was found for "active involvement in society and life", and a significant principal effect was found for age and area of residence.

2. "Changes of attitude toward life" due to damage in disaster areas

One-way ANOVA was performed, which took "active involvement in society and life" and "occurrence of motivations for help others" as dependent variables and condition of damage as the independent variable. It

was found that both “active involvement in society and life” and “occurrence of motivations for help others” show a significant principal effect for condition of damage.

Conclusions: These findings suggest that a change occurred in subjects, i.e., they positively involved themselves with society and their lives following the earthquake, and this was seen more frequently in people in their 60s than those in their 40s, and also more frequently in people who lived in the disaster areas. In the disaster areas, it was revealed that the greater the physical damage, the more significant the changes of attitude toward life.

**Table 1. Changes of attitude toward life by age and residential areas**

		Miyagi	Fukushima	Osaka	Age	Areas	Interaction
		平均 (S.D.)	平均 (S.D.)	平均 (S.D.)	F值	F值	F值
Active involvement in society and life	20's	3.15 (0.87)	3.36 (0.95)	3.07 (0.78)	2.59 *	7.53 **	.78
	30's	3.59 (0.76)	3.23 (0.96)	2.81 (0.79)			
	40's	3.43 (0.68)	3.22 (0.81)	2.82 (0.92)			
	50's	3.73 (0.67)	3.33 (0.92)	3.32 (0.76)			
	60's	3.73 (0.68)	3.51 (0.97)	3.36 (0.78)			
Occurrence of motivations for help others	20's	2.90 (1.00)	2.72 (1.21)	2.87 (0.98)	.88	2.13	.33
	30's	2.97 (1.12)	2.55 (1.00)	2.68 (0.81)			
	40's	3.03 (0.71)	2.63 (0.84)	2.78 (1.21)			
	50's	3.30 (0.81)	2.85 (0.98)	2.98 (0.82)			
	60's	2.78 (0.95)	2.85 (0.86)	2.93 (0.75)			

\*:  $p < .05$  \*\* :  $p < .01$

Table 1

### pos102.38 Social acceptance in educational contexts: the role of emotional and behavioral skills.

Marina Messetti, Nicoletta Salerni  
University of Milano - Bicocca, Italy

Developmental research suggests that emotion regulation plays a central role on children’s adaptive functioning during middle childhood. In this period, emotion regulation strategies become more complex and individual differences in this ability predict a variety of aspects of social competence, interpersonal relationships and problem behaviors (Patrick, 1997; Eisenberg, Fabes, Gunthrie, & Reiser, 2000; Spinrad et al., 2006).

The aim of this study is to examine relations among social competence, intended as sociometric status and peers acceptance, emotion regulation abilities, and behavioral functioning in school-age children. Participants included 274 children (158 boys and 116 girls), ranged in age from 7 to 9 (M in months: 99.19; SD: 7.19) attending second and third grade of two different primary schools in northern Italy.

Social competence has been assessed through the Peer Nomination technique in order to obtain, for each child, both categorical (sociometric status) and continuous measures (peer acceptance and peer rejection indices); moreover, teachers were asked to complete the Italian version of both the Emotion Regulation Checklist (Molina & Zappulla, 2014) and the Social Emotional Dimension Scale (Ianes, Mazzeo & Savelli, 1994) to evaluate, respectively, emotion regulation abilities and school behavior.

The results show that, controlling for age, emotion regulation is positively associated with the degree of peer acceptance and, conversely, a greater emotional lability is related to rejection by classmates. A corresponding pattern of associations emerges when problem behaviors are taken into account. Moreover, the mediation analysis highlights that emotion regulation influences social acceptance both directly and indirectly, through the quality of behavior as mediating variable.

As suggested by the literature, both emotion regulation and behavioral functioning are considered relevant to determine children’s social status; however, this study provides a contribution to clarify the potential mechanisms through which emotion regulation relates to children's peer acceptance in educational contexts.

### **pos102.39 Big Five personality traits and Non-verbal Intelligence in Adolescence**

Sergey Malykh, Victoria Ismatullina, Irina Voronina, Tatiana Tikhomirova  
*Psychological Institute, Russian Academy of Education, Russia*

Numerous studies show that three of the Big Five personality traits – Openness, Neuroticism and Extraversion have been found to be associated with non-verbal intelligence. Two other traits, Conscientiousness and Agreeableness, as a rule, show weak or no association with non-verbal intelligence. At the same time, a number of studies identified age-related features of personality traits and nonverbal intelligence, which may moderate the relationship between these variables at adolescence.

The current study aimed to analyze the structure of the relationship between Big Five personality traits with non-verbal intelligence in adolescences.

The study involved 240 adolescents (49.6% boys), aged between 11 and 13 years. Standard Progressive Matrices test was used to assess non-verbal intelligence. To assess personality traits, we used the Big Five Questionnaire – Children version (BFQ – C), standardized on the Russian population. A correlation analysis was used for the study of the relationships between Big Five personality traits and non-verbal intelligence. A multiple regression analysis was run on non-verbal intelligence test score as a criterion, with Big Five personality traits as predictors.

The results showed that the structure of the relationship of the Big Five personality traits and non-verbal intelligence at adolescence in general is different from the relationship of these psychological constructs in adulthood. The results were discussed in terms of the age-related specifics of the structure of the relationship of the Big Five personality traits and non-verbal intelligence.

### **pos102.40 Positive and Negative Social Media Use and Personality Traits Across Cultures.**

Chris Bjornsen, Mojca Poredoš, Melita Puklek Levpušček, Maja Zupančič, Tina Kavčič  
*University of Ljubljana, Faculty of Arts, Department of Psychology, Slovenia*

The purpose of our study was to examine the relations between personality traits and positive and negative social media use across cultures. Participants (N = 839, age 17-30) recruited via University classes and social media in the U.S. and Slovenia completed a questionnaire that measured the Big Five and Dark Triad personality traits, well-being, cell phone and social media addiction, phubbing, and original measures of positive social media use, creeping, and catfishing. MANOVAs comparing cell phone and social media use demonstrated (a) U.S. participants scored significantly higher on cell phone and social media use and addiction, phubbing, and creeping than Slovenian participants ( $F(8, 829) = 47.72, p < .0005, \text{Wilk's } \lambda = 0.685, \text{partial } \eta^2 = .32$ ) and (b) females in both cultures scored significantly higher on cell phone and social media use and addiction than males (U.S.  $F(8, 328) = 5.78, p < .0005, \text{Wilk's } \lambda = 0.876, \text{partial } \eta^2 = .12$ ; Slovenia  $F(8, 492) = 3.25, p < .005, \text{Wilk's } \lambda = 0.950, \text{partial } \eta^2 = .05$ ), although the sex difference was generally stronger for U.S. participants. Hierarchical regression analyses examined the associations between Big Five and Dark Triad traits and social media use and addiction after controlling for (a) country, sex, and age of participants, and (b) satisfaction with friends, family, work/school, and self. Independent of country, sex, and age, the personality traits narcissism, neuroticism, extraversion, and Machiavellianism were positively associated with measures of social media use and addiction, while openness, conscientiousness, and psychopathy were negatively associated with social media use and addiction. Our results indicate that potentially obsessive or disturbing social media use are not equally represented in different cultures, and that such use is generally related to less healthy personality traits.

### **pos102.41 Emotional stability in Brazilian students: a comparison by sex**

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*Faculty of Philosophy, Sciences and Language of Ribeirão Preto, University of São Paulo, Brazil*

This study aims to compare emotional stability in Brazilian high school girls and boys. The sample is composed of 165 students, 92 girls and 73 boys, aged 14 to 17 years old, from the first year of high school, from two public schools. The instrument used to measure emotional stability was the Social and Emotional or Non-

cognitive Nationwide Assessment (SENNA), a Brazilian instrument, which measures the socio-emotional competences, in the school context, organized according to the BIG FIVE model. The SENNA was applied at regular class time in a 40-minute session. Only those students who delivered the Terms of Free and Informed Consent signed by responsables, participated the investigation. The data distribution was considered normal and the data were analyzed by student t test for independent samples in the Statistical Package for Social Sciences (SPSS) program, with significance of  $p < 0.005$ . The results showed that there were differences in emotional stability in favor of the boys  $t(163) = -5,167$ ;  $p = 0,00$ ; I.C a 95%  $[-0,77; -0,34]$ , suggesting that the boys ( $M = 3,63$ ;  $SD = 0,61$ ) in this sample have more emotional control than girls ( $M = 3,07$ ;  $SD = 0,74$ ). These results are in agreement with some investigations that show that the girls present more emotional instability than the boys. It is known that socio-emotional competences have proved to be a relevant construct for human development in different life sectors. In the school context, emotional stability, is important in situations of conflicts, conducting evaluative activity, and is important for establishing more consistent social relations. Thus, this result suggests the need to think about intervention strategies focused on the female sex, aimed at working this dimension in the school context.

Key words: emotional stability, , socioemotional competences, sex, high school

### pos102.42 The psychological effect of the Great East Japan Earthquake

Seiichi Saito, Hideo Okamoto, Yuriko Norisada  
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**Aim:** The Great East Japan Earthquake of 2011 caused severe damage to Fukushima and other prefectures of the Tohoku region. A part of Fukushima Prefecture was contaminated by radioactive substances from the Fukushima Daiichi nuclear power plant accident, which continues to exhibit low-dose radiation even now. We examined how the earthquake damage and the uneasiness about health damage by exposure to low-dose radiation were related to the posttraumatic growth and resilience.

**Methods:** Participants included 200 men and women, aged 20-69 years, living in Fukushima and Miyagi Prefectures. The participants completed an online survey comprising the scale for fear of radiation, posttraumatic growth (the Japanese version of the Posttraumatic Growth Inventory; Taku, 2010) and resilience (the Bidimensional Resilience scale; Hirano, 2010). The survey was conducted in December 2016.

**Results:** A two-way between-subjects ANOVA (the earthquake damage and the uneasiness about health damage by exposure to low-dose radiation) was conducted to compare posttraumatic growth and resilience. The interaction effect and main effects were no significant in residents of Miyagi. But in residents of Fukushima, the interaction was significant ( $F(2,94) = 2.925$ ,  $p < .05$ ) in posttraumatic growth, and the interaction was significant ( $F(2,94) = 3.179$ ,  $p < .05$ ) in resilience (Table 1).

**Conclusions:** We concluded that the earthquake damage and the uneasiness about health damage by exposure to low-dose radiation were related to the posttraumatic growth and resilience in residents of Fukushima.

		the uneasiness about health damage by exposure to low-dose radiation					
		not having			having		
	the earthquake damage	low	medium	high	low	medium	high
Miyagi	posttraumatic growth	33.0	41.4	56.1	59.9	57.0	60.4
	resilience	56.1	60.1	69.8	68.3	65.4	68.7
Fukushima	posttraumatic growth	49.9	52.3	50.1	50.1	50.2	54.0
	resilience	67.0	64.6	67.4	59.7	64.4	64.7

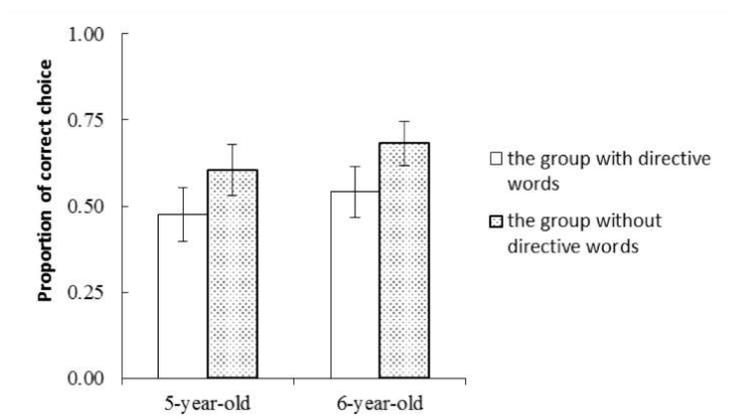
Table 1 Score of posttraumatic growth and resilience

## **Cognitive Development**

### **pos103.1 The semantically integration of speech-gesture combination in atypical development in young children**

Hidenori Miyake, Shinichiro Sugimura  
*Hiroshima University, Japan*

The purpose of this study was to examine whether: (1) the degree of symptoms for Autism Spectrum Disorder (ASD) is related to the ability of integrating speech and iconic gesture; and (2) directive words promote this ability in young children with ASD in comprehension. In this study, 5- to 6-year-old children (N=34) were presented with a combination of spoken Japanese short sentences and iconic gestures comprising of eight actions (e.g., saying “nage-masu, ((One) is throwing)” while gesturing chest pass), and they were asked to select a photograph that best matched the message from among four photographs. The participants were assigned to two groups. One was the group in which children were presented speech and gestures with directive words, and in the other group children were presented speech and gestures without directive words. Their parents or family answered Social Communication Questionnaire (SCQ) while children were presented spoken sentences and gestures. The results showed a significant trend that the proportion of selecting a correct photograph in the group with directive words was higher than the group that was not presented with directive words. However, 6-year-old children with directive words only passed chance level (50%) of making a correct choice. There was no relation between SCQ-score and the proportion of correct choice. Based on the results, we concluded that (1) the degree of symptoms for ASD is not related to the ability of integrating speech and iconic gesture; and (2) directive words promote semantically integration of speech and iconic gesture regardless of ASD. These indicated children with ASD may be able to understand a message of speech and iconic gesture combination by degree of symptoms.



*Figure 1. Mean proportion of correct choice in each group in VG condition. VG condition is presented the message of actions by gesture and speech.*

### **pos103.2 The Transactional Relationship between Cognitive Biases and Social Anxiety in Children**

Lisan Henricks, Samantha Bouwmeester, Maja Deković, Jorg Huijding  
*Behavioural Science Institute, Radboud University Nijmegen, Netherlands*

Social anxiety (fear of social/performance situations) is very common among children and can be accompanied by detrimental consequences. Hence, it would be optimal to prevent its onset. As a prerequisite, we need to understand how social anxiety develops. Cognitive models postulate the importance of attention bias (attentional preference for negative stimuli) and interpretation bias (tendency to interpret situations negatively) in the onset and maintenance of social anxiety. However, several fundamental issues remain unclear. Namely, it is uncertain whether biases influence each other and how the associations between biases and social anxiety unfold from moment-to-moment. Understanding the nature of this process at the micro-

level could bring important insights for theory and practice. By adopting a micro-level approach, this study examines the transactional process between cognitive biases and social anxiety in late childhood, the period in which social anxiety most often arises. Additionally, it is explored whether peer feedback affects this process. The sample consists of 189 children (8-13 years, Mage = 10.3, 47.6% boys). Participants completed a computer task in which they were exposed to eleven ambiguous social situations. After each situation, attention bias, interpretation bias and social anxiety were assessed via various techniques (eye-tracking and visual analogue scales). Peer feedback was manipulated in the task, with participants receiving positive or negative feedback on the situations.

Path analyses in Latent Gold showed a transactional relationship between interpretation bias and social anxiety, with more negative interpretation bias predicting more social anxiety, and vice versa. Attention bias seemed indirectly related to social anxiety, via interpretation bias. Feedback did not affect the micro-level process (see Figure 1).

<Figure1>

To obtain a comprehensive understanding of social anxiety, it is important to assess multiple biases in one design. Furthermore, interrupting the negative transactional process between interpretation bias and social anxiety seems promising in reducing social anxiety.

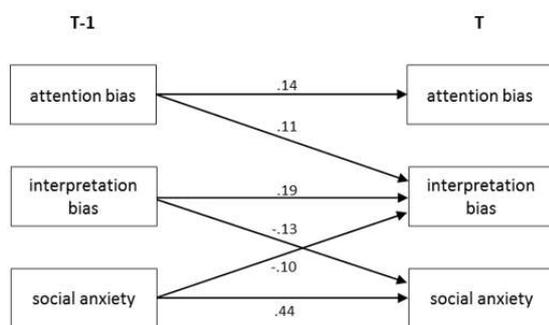


Figure 1. Graphic display of the significant findings and standardised regression coefficients

### pos103.3 How children try to equally distribute things when they are indivisible.

Yuko Yamana  
Akita University, Japan

A survey was conducted to reveal how we try to equally distribute things when they are indivisible in everyday situations. Specifically, elementary school children were required to fill out the questionnaire that asked them how they would equally distribute things to three persons and the reason why.

The participants were 308 students (98 second graders, 102 fourth graders, and 108 sixth graders). The questionnaire consisted of three sheets on each of which either of the following 3 questions was printed with its corresponding picture individually. (1) 8 marbles (4 of them are larger than others) as discrete quantity; (2) 8 apples and 8 bananas (4 pairs of bananas); and (3) A bag of 68 unequal-sized beans. On the top of each sheet, three concrete names were written as recipients. The instruction required the participants to describe how they should distribute the depicted items to the three persons mentioned above and the reason why. The order of the three questions was set at random. The time necessary to respond all of them was between 20 and 30 minutes.

The responses were categorized into the following four groups: (a) the residuals were kept undistributed; (b) the same quantity; (c) the same number ignoring the conditions; (d) others. It was indicated that the older the participant was the more the (b) type responses were obtained.

As for the reasons, the frequency was shown for each of the following three categories: (a) the number being attended; (b) the size being considered; (c) others. The results showed that the older the participant was the more responses were obtained that considered the plural perspectives.

#### **pos103.4 Prospective memory costs upon children's ongoing activity: role of working memory resources**

Lavinia Cheie, Colin MacLeod, Mircea Miclea, Laura Visu-Petra  
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Prospective memory (PM) refers to remembering to perform a previously planned action at the appropriate time or in the appropriate context. Research suggests that having a prospective remembering requirement interferes with responding to an ongoing activity, affecting individuals' performance on the ongoing task. The preparatory attentional and memory processes theory (PAM theory; Smith, 2003; Smith & Bayen, 2004) of PM proposes that the degree to which a PM requirement interferes with concurrent task execution, depends upon the availability of working memory (WM) resources. Consequently, PM costs should be greater when WM resources are reduced either by direct WM manipulation, or by individual differences associated with restricted WM performance. The current study tested this prediction in school-age children, by examining the independent and interactive effects of two factors known to deplete availability of WM resources: increased WM processing demands of an arithmetic task, and high trait anxiety. A sample of 10-year-old children (N = 133) were engaged in an operation WM span task which progressively imposed greater processing demands. Half of these participants also had to concurrently carry out an embedded PM task. A PM interference effect was evidenced by slower responses on the concurrent WM span task while the PM task was being performed. However, at an accuracy level, the situation was reversed, as children's WM span performance was more hindered in the absence of a concurrent PM requirement. Results show that in this condition, there was an interactive detrimental effect of greater processing demands and increased trait anxiety levels. Taken together, our findings indicate that the magnitude of a PM cost depends upon how children choose to allocate their resources to one task over the other, possibly after they assess that it would be difficult to carry out both the ongoing and the PM task.

#### **pos103.5 Episodic future thinking and internalizing symptoms in young children**

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Episodic foresight represents the ability to think of future scenarios and prepare for current action (Suddendorf & Moore, 2011). In the item choice paradigm (Suddendorf, Nielsen, & von Gehlen, 2011), children are presented with a problem in one room, then move to a second room where they select one object to bring back with them. The ability to remember the problem and choose prospectively the object that could solve it, is considered episodic future thinking.

In the current study, we aimed to investigate whether internalizing symptoms in young children would impair their memory functioning and detrimentally affect their future thinking task performance (response time and possibly accuracy).

We developed several future thinking tasks based on previous methodology (Atance & Sommerville, 2014), with the extension that the problem with which the child was confronted differed having a neutral/positive/negative valence (within design). We expected children with higher internalizing symptoms to display lower performance on the negative valence tasks. Twenty three preschool children (3-6 years old) participated in the current preliminary study and parents rated their children's level of internalizing symptoms (Spence, Rapee, McDonald, & Ingram, 2001).

Findings indicated that there was a significant age difference at the level of response time on the episodic future thinking tasks, with the younger age group (3 years) displaying longer response times than the oldest age group (M = 5.75 years). Also, there was a significant negative association between memory for the problem (negative valence condition) and children's level of social phobia as well as the time they took to choose the correct object.

In conclusion, the current study suggests that individual age differences in children's episodic future thinking appear at the level of response time but not at the level of accuracy (item choice or memory score), as was previously supported (Atance & Sommerville, 2014).

## **Development of social cognition**

### **pos103.6 Developing a database of genuine and false emotional expressions**

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**Aim:** Despite the recent interest in false emotional expressions, we know little about the way children and adolescents discriminate between genuine and deceptive facial expressions of distinct emotions. Moreover, there are few existing stimuli depicting genuine and deceptive expressions, and none of these include different types of emotional expressions: genuine (expressed and experienced emotions are the same), posed (feeling neutral, yet expressing an emotion), deceptive (feeling an emotion, while expressing an opposite one) or suppressed (feeling an emotion, yet appearing neutral). Therefore we aimed to create and validate a new database of picture stimuli for all these types of emotional expressions, various combinations being tested for both happiness and sadness.

**Methods:** We recruited 28 adults to pose for the pictures of emotional expressions. They viewed emotionally inducing videos and participated in 9 scenarios, based on personally relevant situations (e.g. getting/losing a dream job). Participants were asked to express an emotion that could either be consistent with how they felt (genuine) or different (posed, deceptive or suppressed). The resulting pictures were viewed by 2 independent raters who selected the best pictures of each expression, resulting in 24 pictures/ participant. We used a sample of 150 young adults to validate the resulting database. They had to identify the emotion expressed in the photo and rate how genuine or false each expression was (“very authentic” to “very inauthentic”).

**Results:** We are still in the process of collecting the final assessments, yet, based on preliminary results, the majority of the pictures indicate relatively good inter-rater consistency. Also, participants showed a high performance in identifying the authenticity of the emotional expressions.

**Conclusions:** This new database, containing both genuine and false emotional expressions, is an innovative addition to the field, helping researchers create more accurate and complex assessment methods to investigate authentic and deceptive emotional expressions.

### **pos103.7 Observing gaze interaction affects facial preferences in infants**

Mitsuhiko Ishikawa, Shoji Itakura

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Eye gaze is one of the most important signals for nonverbal communication such as joint attention (coordinating attention with a social partner). Joint attention has been shown to be important in social cognitive development. It was revealed that the gaze cuing joint attention affects positive affective response toward the faces in adults, in addition, infant prefer faces producing Joint Attention gaze cuing. Here, we examined how eye gaze interaction between two persons affects the face preference in infants. Seventeen 10-month-old infants were recruited to this study. Participants were shown stimuli in which a female gazed at another female face or not. Two gaze-leader faces and two target faces were paired respectively for the Joint Attention condition or the No-Joint Attention condition, and counterbalanced in each participant. The results, in the gaze-leader looking test, the proportion of looking times for the faces in the No-Joint Attention condition was greater than that of the Joint Attention condition. On the other hand, in the target face looking test, the proportion of looking times for the faces in the Joint Attention condition was greater than that of the No-Joint Attention condition. From these results, it can be considered that 10-month-old infants may have expectation for gaze-leaders that humans pay attention to other person. In addition, target faces in the Joint Attention condition may have been seen their social gaze interaction more than No-Joint Attention condition, therefore familiarity preference for faces can be observed. It has been shown that eye gaze cuing affects infant preferences, however, we firstly indicated that eye gaze biases looking duration in the looking tests differently for faces between gaze-leader and gaze target. We indicated that 10-month-old infants may already have ability to understand social information from eye gaze interaction.

### **pos103.9 The decision-making in the Ultimatum Game: a study with 5-year old children**

Irene Leo, Enrico Rubaltelli, Lorella Lotto, Rino Rumiati  
*University of Padova, Italy*

In the current study, we examined the early development of fairness preference in young children using the ultimatum-game. The ultimatum game is a simple decision making game in which there are two players (proposer and responder) who have to agree on how to split resources. The proposer is asked to make a starting offer, while the responder can accept or reject this offer. If the responder rejects, neither player gets anything. Such games offer the opportunity to investigate strategic thinking and sensitivity to fairness. The aim of the present study was to investigate the behaviour of 5-year-old children in both roles of the proposer and the responder. To this end, children (N=60) were tested using a touchscreen laptop in a simplified ultimatum game. The role (proposer vs. responder) was manipulated within-subjects, while the value of the objects (negative, positive or neutral) that were split was manipulated between-subjects. The order in which children played the two roles was counterbalanced, so that half of the children started as proposers while the other half started as responders. Results suggest that when children played the role of proposer, we found a significant interaction between the value of the resources and the responders' decision in the previous round. Offers were significantly higher when the object exchanged had positive value (rather than negative or neutral) and the responder had rejected the previous offer (rather than accepting it). Differently, when children played the role of responders, we did not find any significant effect of the interaction between the value of the resources and the offers made in the previous trial. For both roles, we found a significant order effect. Overall, results shows that preschool children seem to understand the concept of fairness even if they did not play the ultimatum game strategically.

### **pos103.10 Child and teacher reports on the child's self-concept: Relations to classroom quality**

Kinneret Levavi, Yair Ziv, Ora Aviezer, Avi Sagi-Schwartz  
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In the past decade, a growing body of research highlighted the importance of a model that views the relationship between teachers and children as the main contributor to children's well-being and enhanced development (Pianta, 1999). A measuring tool, CLASS, assesses the quality of the kindergarten through the ability of the teacher to provide interactive processes within the kindergarten (CLASS; Pianta, La Paro, & Hamre, 2008).

The present study is part of a larger study that has used the CLASS measure to assess classroom climate in Israeli kindergartens. Its purpose was to examine the relationship between classroom climate and the congruence between child's and teacher's reports on the child's self-concept. We hypothesized that in kindergartens with a higher classroom climate; there will be higher levels of correspondence.

In each kindergarten, classroom climate was observed and the teachers were asked to report about children's self-concept. Children were then interviewed about their own self-concept. In all, 37 kindergartens and 165 children participated in the study.

Findings confirmed the hypothesis regarding the connection between classroom climate and the congruence between child's and teacher's reports. Kindergartens that provided higher emotional support and better classroom organization had a higher congruence between child's and teacher's reports.

The results of the study could contribute to theory in the field of classroom quality and in the field of self-concept. Firstly, they place the use of congruence between child and teacher reports on the child's self-concept as a relevant developmental measurement in the context of classroom environment. Secondly, in line with theoretical framework (but not with practical research) the current study suggests using a dyadic measurement when assessing the development of self-concept in young children which may enable the elaboration and completion of the current assessment.

Predictor (CLASS scores)	<i>B</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>P</i>
Emotional support	0.35	0.37	2.01	33	0.026
Classroom organization	0.27	0.16	1.69	33	0.05
Instructional support	-0.75	0.2	-3.68	33	<0.001

*The hierarchic model results for association between CLASS dimensions and correspondence between the child's and teacher's reports about the child's self-concept*

### pos103.11 Spatial deficits in working memory in adults with dyslexia

James Smith-Spark, Lucy Henry, David Messer, Adam Ziecik  
London South Bank University, United Kingdom

**Aim:** Deficits in phonological working memory are well-documented in developmental dyslexia. However, some evidence indicates that problems extend beyond the phonological domain to affect visuospatial working memory. This evidence base is small and suggests that memory problems arise when there are demands on the central executive as well as the visuospatial sketchpad and when spatial, rather than visual, information needs to be recalled. The current research expanded on this evidence base and focused on spatial working memory in adults with dyslexia.

**Methods:** Adults with and without dyslexia were tested. The groups were matched for age and short-form IQ but differed in reading and spelling abilities. In Experiment 1, two versions of a Corsi Block span task were administered to the participants (N = 32 per group). One version required the temporary storage of spatial information alone, whilst the second demanded spatial processing as well as storage. In Experiment 2, a further test requiring the storage and concurrent processing of spatial information, Henry's (2001) Odd-One-Out span task, was presented to the participants (N = 28 per group).

**Results:** In Experiment 1, no group differences were found when only short-term storage of spatial information was needed. However, dyslexia-related problems in accuracy of recall were uncovered when the temporary storage and concurrent processing of spatial information was required. Accuracy of spatial working memory was found to be lower in the adults with dyslexia in Experiment 2.

**Conclusions:** These findings corroborate and extend previous research which has suggested that spatial working memory is impaired in dyslexia, indicating that problems with working memory cannot be explained solely in terms of phonological processing difficulties and that such problems persist into adulthood. The results argue for a conceptualisation of dyslexia which considers modality-free executive functioning deficits as part of the condition, in addition to phonological processing impairments.

### pos103.12 Attention to objects in infants at risk for autism and their parents

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Autism is a severe neurodevelopmental disorder becoming evident in the second year of life. In this study we aimed to investigate early differences in visual attention in infants at familial risk of autism under 12 months of age during parent-infant play. Participants included 27 infants at risk for autism by virtue of having an older sibling with the disorder (10 boys, 17 girls; M age = 10.6 months, SD = 1.0) and 22 low-risk controls (11 boys, 11 girls; M age = 11.1 months, SD = 0.7). The interactions were recorded in an infant-friendly laboratory room with three remote-controlled cameras. Participants played with toys for 10 minutes. The interactions were coded off-line using video annotation software to examine aspects visual attention. In particular, we measured the duration of looking at the other person and at objects, as well as dyadic attention (mutual gaze and parallel attention). The results showed that in comparison with controls infants at risk for autism looked less at objects,  $t[2, 47] = 2.265, p = .028$ . Concurrently, they looked longer at their parent who was animating an object,  $t[2,$

39] = -2.677,  $p = .011$ . Parents of infants at risk looked less at their infants than parents from the control group,  $t[2, 39] = 2.329$ ,  $p = .025$ . Finally, the dyads at risk had less parallel attention than controls, i.e. they spent less time simultaneously looking at the same object,  $t[2, 38] = -2.130$ ,  $p = .040$ . These results show that already by the end of the first year of life, at-risk dyads differ from typical controls. These early differences may signal later social and communicative deficits. However, they may also contribute to early developmental mechanisms of atypical developmental trajectories, not all of which lead to adverse outcomes.

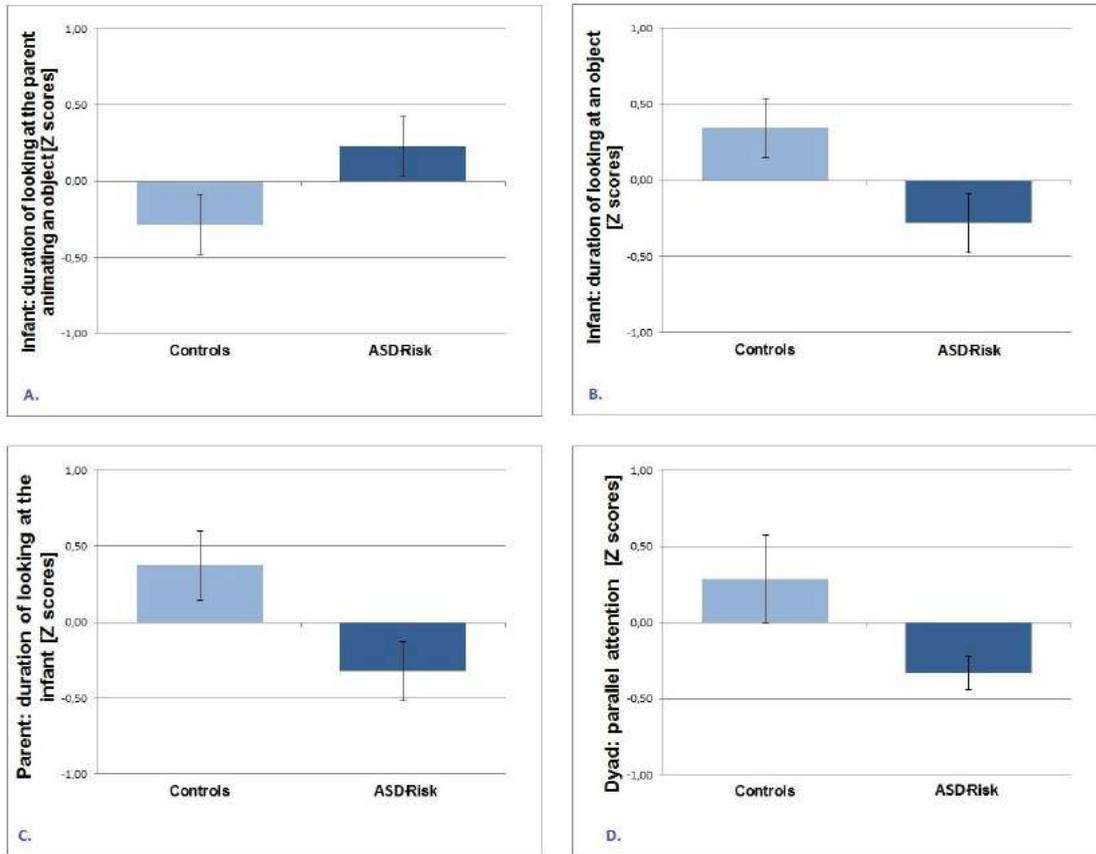


Figure 1: Mean duration of (A.) the infant's looking at the parent animating an object, (B.) the infant's looking at an object, (C.) the parent's looking at the infant and (D.) dyadic parallel attention (percentage of observation time, error bars show the standard

## **Education, Schooling, Child care**

### **pos103.13 Alcohol/illicit drug use are important factors for school problems among adolescents**

Ove Heradstveit, Mari Hysing, Jens Christoffer Skogen, Jørn Hetland  
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The aim of this study was to investigate the association between alcohol and drug use, and school-related functioning measured by grade point average (GPA) and school attendance. We also wanted to examine potential confounding from mental health problems. A cross-sectional design is employed in this study using data from a large population-based sample, youth@hordaland, in combination with a unique link to official school registry data, and the current study presents data from N=7,874. The main independent variables were alcohol use and drug use, as well as potential alcohol- and drug-related problems. The dependent variables were registry-based school attendance and grades. All the alcohol- and drug measures included were consistently associated with low GPA (ORs ranging 1.82 to 2.21, all  $p < 0.001$ ) and high levels of missed days from school (ORs ranging 1.79 to 3.04, all  $p < 0.001$ ) and high levels of hours missed from school (ORs ranging 2.17 to 3.44, all  $p < 0.001$ ). After adjusting for gender, age, socioeconomic status and mental health problems all the associations between alcohol and illicit drug use and the school-related outcomes remained statistically significant. Increasing number of indications on alcohol/drug-related problems and increasing levels of alcohol consumption were associated with more negative school-related outcomes. The results indicate that alcohol- and drug-use problems are important factors in school functioning, and that adversity of potential alcohol/drug-related problems are good indicators for negative school-related outcomes independently of mental health problems.

### **pos103.14 Socio-emotional competencies in children from democratic and public schools in Poland**

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Comparative study of early grade 1-3 children (N=56, mean age=7,5) from public and democratic schools was conducted in Warsaw (Poland). Democratic schools are a subset of alternative education institutions, loosely related to the "Summerhill" (1921) tradition and drawing from pedagogy of such figures as Janusz Korczak. It was hypothesized that children from both institutions will not differ in cognitive abilities, as measured by a battery of intelligence test measures (Jaworowska, Matczak & Fecenec, 2012), but will differ on socio-cognitive abilities, with children from democratic institutions outperforming their public counterparts. Results show that there are no significant differences between children in conceptual reasoning and selective attention, but they do differ in socio cognitive abilities. Children from the democratic institution showed higher understanding of social situations, but lower level of emotional regulation. Analysis of self-control and grit reports (Duckworth i Quinn, 2009; Tsukayama, Duckworth i Kim, 2013) done by teachers and parents shows that children from democratic and public schools do not differ in grit, but children from public institutions show higher level of self-control. This result can possibly be explained by vastly different approach to education and teacher-child contact in both institutions, although parental and genetic influences cannot be excluded. Additional measure of class socio-emotional climate shows that children generally do not differ in their perception of class climate in both schools, but parents do show significant differences.

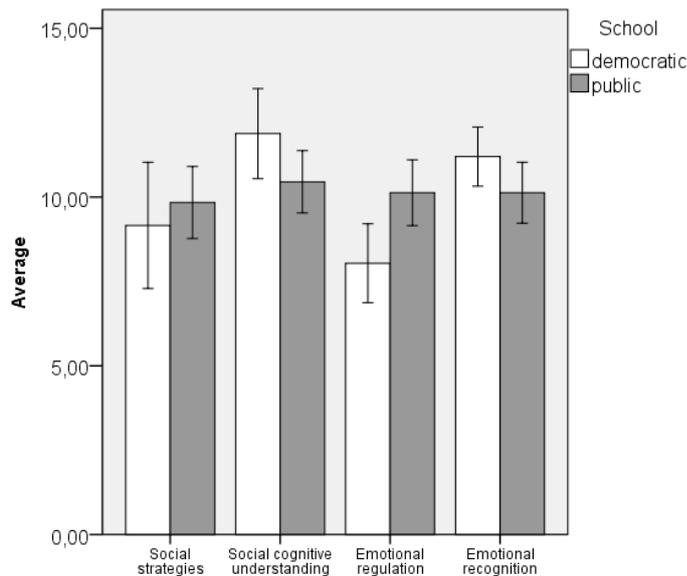
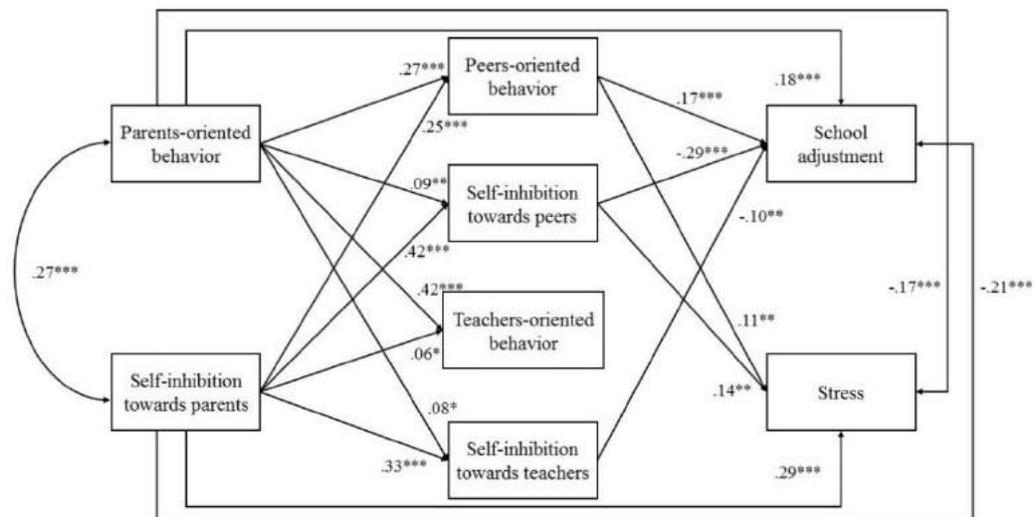


Figure 1. Comparison of socio-emotional competencies in public and democratic school children from grades I-II

### pos103.15 The cascading structure of over-adaptation and its influence on adolescents' mental health

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This study investigated the cascading structure of over-adaptation from parents to peers and teachers, and its influence on school adjustment and stress in Japanese junior high school students. We defined over-adaptation as “the condition in which an individual is excessively engaged in self-inhibitive and others-oriented behavior in relationship with others (parents, peers, or teachers)” and previous studies showed that over-adaptation related to adolescents' mental health. 1177 Japanese junior high school students completed 3 questionnaires; Over-Adaptation Scale-Relationship Specified (OAS-RS), school adjustment, and psychological stress scale. OAS-RS consisted of 36 items which were subdivided into six subscales; “parents-oriented behavior”, “self-inhibition towards parents”, “peers-oriented behavior”, “self-inhibition towards peers”, “teachers-oriented behavior”, and “self-inhibition towards teachers”. The results of SEM, as shown in Figure 1, indicated that over-adaptive behavior towards parents (parents-oriented behavior and self-inhibition towards parents) predicted those towards peers and teachers. These results supported the cascading structure of over-adaptation. Next, school adjustment was predicted positively by parents- and peers-oriented behavior, and negatively by self-inhibition towards parents, peers, and teachers. On the other hands, stress was predicted positively by peers-oriented behavior and self-inhibition towards parents and peers, and negatively by parents-oriented behavior. Also, mediation effects of peers-oriented behavior and self-inhibition towards peers and teachers were significant. We concluded that over-adaptive behavior towards parents influenced those towards peers and teachers, and those over-adaptive behavior in three domains also influenced adolescents' mental health.



**Figure 1.** Structural model depicting the cascading model of over-adaptation and its influence on school adjustment and stress.

Note. Fit indices: RMSEA = .05 (95% CI: .01-.11), CFI = .99, TLI = .96, SRMR = .01

Figure 1: Structural model depicting the cascading model of over-adaptation and its influence on school adjustment and stress.

## **Family, parenting, parten-child relationships**

### **pos103.17 Child and parent's temperament and its influence on parental sensitivity**

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**Aim:** A longitudinal community sample study was conducted in Bamberg with 6-8 month old children, which were again tested 10 months later. One purpose of the study was to establish the similarities of parental and child temperament and respectively the influence of their temperament on the parental sensitivity in a semi-standardized play situation.

**Methods:** Temperament was assessed by the Adult Temperament Questionnaire (ATQ at time point 2) and the Infant Behavior Questionnaire (IBQ-R at time point 1 and IBQ at time point 2) filled out by the parents. Sensitivity of the mother was coded from a five minute semi-standardized play situation at the infant's home at each time point with a coding system developed for the German National Education Panel Study (NEPS) based on the NICHD coding system.

**Results:** Factors and scales of the IBQs and the ATQ were arranged by theoretical similarity and then their associations assessed by Pearson's correlation coefficient. The factors of parental and child temperament showed a significant similarity for "Negative Emotionality" and no significant association for "Extraversion". The scales showed significant similarity at "Fear", "Sadness" and "Sociability". No significant associations between "Attentional control", "Positive Affect", "High intensity pleasure" and "Perceptual sensitivity".

Child temperament had a significant association with parental sensitivity at time point 1 in "Duration of Orienting" and "Self regulation". Parental temperament had a significant influence on parental sensitivity at time point 1 via "Frustration", "Discomfort", "Sociability", "High intensity pleasure", "Negative Affect" and "Extraversion". There were no significant correlations at time point 2.

**Conclusions:** Whereas the temperamental dimensions mostly seem to differ between mothers and their children, the parental sensitivity in the early parent-child-interaction-relationship appears to be influenced both by parental and child temperament, whereas the later interaction relationship seems to be independent of temperamental characteristics by mother or child.

### **pos103.18 Novel video stimulus method for determining cognition of infant mental state**

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The importance of precise cognition of a child's mental state by their mother has been suggested in many studies. Such cognition is generally determined by two different methods, observation of mother-child interaction and use of controlled stimulation such as photographs of the child. With the former, it is possible that individual characteristics of the child might be included in the mothers' cognition. On the other hand, with the latter method, the results might differ from the actual daily situation, as the information obtained is extremely limited. The purpose of the present study was to develop a video stimulus method that includes contextual information from the surroundings as a stimulus that is controlled and rooted in a daily context. In Study 1, for preparing a video stimulus method, 36 infants were individually video recorded while freely playing for a period of 30 minutes. From the recorded video, scenes showing positive, negative, and neutral emotions of each infant were extracted to prepare several 30-second video clips. In Study 2, for examining the validity of the stimulus, the video recordings prepared in Study 1 were shown to 100 mothers whose children were currently infants and/or toddlers. We asked them to evaluate the recordings by responding to a questionnaire. On the basis of the association of scores for the stimulus with empathy and affection towards the infant, the present stimulus method was suggested to be valid.

### **pos103.19 The relationship between parenting styles and prosocial / antisocial behavior of adolescents**

Agnieszka Lasota

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**Aim:** The purpose of this research was to investigate the relationship between parental attitudes, empathy and aggression of adolescent children. Two hundred and eighty Polish students age 16-18 participated in this study. **Methods:** IRI (Davis, 1994) was used to measure empathy, Buss Perry Aggression Questionnaire (1993) was used to measure aggression, and Polish scale KPR-Roc (Plopa, 2008) was used to measure retrospective parenting styles in terms of five attitudes: acceptance/rejection, requirements, autonomy, inconsistencies and protecting.

**Results:** The results of these studies show that there is a relationship between parenting styles and levels of prosocial behavior (empathy) and antisocial behavior (aggression) in children. The father's parental attitude has a stronger impact on prosocial behavior of children, than the mother's attitude. The mothers' attitude strongly influences on the level of aggression of their children. There is a positive relationship between children not being able to take perspective of others (cognitive empathy) and father's inconsistent attitude. We see similar relationship when it comes to emotional empathy in adolescents. The higher level of protection, requirements and inconsistency in father's behavior the higher level of personal distress in a child. The results are opposite in terms of aggression. The more acceptance and autonomy parents have for a child the less aggression in his behavior. Mothers' attitude of acceptance is negatively correlated with cognitive dimension (hostility) and emotional (anger) but not with behavioral (physical aggression) aspect of aggressive behavior of adolescents. When both parents are inconsequential and have excessive requirements then their attitude is positively correlated with level of aggression in children.

**Conclusion:** Polish research confirms that both mother and father play important role in shaping appropriate social skills of their child. There is a different relationship between parenting styles of mother and father and behavior of a child.

### **pos103.20 Psychological Resources, Marriage and Parenting: an Actor-Partner Interdependency-Model**

Willemijn van Eldik, Amaranta de Haan, Lidia Arends, Jay Belsky, Peter Prinzie

*Erasmus University Rotterdam, Netherlands*

The ecological theory of Belsky (1984) states that parenting behavior is primarily determined by parental personal psychological resources (i.e. personality and depression), and secondly, subject to contextual sources of support or stress (i.e. stress in the marital relationship). Additionally, family systems approach emphasizes interdependency between family members (Cox & Paley, 2003).

Combining these two perspectives, this study aimed to answer three key questions. First, to what extent do the Big Five personality dimensions and depressive symptoms of parents (i.e. together representing parental psychological resources) forecast adolescent-perceived parenting eight years later? Second, does marital stress mediate these predictive associations linking parental psychological resources with parenting? Third, to what extent is maternal and paternal parenting affected by their own and their partner's psychological resources and experienced marital stress?

Parents of 350 intact families (47.5% boys, T1 Mage children = 7.10 years), within a Flemish community sample, reported on their personality and depressive symptoms (2001) and their experienced stress in the marital relationship (2007). Adolescents reported on parenting behavior (2009; warmth, overreactive discipline, autonomy support). A longitudinal actor-partner interdependency model (Kenny, Kashy, & Cook, 2006) was tested using Structural Equation Modelling in Mplus 7.4 (Byrne, 2013; Muthen & Muthen, 1998-2012).

Results revealed that (a) specific parental personality dimensions, and not depressive symptoms, uniquely predicted parenting; (b) depressive symptoms predicted marital stress, and mothers' and fathers' marital stress mediated associations between maternal depressive symptoms and overreactive paternal discipline; and (c) that whereas mothers' parenting was influenced only by maternal psychological resources, those of both parents shaped fathers' parenting. Also, specific psychological resources emerged to forecast certain parenting behaviors for mothers and fathers, respectively. These results extend prior personality-marriage-parenting research, revealing complexity that has perhaps been under appreciated.

### **pos103.21 Longitudinal Transmission of Conflict Management Styles Across Inter-Parental and Adolescent Relationships**

Sondry Staats, Wim Meeus, Inge Van der Valk, Susan Branje  
*Utrecht University, Netherlands*

**Aim:** Learning and utilizing effective conflict management styles is important for psychosocial and relational adjustment in adolescence. Therefore, it is essential to examine what is predictive of the conflict management styles adolescents use and whether styles are transferred across relationships. In this study, we longitudinally investigated the transmission of conflict management styles across inter-parental, adolescent-parent, adolescent-friend, and adolescent-partner relationships.

**Methods:** During four waves, 799 middle-to-late adolescents ( $M_{age-t1} = 15.80$ ; 54% boys) and their parents completed the Conflict Resolution Style Inventory. Adolescents reported on the conflict management styles they used in conflicts with their father, mother, best friend, and romantic partner, and both mothers and fathers reported on the conflict management styles they utilized in conflicts with their partner.

**Results:** Cross-lagged path analyses indicated transmission of adolescent conflict management styles in relationships with parents to relationships with friends and romantic partners: Positive problem solving and conflict engagement utilized by adolescents in conflicts with parents were significantly, positively related to respectively adolescent positive problem solving and conflict engagement in relationships with friends 1 year later and relationships with partners 2 years later.

**Conclusions:** This longitudinal study showed that the way adolescents manage conflicts with parents predicts how they handle conflicts later on in relationships outside the family. As adolescents' conflict management style is prospectively related to their psychosocial and relational functioning, our results suggest that it is important to monitor and address adolescent conflict management in relationships with parents, so that constructive conflict management styles are utilized by adolescents in relationships with parents and in later friendships and romantic relationships.

### **pos103.22 Maternal and paternal parenting: its impact on children's self-regulation and peer relationships**

Ank Ringoot, Pauline Jansen, Rianne Kok, Henning Tiemeier  
*Department of Psychology, Education and Child Studies; Erasmus University Rotterdam, Netherlands*

**Aim.** Various studies have shown that both parenting and children's self-regulation impact peer relationships. However, only few studies examined these factors jointly and even fewer investigated whether the effect of parenting on children's early peer relationships is mediated by children's self-regulation abilities. The present study aimed at examining the direct and mediated associations between parenting in pre-school, children's self-regulation, and peer aggression and peer relationship problems (i.e. peer rejection and victimization) in elementary school aged children.

**Methods.** The study was conducted in a large population-based sample ( $N=689$ ), embedded within the Generation R Study. We used repeated measures of observed maternal sensitivity at one, three and four years of child's age. At child age three years, mothers and fathers filled out questionnaires on harsh discipline, in addition children's self-regulation abilities were observed in various tasks. At child age six years, parents reported on children's effortful control and children were interviewed to assess aggression towards peers and peer relationship problems. Two SEM models were tested, one including maternal sensitivity at multiple time points and one including maternal and paternal harsh discipline.

**Results:** The first SEM model showed that maternal sensitivity at child age three years was associated with children's self-regulation, over and above sensitivity at ages one and four years. Lower levels of self-regulation were associated with children's peer aggression and peer relationship problems. Children's self-regulation abilities marginally mediated associations between maternal sensitivity and children's peer outcomes.

**Results of the second SEM model** indicated that higher levels of paternal, but not maternal harsh discipline were associated with more peer aggression and peer relationship problems.

**Conclusion:** These results highlight that pathways to peer-relationship problems may be unique for mothers and fathers. Findings show the importance of maternal sensitivity for children's self-regulation and of fathers' harsh discipline for the quality of children's peer relationships.

### **pos103.23 Reactions to Prolonged Infant Crying Among Low-Risk and High-Risk Parents**

America Davila, Gabriella Lelakowska, Kreila Cote, Julie Crouch, David Bridgett, Joel Milner, Thomas McCanne  
*Northern Illinois University, United States*

Children younger than three years of age are at increased risk of child physical abuse (CDC, 2014). Infant crying, particularly when it is prolonged, has been identified as a potential precipitant of child physical abuse (CPA) as it can increase caregivers' feelings of frustration, anxiety, and anger (Barr, 2014). Infants experiencing CPA are at risk of serious physical injury (e.g., head trauma), as well as poor social and emotional functioning in adulthood. To advance our understanding of how caregivers react to prolonged infant crying, the present study used a simulated crying infant to examine how parents with varying degrees of CPA risk respond to prolonged, uncontrollable, crying.

A convenience sample of 189 parents (59% mothers) was recruited and parents were classified as either low-risk ( $n = 96$ ) or high-risk ( $n = 93$ ) using the Child Abuse Potential Inventory (CAP; Milner, 1986). Participants were instructed to care for the simulated crying infant for 30 minutes; however, they were allowed to stop at any time. Self-reports of negative affect (i.e., feeling "upset") were obtained at baseline, just before, and just after exposure to the crying infant. Results showed that high-risk parents, compared to low risk parents, were more likely to ask to stop their session with the crying infant early (29.2% vs. 7.2%, respectively). Repeated measures ANOVA indicated that negative affect increased across time for both low-risk and high-risk parents; however, a significant Time x CAP risk interaction was found,  $F(2, 185) = 4.69, p = .010$ , such that high-risk parents reported greater increases in negative affect over time. These findings suggest that when attempting to manage prolonged infant crying, high-risk parents tend to exhibit less persistence and find the experience more upsetting. Implications of these findings for early intervention/prevention efforts designed to reduce CPA risk will be discussed.

### **pos103.24 Mental state references in parents' descriptions of shy and non-shy children**

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Relations between children's temperamental shyness and parents' propensity to think and describe their children as individuals with minds were examined. A between groups design ( $N = 120$ ) was used to assess whether parents of a group of 4- to 8-year-old shy children and parents of a comparison group with non-shy children differed in the frequency and types of references they made to their children's mental states. Parents were asked to provide written descriptions of their children. Descriptions were coded for references to three types of mental states: volitional (e.g., want, need, try), cognitive (e.g., think, believe) and emotional (e.g., happy, shy). Shyness was assessed through separate parent and teacher reports of children's temperament. As predicted, differences were found in the overall number of references to mental states, but also in the types of mental states to which parents of shy and non-shy children referred. Parents in the shy group made significantly more frequent references to children's mental states and specifically to their emotions. Findings are discussed in relation to the need to extend our understanding on the potential associations between child characteristics, such as temperament, and parental mind-mindedness.

### **pos103.25 Parent Differential Susceptibility to Self-Efficacy Manipulation: Effects on Parenting Behavior**

Benedicte Mouton, Meike Slagt, Laurie Loop, Maja Dekovic, Marie Stievenart, Isabelle Roskam  
*Psychological Sciences Research Institute, University of Louvain, Belgium*

To enhance child development, parenting programs are one of the main tools used to improve parenting. Several meta-analyses identified factors moderating their effects, e.g. child initial difficulty severity or family socio-economic conditions (Gardner, Hutchings, Bywater, & Whitaker, 2010; Lundahl, Risser, & Lovejoy, 2006; Menting, Orobio de Castro, & Matthys, 2013). Few studies analyzed children's differential susceptibility to changes in their environment (Scott & O'Connor, 2012). Even fewer considered the parents' differential susceptibility to changes induced by such parenting programs.

This aim of this study is to explore the hypothesis of a parent differential susceptibility in two micro-trials (N=36 and N=78) exclusively focused on improving parental self-efficacy (PSE) to improve young children's behavior (Mean age= 56.17 months). Differential susceptibility is measured through parent temperament traits of emotionality (fear, distress and anger), sociability and activity. Analyzes include observations and questionnaires and use regression model and Regions of Significance tests. The aim is to test whether parents with higher levels in the various temperament traits show a greater response to PSE improvement than parents with lower level in these temperament traits.

Preliminary results show that the parent temperamental trait of sociability moderates the effect of an improved parental PSE on both positive and negative observed parenting. The temperamental traits of activity and anger-emotionality are also potential markers of parental susceptibility on the dark side (negative parenting) for typically-developing children. The strengths of this study is that it is one of the few studies on parent differential susceptibility to intervention. It uses stringent tests on differential susceptibility to parenting and the samples analyzed cover non-clinical and clinical children for externalizing behavior and various SES levels. Also, the use of focused micro-trials allows a better understanding of the effects of the specific parenting variable of PSE.

### pos103.26 The interface of self-control and attachment

Myrte Hamburg, Carlo Schuengel, Anja Huizink, Catrin Finkenauer, Marleen de Moor, Mirjam Oosterman  
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**Aim:** Studies have shown that attachment and self-control are related; people with higher levels of self-control are more likely to be securely attached than people with lower levels of self-control (Kobak & Sceery, 1988; Tangney, Baumeister, & Boone, 2004). Emotion regulatory strategies are prompted by early attachment experiences and internal working models (Bowlby, 1973). Yet attachment in relation to self-control has only been studied with self-report questionnaires in the context of adult romantic relationships. The current study aimed to connect maternal self-control to more intensive measurements of maternal attachment representation and child attachment in order to explore how self-control may be related to the intergenerational transmission of attachment.

**Method:** As part of an ongoing longitudinal study 190 women and children were investigated. To measure maternal state of mind regarding attachment, the Adult Attachment Interview (AAI) was conducted at 22 weeks of pregnancy. Attachment of the child was assessed with the Strange Situation Procedure (SSP) at 12 months post-partum. Maternal self-control was measured with the Brief Self Control Scale at 24 months post-partum.

**Results:** A one-way ANOVA predicting maternal self-control was conducted using the four-way classification system of the AAI. The results showed a significant association between maternal self-control and maternal attachment representation:  $F(3, 186) = 3.09, p = .028, \eta^2 = .05$ . Self-control scores were lower for insecure versus autonomous AAIs, although planned comparisons revealed a significant difference only between autonomous and unresolved AAIs:  $p = .005$ . Subsequently, we conducted a logistic regression to assess the interaction effect of maternal attachment representation and maternal self-control on child attachment. We found no main effect of maternal attachment representation, maternal self-control, or their interaction, see Table 1.

**Conclusion:** Maternal state of mind regarding attachment is associated with maternal self-control; how this association relates to the infant-mother attachment relationship requires further study.

Variable	<i>B</i>	<i>SE</i>	<i>p</i>	<i>Exp(B)</i>
AAI	.12	.33	.72	1.13
Self-Control	-.01	.03	.84	1.00
Self-Control*AAI	-.02	.04	.55	.98

Note.  $R^2 = .01$  (Cox & Snell, 1989),  $.01$  (Nagelkerke, 1991).

*Table 1: Logistic Regression for Maternal Attachment Representation and Maternal Self-Control Predicting SSP (secure/insecure)*

### **pos103.27 A Qualitative Analysis of Parental Emotional Control and Parental Knowledge in Albania**

Oriola Hamzallari, Liz Clark  
*Aleksandër Moisiu University, Albania*

The aim of this study was to explore the link between parental emotion control and parental knowledge in developing parenting competencies. This is a qualitative study using semi-structured interviews with thirty-three mothers and six fathers recruited from six public daycare centers caring for at least one child under the age of four. The interviews were transcribed verbatim and analyzed using the systematic text condensation. Analysis demonstrated that parents showing high parental competencies had high emotional control and high parental knowledge. Parents with low parental competencies had low emotional control and low parental knowledge. Parents with low parental competencies used unpredictable discipline strategies to validate their lack of emotional control toward their children by being punitive, by showing remorse and by hugging their child afterwards. Whereas parents with high emotional control used effective strategies to manage their challenging emotions when interacting with their child, such as developing parental knowledge by reading and co-reading with their partner, consulting with partners to apply effective discipline strategies, and in some cases consulting with developmental professionals. This group of parents by using these effective strategies has developed parental competencies. Findings indicate that parents face emotional regulation challenges in their parenting role but those parents who develop parental knowledge are more resilient compared to parents who use non-effective strategies to manage their emotional outburst toward their child. It is important to consider these results when designing parenting intervention for similar settings.

### **pos103.28 Does Identity Process Mediate the Link between Psychological Control and Adolescent Adjustment?**

Sule Selcuk, Esin Sener, Melike Sayil  
*Hacettepe University, Turkey*

It has been clearly stated that psychological control (PC) result in behavioral and emotional problems among adolescents. PC also impedes healthy identity development. Therefore, negative influence of PC on adjustment may partially result from its role on identity process. Given that PC prevents adolescents' making autonomous choices needed to form a stable identity, we hypothesized that PC intrudes making identity commitment and leads to exploration in-depth (i.e., combination of curious but distressful exploration) and reconsideration of commitment, which in turn result in less optimal outcomes (i.e., higher depression and affiliation with deviant peers, and lower psychological well-being). 284 urban Turkish adolescents aged between 14 and 19 years ( $M = 16.85$ ,  $SD = .98$ ) were recruited. Adolescents' maternal PC (Barber, 1996), identity processes (Crocetti et al., 2008), depression (Radloff, 1977), deviant peers (Galambos & Maggs, 1991), and psychological well-being (Diener et al., 2009) were assessed with reliable measures. We conducted Structural Equation Modeling analysis. Since PC was not related to identity commitment, we omitted this dimension from the analysis for reasons of parsimony. It was revealed that PC is positively associated with reconsideration of commitment and exploration in-depth. Moreover, reconsideration of commitment is negatively related to well-being whereas exploration in-depth is positively associated with well-being and negatively with deviant peer. Depression was not related to both dimensions. These findings indicate that (1) two identity dimensions mediate the relationship between PC and well-being, (2) PC related to being affiliated with deviant peers only through exploration in-depth, (3) identity processes do not play an intervening role for depression. Therefore, two identity processes, surprisingly not commitment, partially accounted the relationship between PC and particular adjustment outcomes. The reason for exploration in-depth dimension's promoting (rather than impairing) adolescent adjustment may result from its curiosity aspect although it is a distressful process of identity formation.

## Language development and communication

### pos103.29 Hearing object relative clauses improves children's ability to describe referents uniquely

Berna A. Uzundag, Aylin C. Küntay  
Koç University, Turkey

To unambiguously identify a referent for an addressee, the speaker must determine the attributes of the referent that distinguish it from alternatives and consider the addressee's perspective. Children often fail at first attempts but can utilize addressee's feedback or different types of training for subsequent more adequate descriptions (e.g. Matthews, Lieven, & Tomasello, 2007). We investigated the effects of hearing object relative clauses (ORCs) –complex linguistic structures that distinguish a referent from others (e.g. “the man that the shark bit”)- on children's ability to describe referents for an addressee.

Turkish-speaking children (age range=4;0-5;8) were pre- and posttested for their ability to complete picture books by requesting missing stickers among similar distractors where an incorrect sticker was given upon an ambiguous request (Figure 1). Between pre- and posttest, 26 children (M=60.1, SD=5.8 months) heard ORC (e.g. “you selected the dog that the boy pets”) and 28 children (M=58.5, SD=5.5 months) heard demonstrative noun phrase (DNP) constructions (e.g. “you selected that dog”) as a type of training.

In both conditions, children showed improvements by describing a referent in less number of attempts in the posttest relative to the pretest. Compared to the DNP condition, children in the ORC condition showed a greater decrease in location-based descriptions (e.g. “the dog below”), and increase in ORCs and uniquely identifying first descriptions. Only in the ORC condition, age significantly predicted the change in unique first descriptions such that the older children benefited more from the training ( $\beta=.61$ ,  $p=.001$ ,  $R^2\text{-Adjusted}=.37$ ) confirming that ORCs are difficult to learn for young speakers of many languages (e.g. Slobin, 1986). Passing a perspective-taking task was not significantly associated with the referential communication ability. However, children with higher working memory span and faster RTs in an executive function task were able to effectively describe a referent in less number of attempts.

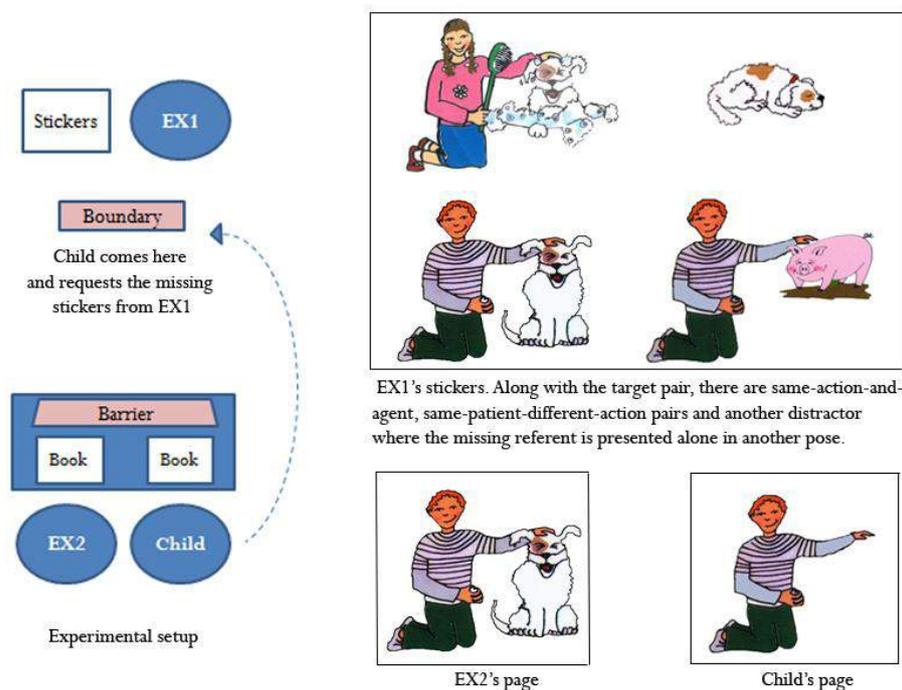


Figure 1. An overview of the experimental setup with picture book pages and available stickers for an example item.

### pos103.30 The advantage of maternal speech in novel word learning situations

Rianne van Rooijen, Eline Bekkers, Lisa van der Tier, Donna de Visser, Caroline Junge  
Utrecht University, Netherlands

For language acquisition, the maternal voice is special. It is the only voice that neonates have most experience with and prefer over any other voice. Children further process her voice faster and increase activation in brain areas related to language and attention. But does this advantage also extend to novel word learning?

We use eye-tracking to test two-year-olds' ( $n=127$ ) word-learning abilities (design closely followed Ma et al., 2011). Since the beneficial effects for maternal speech is typically examined either via live speech (with the experimenter functioning as control; e.g. Parise & Csibra, 2012), or via pre-recorded stimuli (with the maternal stimuli presented once to the mother's child, and once to an unfamiliar child as control; e.g. Barker & Newman, 2004), we tested the advantage of mother's voice in both situations. Results show that voice familiarity indeed matters for novel word learning (significant interaction:  $F_{1,123} = 4.78, p = .03$ ): children who learn from maternal speech look significantly longer at target than distracter ( $F_{1,65} = 11.5, p = .001$ ), whereas children who learn from unfamiliar speakers do not ( $F_{1,59} < 1$ ). While the advantage for maternal speech is more pronounced in the live setting than in the prerecorded version, this difference did not reach significance (See Figure 1).

We are further examining whether speaker familiarity might also heighten children's level of engagement by tabulating how often children produced the novel words or pointed at the screen. Preliminary results (i.e. from live version) suggest that children are more likely to repeat words from a familiar speaker. Moreover, at the individual level we observed correspondences between both word production or pointing and their learning performances.

Thus our results confirm that children learn words more rapidly from their mother than from an unfamiliar person. It appears that maternal speech not only facilitates word learning, but also affects the child's engagement.

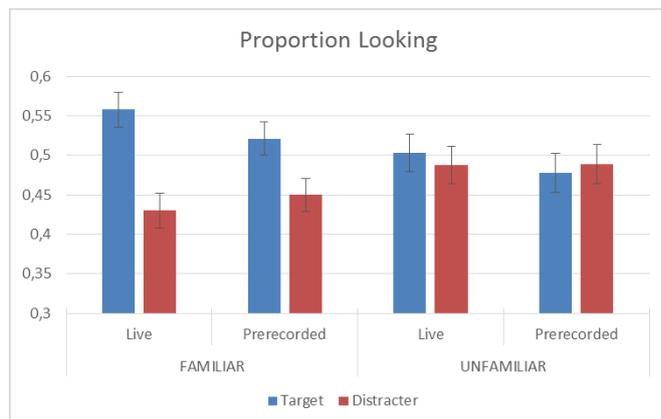


Figure 1

## **Prevention and Intervention**

### **pos103.31 Investigation of the processes underlying early home intervention efficacy**

Aline Max, Nicolas Favez  
*University of Geneva, Switzerland*

This poster presents the preliminary results of a study whose aim is to investigate the process explaining the efficacy of early psychosocial home intervention in families of children with disabilities or considered as “at risk” for their development. While there are many evidences about the efficacy of early home intervention, in particular for enhancing early parent-infant relationship and to prevent child abuse and neglect, the mechanisms involved in these improvements are not well understood. There are indeed multiple factors underlying in the psychological and social situations of these families; as a consequence, home intervention may take several different forms and it is difficult to isolate or identify the ingredients involved in a successful intervention. As a first step in this investigation, we have set up a collaboration with the Geneva Early Intervention Service. This service offers psycho-educational interventions for developmentally delayed or vulnerable children aged from birth to six years old, in order to sustain parenting in a safe environment. 16 clinicians of the Geneva Early Intervention Service, working with 324 families, took part to 2 x 2 focus groups. Each group is asked several questions about (i) how they evaluate the efficacy of their everyday work, and (ii) which processes underlie this efficacy.

Preliminary results highlight several dimensions in the intervention: first, the clinicians should be able to adapt the intervention to the actual needs of the family while keeping in mind the long-term focus. Second, the intervention objectives should be set up in collaboration with the parent. Third, a successful intervention is more likely when clinicians and parents co-construct a similar representation of the child. Other important aspects of home-based interventions are also discussed.

This qualitative research will guide future qualitative and quantitative researches to improve knowledge about those processes in early intervention and consequently improve their efficacy.

### **pos103.32 Child Adjustment in Divorced Families: Can We Successfully Intervene with Dutch 6-8Year-Olds?**

Mariska Klein Velderman, Leante van Harten, Fieke Pannebakker, Wendy van Vliet, Sijmen Reijneveld  
*TNO Child Health, Netherlands*

Parental divorce impacts strongly on children. Children with divorced parents score significantly lower on measures of wellbeing, conduct, psychological adjustment, self-concept, and social relations (Amato & James, 2010). In 2009, about one million marriages ended in divorce in the European Union (European Commission, 2013). To this number add terminations of live-in partnerships. Children are frequently involved. Given the large numbers of children involved, and the negative impact of divorce on children, prevention of problems for children of divorce and helping them adapt to the divorce should be prioritized. The US Children of Divorce Intervention Program (CODIP), an evidence-based group intervention designed to prevent divorce-related problems in children, may meet this need for preventive support.

Aim of this study was to assess the effects of an adapted CODIP module (CODIP-NL) for 6-8 years old children in the Dutch setting. At ECDP2013+2015, we presented first pilot results regarding its impact on 6-8 and 4-6 years old participants' positive functioning (mother and group leader reports). Based on these first studies' findings, CODIP-NL for 6-8 years was adapted into the version as currently implemented in Dutch practice.

In the second quarter of 2017, we will finalise a quasi-experimental study on  $\geq 65$  children participating in  $\geq 15$  CODIP-NL groups,  $\geq 30$  children with separated parents not participating ('divorce controls') and  $\geq 120$  children from intact families ('intact controls'). The impact of CODIP-NL on child functioning and wellbeing is measured using the Strengths and Difficulties Questionnaire (Goodman, 1997), Parent Evaluation Form (Pedro-Carroll & Cowen, 1989), and Cantril ladder (Cantril, 1965). The Acrimony Scale (Shaw & Emery, 1987), and the process of separation measure (Spruijt & Van der Valk, 2005) are used for insights in the separation process and interparental conflict. At ECDP2017 we will present results based on parent, teacher and group leader reports.

**pos103.33 A new proposal to assess family context: Haezi Etxadi Scale, HES-8 year.**

Florencia Belén Barreto, Manuel Sánchez de Miguel, Jesús Ibarluzea, Fernando Olabarrieta, Alaitz Etxaniz, Loreto Santa Marina, Patricia Roncallo, Enrique Arranz  
*University of the Basque Country, Spain*

**Aim:** to analyse the factorial structure of a new instrument, Haezi Etxadi Scale-HES, aimed to assess the quality of family context in eight-year-old children, in a sample of families within a childhood and environment's cohort of INMA Project.

**Methods:** The quality of family context was assessed in 390 families with the HES. The new instrument is a self-report questionnaire of 140 items in a Likert scale of 1-6, to be completed by parents jointly or by the primary caregiver in the presence of a psychologist. A previous "Face Validity" procedure was carried out with 24 families with similar socio-economic status that make up the INMA cohorts features.

**Results:** An Exploratory Factorial Analysis and a Confirmatory Factorial Analysis confirmed the following factorial structure into 5 areas: (1) Stimulation of Cognitive and Linguistic Development: Learning Materials .76; Promotion of cognitive and linguistic development .69; Promotion of new knowledge experiences .40; Promotion of reading .76. (2) Stimulation of Social and Emotional Development: Emotional expressiveness .92; Quality of siblings relationship .71; Setting of limits and optimal frustration .67; Promotion of autonomy and self-esteem .66; Promotion of self-regulation learning .60. (3) Quality of Physical Environment and Social Context: Quality of physical environment .75; Relationship with extended family .71; Promotion of child's social relationships .73; Relationship with school .56. (4) Parental stress and Conflict: Parental stress .70; Exposure to family conflict .82; Resolution of family conflict .50. (5) Parental Profile Enhancer of Development: Father involvement .86; Parental Self-efficacy .74; Parental knowledge of development .75; Assertiveness .66; Theories about development .52.

**Conclusions:** It's worth highlighting the variability obtained in the family assessment procedure and the adequate indicators of reliability. A new sensible tool is provided to respond to Public Health's demand, to identify poor family contexts in order to take preventive measures focused on parenting skills, to ensure a healthy psychological development.

## Race, ethnicity, culture, context

### pos103.34 Ethnic socialization and familial interdependence among Asian American and Latino/a college students

Christine Wu, Melissa Velez, Adam Kim, Richard Lee  
University of Minnesota - Twin Cities, United States

**Aim:** Parental ethnic socialization describes the process by which parents seek to instill their cultural values, language, and customs in their children. This study examines how ethnic socialization relates to endorsement of cultural values. Specifically, Asian American and Latino/a families commonly emphasize values of familial interdependence – honoring and prioritizing family relations and obligations. We hypothesize that ethnic socialization positively predicts the development of familial interdependence among Asian American and Latino/a undergraduates. Additionally, it is important to consider the context of perceived parenting practices when examining parental ethnic socialization and developmental outcomes. This study also examines the moderating role of coercive parenting. We hypothesize that coercive parenting will weaken the association between ethnic socialization practices and familial interdependence.

**Method:** Asian American and Latino/a college students (N = 2040; 29.9% male; 48.3% Asian American; 72.1% U.S. born; 18-25 years old; Mean age = 19.7 years) completed measures of familial ethnic socialization, familial interdependence, and perceived paternal/maternal parenting. Regression analyses were conducted separately by race and nativity status, resulting in four subgroups.

**Results:** Among all groups, there was a significant main effect of ethnic socialization on familial interdependence ( $\beta = .37 - .49, p < .001$ ). We observed significant interactions of ethnic socialization and maternal coercive parenting for Latino/a U.S.-born students (maternal:  $\beta = .12, p < .001, sr^2 = .011$ ). Simple slopes at low and high levels of maternal coercive parenting were both positive and significantly different than zero ( $p < .001$ ). Individuals reporting high maternal coercive parenting showed a stronger association between ethnic socialization and familial interdependence (see Figure 1).

**Conclusions:** Our findings suggest that U.S.-born Latino/as are more affected by coercive maternal parenting. Further analyses will examine the relations using a latent-variable modeling approach using Structural Equation Modeling. Implications for future research and parenting practices will also be discussed.

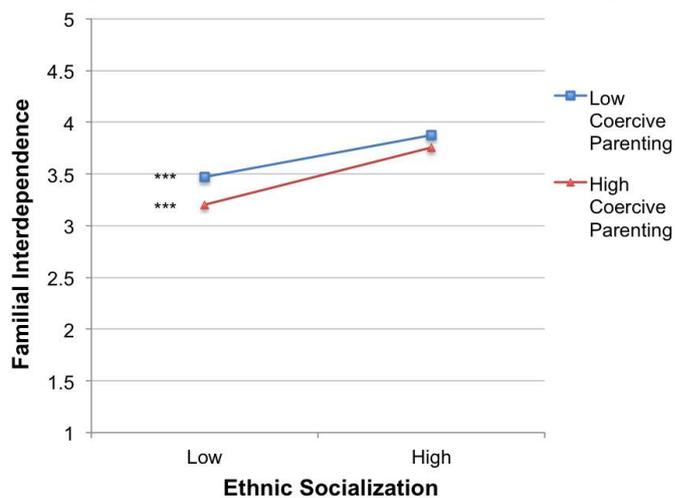


Figure 1. Interaction of ethnic socialization and coercive parenting on familial interdependence among U.S.-born Latino/as. \*\*\*  $p < .001$ .

### **pos103.35 Education Meets Migration: Psychological Adaptation Of Students From The Standpoint Of Teachers**

Gülendam Akgül, Müge Artar  
*Ankara University, Turkey*

Migration is becoming a very important hot-topic issue throughout the Europe since the increasing number of immigrant adolescents are being part of the educational system. It is a heavy burden for them to accomplish both the normal developmental tasks such as identity development and to cope with cultural differences. During this process, a number of school-related factors affect their psychological well-being and social adaptation such as perceived discrimination (Schmitt, Branscombe, Postmes, & Garcia, 2014), teachers' attitudes (Kumar, Karabenick, and Burgoon, 2015), teacher-student relationship (Özdemir, & Stattin, 2014), sense of belongingness to school (Georgiades, Boyle, and Fife, 2013), language abilities (Vedder, 2005), and ethnic/ racial identity development (Rivas-Drake, et al 2014). Thus the aim of the present study is to identify the school related factors which affect psychological well-being and social adaptation of immigrant students in different cultures as well as teachers' perception of the issue.

Participants will be teachers working with immigrant students at schools in Norway, Italy, Denmark, Slovenia and Turkey as part of an Erasmus Plus Project . Data will be collected from five different European countries. Instruments to collect the data will be a demographic information form and a brief questionnaire designed for the purpose of this study. It consisted of items focusing on problem areas the immigrant students experienced, school-related factors that affect ethnic identity development, the viewpoint of teachers about the psychosocial adaptation of immigrant students, their professional needs and contributions of immigrant students to the cultural diversity in school settings. Statistical analysis will include intercultural comparisons of countries in terms of descriptive statistics.

The results will be discussed in the light of relevant literature. This paper is thought to unveil the factors affecting psychosocial adaptation of immigrant adolescents at schools. In addition, it hopes to shed light on intercultural differences about the issue.

## Social, and personality development

### **pos103.36 Psychological well-being and life satisfaction of men in different periods of maturity**

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Saint-Petersburg State University, Russia

Psychological well-being and life satisfaction are very important for all people, but can be seen in different ways. Capturing significant gender distinctions might provide better understanding of human experience and values. Present research aims to identify the main factors of psychological well-being for men and to investigate men's life satisfaction in connection with self-attitude (supported by RFN, project 16-06-00307a). Methods used were: Scales of Psychological well-being (Ryff), The Level of Life satisfaction in different fields (Vasserman), questionnaire 'Components of Self-attitude' (Pantileev, Stolin). The study involved 280 men (22-50 years) from Saint-Petersburg. For study purposes sample was divided into three groups: early, middle and late adulthood. The research revealed that 'autonomy' and 'environmental mastery' impact the level of psychological well-being more for men in comparison with women (Tab.1). The indicators of different aspects of life satisfaction correlated with components of self-attitude among men. In the period of early adulthood career choice, social status and ways of spending free time are the areas of life, satisfaction in which significantly associated with the positive self-attitude. In the period of middle adulthood life satisfaction correlated with expected attitude of others. Financial position was that area of life, satisfaction in which significantly connected with the self-esteem and self-sympathy. For the period of late adulthood the most important life domain is family relationships. At the same time a curious fact was that satisfaction in spousal relationships negatively correlated with self-interest. In addition, self-interest associated positively with satisfaction with career choice again, as in the period of early adulthood. Thus, autonomy is more important for a man's psychological well-being, than for a woman's. Positive self-attitude can be regarded as a resource for life satisfaction for men. Even if man is satisfied with family relationships, he needs some inner space to protect his own self-interest.

<b>PWB</b>	<b>Men</b> (n=200) M (SD)	<b>Women</b> (n=206) M (SD)	<b>t-test</b>
<u>Autonomy</u>	<b>31.82</b> (4.83)	30.46 (4.82)	2.839**
<u>Environmental mastery</u>	<b>30.45</b> (5.28)	28.76 (4.74)	3.394***
<u>Personal growth</u>	34.24 (4.91)	33.91 (4.66)	0.693
<u>Positive relatedness</u>	31.74 (6.88)	<b>33.67</b> (5.43)	-3.128**
<u>Life purpose</u>	34.36 (5.31)	33.57 (5.04)	1.505
<u>Self-acceptance</u>	32.58 (5.52)	32.04 (5.71)	0.969
<u>Total scale</u>	195.19 (23.75)	192.41 (21.82)	1.225

Note: \*p<.05; \*\*p<.01; \*\*\*p<.001.

Table 1. The means and standard deviations in the gender groups on the Psychological well-being scales

### **pos103.37 Improvised-dance experiences and personalization process: a qualitative study.**

Adèle Jolivet, Ania Beaumatin  
Université Toulouse Jean Jaurès (UT2J), Laboratoire LPS-DT, Axe 2, France

The main purpose of this study is to analyze personalization process in improvised-dance experiences. Many authors agree that a process of emotional expression occurs through dance experiences and through improvised-dance: the practice of dance would allow the emotions to be shared (Mercier-Lefèvre, 1999) and improvisation would make it possible to control them (Marty, 2013). In this research, it is assumed that other psychological process occurs through social improvised-dance experiences: a personalization process. The personalization process is not only a psychological process: it takes social factors into account. This work is based on the social and psychological perspective (Baubion-Broye A. et coll., 2013; Malrieu, 1982), which asserts that people personalize themselves while interacting with other people: people build their identity through a gradual elaboration of their own system of values, their own codes. They assert themselves. The hypothesis is that people personalize themselves thanks to improvised-dance experiences. Improvised-dance

experiences which are shared with other people give the possibility to live social experiences and these social experiences allow people to develop their personality. The population sample of this research consists of 20 dancers practicing improvised-dance. The tools are a written production (short narratives about improvised-dance) and a semi-directive interview. This qualitative research focuses on narratives: it is assumed that people become themselves through giving a meaning to their actions and through telling their experiences. These data will be analyzed through thematic analysis.

### **pos103.38 Individuation During Emerging Adulthood: Examining Parental Relations and Cultural Factors**

Nilay Ergüden, Irmak Su Tütüncü, Bugay Yıldırım, Aysun Dogan  
*Ege University, Turkey*

Emerging adulthood (EA) is defined as a distinct life stage between adolescence and adulthood. Although individuation is one of the main developmental tasks of adolescence this process continues through EA. EAs take more adult responsibilities and roles; yet, they do not fully achieve personal independence. There are many factors (e.g., individual, family, cultural) playing a role in explaining the individuation process. For example, research shows that supportive relationships with parents as well as cultural environment might provide optimal environment for healthy individuation. Previous research examining individuation among EAs have been primarily conducted in individualistic cultures. In this study, we examined EAs in Turkey which is considered as collectivistic country based on cultural values of social harmony and obligation to the group and family values. The main purpose of this research was to investigate the role of parenting and the culture in examining individuation process among Turkish EAs.

Participants were college students (N=169; Mage =21.17, SD=1.4; 77% girls) who completed demographics, Auckland Individualism-Collectivism Scale, Perceptions of Parents Scale, and Individuation Test for Emerging Adults. Findings regarding individuation showed that EAs reported higher connectedness towards their mothers ( $t= 4.60$ ,  $p<.001$ ) as well as higher intrusion by their mothers ( $t= 5.97$ ,  $p<.001$ ). Similarly, EAs reported higher levels of involvement, autonomy support, and warmth with their mothers ( $t= 5.53$ ,  $t= 3.77$ ,  $t= 4.53$ ,  $p<.001$ , respectively). Hierarchical regression analysis indicated that individualistic EAs whose mothers were more involved and provided autonomy reported more self-reliance toward their mothers. Moreover, collectivistic EAs who had higher levels of warmth with their mothers reported more connectedness toward their mothers while EAs whose fathers supported autonomy reported more connectedness toward their fathers. Findings can be explained in the light of characteristics of Turkish culture in which the mothers act as main caregiver; thus, individuals might feel more connected to them.

### **pos103.39 Emerging Adults' Happiness Enhancing Strategies: A Comparison of the USA and Turkey**

Tümay Doksöz, Hilal Ersoy, Aysun Dogan, Meliksah Demir  
*Ege University, Turkey*

The happiness literature shows that circumstantial factors and personality traits explain as high as 60% of the variance in happiness. Thus, approximately 40% of the variance may be related to intentional behaviors of individuals. Previous studies also indicated that individuals use different types of strategies to maintain or increase their happiness. Moreover, the frequency and the type of these strategies may differ depending on the individual's cultural context. This study examined this topic using data from emerging adults (EAs) from Turkey and the USA, cultures considered as collectivistic and individualistic, respectively.

The Turkish sample consisted of 410 university students ( $M= 21.6$ ,  $SD= 1.8$ ) and the American sample consisted of 276 university students ( $M= 21.3$ ,  $SD= 5.5$ ). Participants completed demographics, Subjective Happiness Scale for assessing happiness and Happiness Increasing Strategies Scale. A back-translation method was used when adapting the measures of the study into Turkish. The participants completed the measures online. Overall, goal pursuit and social affiliation were the most frequently used strategies whereas partying and mental control were the least frequently used. Clear cultural differences were obtained. For example, Turkish EAs reported using mental control, passive leisure, religion, and direct attempts significantly more frequently than did their American peers, whereas American EAs used partying and goal pursuit significantly more than did Turkish EAs. Some gender differences were also emerged. Although women and men reported similar levels of happiness ( $M= 6.6$  vs.  $7.1$ ), their use of some happiness-increasing strategies were differed. For example

women reported using social affiliation, goal pursuit, and passive leisure significantly more frequently than did men. Findings of this study indicated the importance of the intentional activities that EAs use to increase their happiness and that these activities differed in different cultures.

### **pos103.40 Positive orientation and mood regulation in diabetics in middle and late adulthood**

Dorota Kalka

*SWPS University of Social Sciences and Humanities, Poland*

Positive orientation is an essential personality trait, which reflects a general tendency to experience life with a positive attitude (Caprara, 2009, 2010; Caprara, Steca, Alessandri, Abela, McWhinni, 2010). It is perceiving oneself, one's life and future in a positive way, it shows the basic predisposition, which has an important biological function of making a man willing to cope with life despite setbacks, adversities and a perspective of death. Positive orientation is significant for our emotionality. It is a predisposition, which undoubtedly has a great influence on the persons suffering from chronic diseases.

Research objective. The aim of the conducted research was to verify the role of positive and negative emotional states for the relationship between positive orientation and mood regulation in individuals with type 2 diabetes in their middle and late adulthood. We verified whether sick and healthy persons differ from each other in terms of the said variables.

Methods. We used methods with recognized psychometric properties – PANAS (Watson, Clark, and Tellegen, 1988), P-Scale (Caprara et al., 2012) and Mood Regulation Scales (Wojciszke, 2003).

We examined two groups: people with type 2 diabetes (N=90) and healthy individuals (N=90).

Results. The results showed, among other things, that the groups differ in terms of positive emotional states and positive orientation. There were also found the relationships between positive orientation and mood regulation, positive emotionality and affective states, affective states and mild depression in the diabetes group.

Negative emotional states turned out to mediate the relationship between positive emotionality and mild depression in the group of people with diabetes.

Conclusions. The search for variables which mediate the relationship between positive orientation and mood regulation in people with chronic diseases of all ages can contribute to a better understanding of a functioning of this group in terms of the ways of coping with reality.

### **pos103.41 Materialism, life aspirations and learning in young adolescents**

Ekaterina Kornilaki

*University of Crete, Greece*

The rising levels of materialism among young people have raised concerns not only among psychologists but also among parents and educators. Children and adolescents tend to believe that wealth and consumption are related to happiness and indicate a successful course in life. Studies have systematically shown that materialism is associated with lower levels of well-being and life satisfaction, poor peer relationships and lower self-esteem. In addition, materialistic children tend to like school less and report lower school performance. Ku, Dittmar and Banerjee (2014) showed that children's materialistic value orientation is linked to poorer school performance through its association with lower mastery and higher performance goals, usually associated with poorer learning outcomes. The aim of this study is to examine the relationship between materialism and school performance in adolescents and test the hypothesis that this happens through its association with extrinsic/intrinsic life aspirations (Deci & Ryan, 2000). Adolescents aged 12-15 completed a questionnaire entailing a) Richins' (2004) Material Values Scale, b) the Aspiration Index (Kasser & Ryan, 1993) that assesses the relative importance of extrinsic (wealth, fame and image) and intrinsic goals (personal growth, community contribution and meaningful relationships), and c) participants' test results in several modules such as maths, language, literature etc. The preliminary analyses suggest that materialism is positively associated with extrinsic life aspirations. More materialistic children tended to report lower test grades. The poster will present a detailed analysis of the data and will discuss the implications of the findings for personal development and school policy.

### pos103.42 The fear of low-dose radiation caused by nuclear power plant accident

Hideo Okamoto, Saito Seiichi, Yuriko Norisada, Taro Matsuki  
Nara Women's University, Japan

**Aim:** The Great East Japan Earthquake of 2011 caused severe damage to Fukushima and other prefectures of the Tohoku region. A part of Fukushima Prefecture was contaminated by radioactive substances from the Fukushima Daiichi nuclear power plant accident, which continues to exhibit low-dose radiation even now. We examined how the extent of fear of low-dose radiation differed by age, sex, and residential area.

**Methods:** Participants included 300 men and women, aged 20–69 years, living in Fukushima and Miyagi Prefectures in the Tohoku region, and Osaka Prefecture, which was outside Tohoku. The participants completed an online survey comprising 7 items of the scale for fear of radiation. The survey was conducted in December 2016.

**Results:** A three-way between-subjects ANOVA (age, sex, and residential area) was conducted to compare the extent of fear of radiation among the three groups. The interaction between gender and age was significant ( $F(4, 270) = 2.578, p < .05$ ). A main effect was found for area ( $F(2, 270) = 6.009, p < .01$ ). The simple main effect and multiple comparison revealed that the fear of radiation was higher in men than women in their twenties ( $p < .05$ ); for men, it was higher in their forties than fifties ( $p < .05$ ); it was higher among the residents of Fukushima Prefecture than the residents of Miyagi and Osaka Prefectures ( $p < .01, p < .05$  respectively) (Figures 1).

**Conclusions:** We concluded that younger women and older men have a higher fear of low-dose radiation, as did the residents of the Fukushima Prefecture.

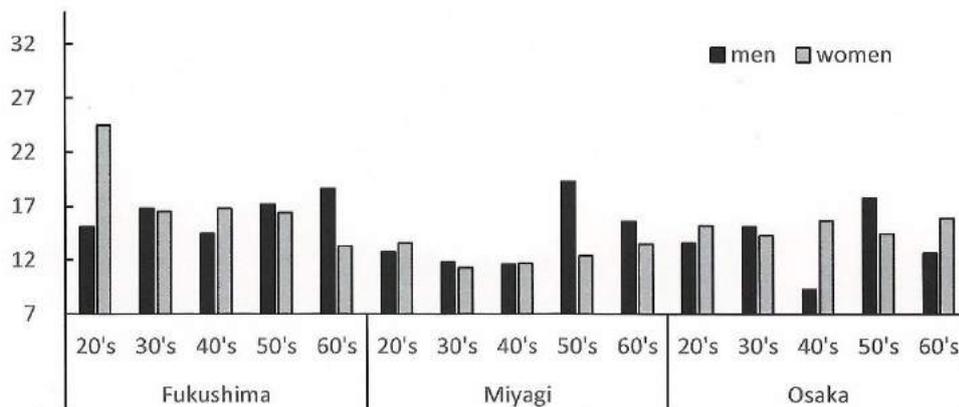


Figure 1 Mean of fear of radiation by sex, age and prefectures

### pos103.43 Inhibitory influence of reminiscence on Sense of Coherence

Satoshi Unzai, Seiichi Saito, Taro Matsuki  
Kobe University, Japan

**Aim:** This study aimed to examine that moderation effect of reminiscence had influence of reevaluation on meaningfulness. Meaningfulness is a subscale of Sense of Coherence (SOC), which is core concept in Salutogenesis. Meaningfulness is more important than other two subscales of SOC because it decides to increase or reduce other subscales.

**Method:** 257 undergraduates and graduates (78 males and 179 females) answered Reminiscence Scale, Reevaluation Tendency Scale and Orientation to Life Questionnaire (SOC-29) composed of “comprehensibility”, “manageability” and “meaningfulness”. The survey was conducted in July 2016 and January 2017.

**Results:** Analysis suggested that reminiscence appeared to moderate a relation between reevaluation tendency and meaningfulness. We tested moderation effect of reminiscence in hierarchical multiple regression analysis. As a result, reevaluation tendency had significantly positive effect on meaningfulness ( $\beta = .31, p < .001$ ).

However, high reminiscence reduce that effect (Figure 1).

**Conclusion:** These findings are important suggestion how meaningfulness is formed. Meaningfulness is formed by life experiences characterized by participation in shaping outcome. If people have high reevaluation

tendency, people more positively evaluate the past than people have high revaluation tendency and reminiscence. Thus, further studies are needed to examine what factor reduce positive effect on meaningfulness or SOC.

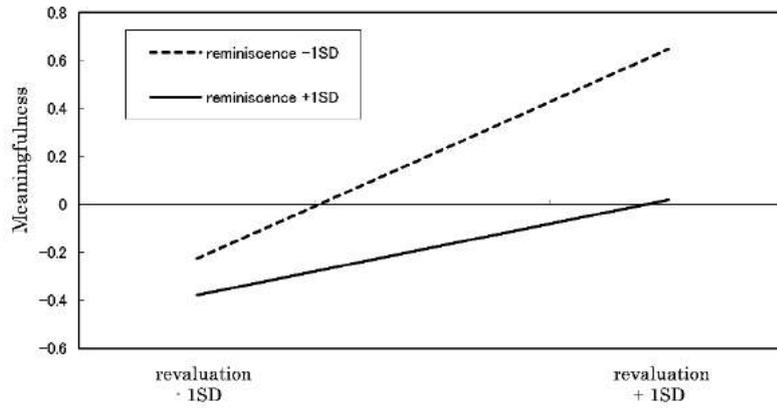


Figure 1 Interaction between revaluation and reminiscence

Thursday August 31

Session 201, 11:00 – 12:00 hrs.

### **Cognitive Development**

#### **pos201.2 Color Preference in Chinese Adults: Age and Gender Differences**

Yujing Zhang, Pingping Liu, Buxin Han

*Beijing Institute of Education, China, People's Republic of*

Recent studies have shown cultural differences in color preference. However, the color preference in people from China was yet to be studied in depth. And also were the three dimensions of color vision: hue, chroma, and lightness, as Crozier (1997) pointed out that “if one of the two dimensions, hue or chroma, remained unchanged, significant cultural differences would appear”. The current study investigated color preference and associated age and gender differences in an adult national sample (N = 1290) from the Chinese mainland to provide a culture-specific characteristic of color perception in human kind.

Participants rated how much they liked each of 31 colors (four chroma-lightness levels of red, orange, yellow, green, cyan, blue, and purple, plus three achromatic colors).

We found a unique saturated color preference pattern characterized by red, cyan, and blue being preferred the most, and orange as the least preferred chromatic color. The “red preference” phenomenon were found in Chinese adults. Light colors were preferred the most in terms of chroma-lightness level, followed by saturated, muted, and dark colors. The results of principal component analysis of the 28 chromatic colors showed blue-green-like colors (cool colors) explained the largest proportion of color preference. The preference for orange and several dark colors increased with age, while that for bluish colors, purple, yellow, white, black, and light colors decreased. These results could be explained by both psychological (e.g., color emotion, motivation) and biological (e.g., crystalline lens, basal metabolic rate) changes associated with advancing age. In terms of gender, females liked cyan, white, pink, and light colors, and disliked red, orange, and dark colors more than males did.

Our findings provide new empirical evidence about color preference of Chinese, and may offer some insight into the study of color preference and lay the foundations for future theoretical and practical research.

#### **pos201.3 Effects of attention training and transfer to other cognitive functions in children**

Monika Deja, Janusz Trempała, Ludmiła Zajac-Lamparska

*Institute of Psychology, Kazimierz Wielki University, Poland*

During the last years, the interest in the possibility of improving cognitive functioning through basic cognitive processes training has been growing. The meta-analysis of the published studies shows that the improvement in the performance is observed not only in the trained tasks, but also in tasks different to the ones trained, that engage other basic (near transfer) and more complex (far transfer) cognitive processes. However, the results of the studies are diverse and inconclusive.

Moreover, there is lack of studies on effects of the attention training in typically developing preschool children. Knowledge in this field is important to support the early childhood development and education.

The aim of research was to analyze the effects of the executive attention training in preschool children and to check the transfer to untrained tasks performance. The sample consists of 120 typically developing children in two groups which are homogenous in terms of gender and age: 4 years old (N=60) and 6 years old (N=60). Children were divided respectively into Experimental (executive attention training) and Control (passive, no-contact) groups. In the Experimental group the computer version of adaptive training was used. 16 appointments were arranged (each about 15-20 min.). The training lasted about 4 weeks. Additional measurements, as assessment of working memory and fluid intelligence, were performed on each group in pre-test and post-test.

The preliminary analysis of the data shows that (a) the executive attention training in 4 and 6 years old children leads to an improvement in the speed and the correctness of tasks performance; (b) the effects of the transfer on working memory and fluid intelligence are not clear. The results of the analysis of the interactions

between the age of participants, the degree of improvement in the attention training and the effects of the transfer will be presented.

#### **pos201.4 Cognitive advantages in children attending a Spanish-French bilingual educational program: preliminary results**

Elena Perez-Hernandez, Inmaculada Lozano, Julia Karbach, Pascale Engel de Abreu  
*University Autonoma Madrid, Spain*

**Introduction:** Previous studies have shown that being bilingual can be advantageous for the development of a number of cognitive skills including attention, working memory and executive functioning. This effect has been linked to bilinguals' experience of having to process and manipulate different language systems and cultures.

**Aim:** The purpose of this study was to determine to what extent sequential bilingualism acquired through a 50% educational program in Spanish and French conveys cognitive advantages.

**Methods:** Sixty children participated (mean age=7.5): 30 Spanish-speaking monolinguals (17 girls) and 30 sequential bilinguals Spanish-French (15 girls). Children in the bilingual group all had acquired French since the age of 3 in a 50% educational program. There are not differences between groups in chronological age or SES. They have been tested on a battery of task of working memory, visual attention, cognitive flexibility, inhibition and shifting attention.

**Results:** The main results showed a higher verbal working memory span in favor of the sequential bilinguals. Also they outperformed the monolinguals in visual attention, flexibility, inhibition and shifting tasks.

**Conclusions:** Preliminary data indicates that sequential bilinguals attending a 50% Spanish-French bilingual program in Spain present some cognitive advantage in comparison to their monolingual peers. Our data further highlight the benefits of second language exposure in the context of formal education.

#### **pos201.5 Developmental differences in distinct emotion regulation strategies in a non-clinical sample**

Lydia C. Rodríguez-Corcelles, Allison Joyner-Bizama, Robinson De Jesús Romero, Mónica C. Acevedo-Molina, Giovanni Tirado-Santiago  
*University of Puerto Rico, Puerto Rico*

**Aims:** During adolescence emotions are experienced intensely, increasing adolescents' vulnerability for mood and anxiety symptoms. At this stage, emotional regulation (ER) undergoes changes due to late maturation of cognitive control brain structures. This may put at risk adolescents that have not yet developed adaptive ER strategies and who in turn may deal with experiences in a maladaptive way. Here we aimed to assess developmental variations of two ER strategies, rumination and decentering (distancing one-self from thoughts), in a sample of Spanish-speaking Puerto Rican adolescents and college undergraduates. **Method:** We recruited 162 adolescents (ages 13-14: N=69, M=13.52, SD=0.59; ages 15-17: N=93, M=16.03, SD=0.78) and 212 young adults (ages 18-29: M=21.23, SD=3.06) in educational institutions in Puerto Rico and administered the Experiences Questionnaire, a self-report instrument with two subscales: Decentering (14 items) and Rumination (6 items). **Results:** A one-way ANOVA to assess the effect of developmental stage on decentering showed a significant effect of age [ $F(2, 316)=3.44, p<.05$ ]. Post-hoc comparisons using Bonferroni test revealed a significant difference ( $p<.05$ ) between ages 13-14 (M=44, SD=7.83) and 15-17 (M=47.53, SD=7.66), but not between any of these and young adults. Further, a one-way ANOVA to assess the effect of developmental stage on rumination showed a significant effect of age [ $F(2, 316)=4.45, p=01$ ]. Post-hoc comparisons using Bonferroni test revealed a significant difference ( $p<.05$ ) between ages 13-14 (M=22, SD=4.01), 15-17 (M=24.02, SD=3.22) and young adults (M=23.47, SD=3.59). Older adolescents showed no significant effect compared to young adults. **Conclusions:** Differences in means suggest that younger adolescents (13-14 y.o.) are more at risk since they have not acquired the ability to decenter from negative thoughts and employ rumination as a problem-solving ER strategy. Although the rest of the sample scored higher in this ER, they showed higher scores in decentering ability which suggest an advantage in dealing with negative emotions.

## **Development of social cognition**

### **pos201.6 The Child Prosocial Behavior Questionnaire (CPBQ): Assessing toddlers' prosocial behavior**

Elisa Brazzelli, Eleonora Farina, Ilaria Grazzani, Alessandro Pepe  
*University of Milano-Bicocca, Italy*

Introduction: By the end of the first year of their life, children start displaying voluntary actions aimed at benefit one another. These early attempts at prosocial behavior become increasingly sophisticated throughout the second year of life, when toddlers acquire the ability to engage in instrumental helping, to respond empathically to other's distress and to share their resources with others. Despite the growing interest of research in early prosocial behavior, there is a lack of validated tools to assess these behaviors in toddlers.

Aim: This study aimed at assessing the psychometric proprieties of the Child Prosocial Behavior Questionnaire (CPBQ), a new instrument to evaluate toddlers' prosocial behavior.

Method: A total of 409 Italian parents (M=36.04 years; SD=5.34; range: 21-61 years) from middle-class families in Northern Italy participated in the study. Children (218 boys) ranged in age from 12 to 46 months (M=28.37; SD=7.61).

Parents were asked to fill in three questionnaires: the CPBQ (Grazzani et al., 2016), regarding children's prosocial behavior, the EmQue-I13 (Grazzani et al., 2015; 2017) concerning toddlers' empathy and prosociality, and the prosocial scale of SDQ (Goodman, 1997).

Results: Confirmatory analyses showed good fit indices for the 9 item model:  $\chi^2(31) = 74.26$ ,  $p = .001$ , NC = 2.39; RMSEA: .058; NFI = .95, NNFI = .95, CFI = .97. Such model evidenced 3 different factors reporting reasonable internal reliability values: Helping ( $\alpha = .726$ ), Comforting ( $\alpha = .782$ ) and Sharing ( $\alpha = .695$ ).

Conclusions: The preliminary results of this study show that CPBQ could be a useful instrument to assess toddlers' prosocial behavior, such as helping, sharing and comforting.

### **pos201.7 Kindergarteners' evaluation of prosocial actors under different situational constraints.**

Ikumi Futamura, Yoshihiro Shima  
*Nagoya University, Japan*

The evaluation of prosocial actors depends on the situations or contexts in which their prosocial behaviors were performed. Several studies examined the evaluations of the prosocial actors under facilitative situations and inhibitive situations by children and adults. They generally showed that adults evaluated the latter higher than the former, but children evaluated the opposite. This has been explained by saying that while adults evaluate them based on the discounting principle, children evaluate them based on the additive principle. It is still not clear, however, which mechanism elicits this developmental difference of evaluation trend. This study examined kindergarteners' evaluation of the prosocial actors under the facilitative situation and the inhibitive situation, along with the reasons for those evaluations. Participants were 35 kindergarteners (18 boys, 17 girls). An experimenter showed picture cards on which were drawn the reciprocal prosocial story as a prosocial behavior under a facilitative situation and the unilateral prosocial story as a prosocial behavior under an inhibitive situation. The experimenters then asked for the relative evaluation of the actors and the reason for the evaluation. The prosocial behavior itself was the same in both stories; only the context differed. The order of the story presentation was counterbalanced. The results showed that 14 (40.0%) of the participants evaluated the reciprocal actor higher, 9 (25.7%) of the participants evaluated the unilateral actor higher, and 12 (34.3%) of the participants judged them the same. The most common reason for judging them the same was that both actors did the same prosocial behavior. On the other hand, participants who chose the reciprocal actor or the unilateral actor gave various reasons for their choices. These reasons contain a wealth of important information that we cannot get from the evaluations themselves.

## pos201.8 Parent's talk about perceptions and theory of mind in 4-year-olds

Marta Białecka-Pikul, [Joanna Jakubowska](#)  
Jagiellonian University, Institute of Psychology, Poland

**Aim:** Mental state talk (MST) about desires which are clearly visible in other people's behavior promotes emotional understanding in toddlers. However, there is no research on parents talk about perception. Perceptual MST may express associations between invisible beliefs and visible perceptual states or behaviors and thus it may be important for understanding others' minds, i.e. Theory of Mind (ToM). On the basis of the role played by the ability to register other's perceptual access in ToM development (Fabricius, Boyer, Weimer, & Carroll, 2010) we aimed to explore if perceptual MST, especially explanations for the perceptual acts of others, is related to ToM in 4-year-olds.

**Method:** We tested 112 4-year-olds ( $M=48.40$ ,  $SD=0.39$  months, 55 girls) and their parents. The children participated in two ToM tasks: a modified Diverse Beliefs' Task and False Belief Task. The parent's spontaneous MST was taken from narrations given to children about a picture story book (based on: Gagarina et al., 2012). Only the number of simple and explanatory statements about perceptions were analyzed (kappa between 2 raters was .74).

**Results:** Figure 1 shows that there was a significant association between the use of perceptual MST and the ToM sum score in children ( $\chi^2(1, N=112)=12.42$ ,  $p=.014$ ,  $V=.24$ ). Moreover, children of parents who used explanatory perceptual MST achieved higher ToM than was randomly expected ( $z=3.03$ ,  $p=.002$ , adjusted  $\alpha=0.006$ ).

**Conclusions:** The results indicated that children's mental state understanding benefits from the perceptual MST provided by their parents during spontaneous narration. In particular, explanations of how other's perceptions are related to their ensuing behavior supported the children's ability to register this connection and thus provided a basis for ToM ability. Overall, we discuss the results in the light of the Vygostkian notion of how parents promote the development of their children's abilities in their zone of proximal development.

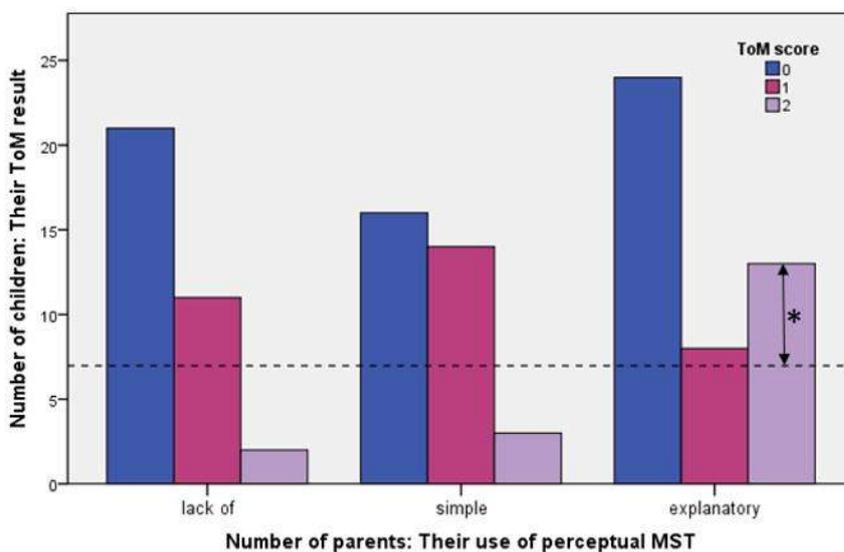


Figure 1: Relationship between parental perceptual talk and child's ToM scores

## pos201.9 Theory of mind and executive functions in children with intellectual disability

Adam Putko, [Agata Złotogórska-Suwińska](#), Marta Drgas  
A. Mickiewicz University in Poznań, Poland

The main aim of this research was to examine differences in theory of mind (ToM) and executive functions (EF) between children with intellectual disability (ID) and those typically developing. The participants were 29 children with moderate and mild ID, and 22 typically developing (verbal) mental age matches at the average age of 5.7 years. To assess ToM deceptive-container and unexpected-transfer false belief tasks were used. EF

were measured with the Day-Night task and the Dimensional Change Card Sort task. The research showed that children with moderate ID scored significantly lower only on justification question but not 'look for' question in the false belief task in comparison to typically developing children. Performance on EF tasks in children with moderate ID was lower than in the two other groups. However, children with mild ID did not differ in this respect from typically developing children. There was a positive relationship between ToM and EF scores in both groups of children. The results highlight the importance of different types of test questions in assessing conceptual development in the domain of theory of mind and its relationships with executive functioning in children with intellectual disability.

#### **pos201.10 A linguistic awareness intervention targeting spelling and writing in a dyslexic child**

Georgia Niolaki, Aris Terzopoulos  
*Coventry University, United Kingdom*

We report the case of AM a primary school child with a phonological deficit in reading and difficulties in spelling, written expression and handwriting, and a specialist dyslexia linguistic awareness intervention aiming to mitigate his spelling and written expression difficulty.

A single subject longitudinal experimental design was conducted as it can control effectively for mediating variables; thus identifying associations and dissociations between cognitive processes and can be a useful tool for the development and test of cognitive theories (Nickels, Rapp & Kohnen, 2015).

AM was a monolingual English-speaking boy aged 10;03. When the assessments began, he was in the mid of Y5 in the UK. A number of standardised literacy and cognitive assessments were conducted to identify strengths and difficulties. According to the results of these AM demonstrated a profile of phonological dyslexia, with non-word reading difficulties, but strengths in exception word reading. AM's spelling and written expression scores were well below average range. His general ability lay well within the average range, as well as his reading comprehension. AM was also assessed in phonological ability and memory, and rapid automatized naming. All three were assessed as being well below average. Assessments of visual memory and multi-character processing of simultaneously presented letters (whole and partial report) did not indicate a difficulty. This selective impairment in phonological ability is characteristic of children with phonological dyslexia. AM took part in a linguistic awareness intervention which lasted five weeks. The intervention aimed to promote simultaneous attention to phonology, orthography, morphology, semantics and syntax. Results revealed a significant improvement in spelling, written expression and handwriting at both follow-up assessments. The outcome of the intervention suggests that raising linguistic awareness can have a robust and long-lasting impact on spelling and written expression.

#### **pos201.11 Teaching emotions to 5 to 10 year-old children with Prader Willi syndrome.**

Nawelle Famelart, Maithe Tauber, Michèle Guidetti  
*CLLE, University of Toulouse, CNRS, Toulouse, France, France*

Prader-Willi Syndrome (PWS) is a rare genetic disease which causes hormonal and neurodevelopmental disorders. People with PWS have hyperphagia with difficulties in emotion regulation and frequent temper outbursts. The few available studies have shown deficits in emotion recognition or comprehension but these results are not sufficiently precise to propose adapted assessment and interventions based on emotions. The aims of our research were twofold. First, we analysed the emotional deficits presented by children with PWS. Second, we developed and evaluated an intervention program on emotions conducted by the children's regular therapists, which has never been done before in this population.

Twenty-eight 5 to 10 year-old children with PWS were included in experimental vs. control groups paired by age and sex. The design had 3 steps: Initially, every child was assessed with a battery of tests (which evaluated expressiveness, emotion identification, comprehension and regulation). Second, during six weekly sessions of 30 minutes, children of the experimental group benefited from the intervention program while children of the control group received their usual support. The last step was an immediate and a delayed (after 3 months) post-test, with the same battery of tests as in step 1.

Scores obtained at the pre-intervention assessment were compared with scores of typically developing children (TD). Results indicated that children with PWS showed heterogeneous shortcomings in emotion abilities, which

depended on the nature of the emotion and the task. PWS children recognised and understood significantly less fear than joy. Regarding joy, PWS children understanding abilities were similar to TD children abilities, whereas their recognition abilities were weaker. The intervention program improved some emotion abilities – such as recognition and regulation of emotions - of PWS children of the experimental group. These results will be discussed in the light of possibilities of enhancement of intervention programs.

### **pos201.12 Development of a patient decision aid for youth suffering from conversion disorder**

Leante van Harten, Fieke Pannebakker, Wilma Otten, Matthijs Rumke  
*TNO, Netherlands*

Conversion disorder is a mental condition in which patients show motoric or sensoric symptoms (i.e. paralysis, blindness, attacks resembling epilepsy), but these symptoms cannot be explained neurologically. The condition is associated with stress and trauma (American Psychological Association, 2014).

The prevalence of conversion disorder among children is unknown. It is estimated that between 0.5% and 10% of children being treated by child psychiatrists suffer from conversion disorder (e.g. Goodyer 1981; Gelder et al., 1996; Leary, 2003 ).

Although several treatment options exist for both children and adults suffering from conversion disorder, hardly any studies have looked into the effectiveness of these treatments (van Harten et al., 2016). Hence, decisions relating to which treatment a patient should receive are currently barely based on scientific evidence and are often merely a matter of coincide – most likely leading to treatment discontinuation and poor clinical outcomes.

The current project aims to empower patients (aged 12 and older) in choosing the right treatment for their conversion disorder, by the development of a patient decision aid. Patient decision aids are common for somatic conditions and are slowly making their way into mental health. They make the decision explicit, give information about the options and clarify personal values (Ottawa Decision Support Framework, n.d.). Patients, their significant others and professionals are involved in developing the decision aid. The aid will be pilot tested and subsequently adjusted.

We will present the first version of the patient decision aid at the ECDP as well as explain the process and methodology of the development.

## **Education, Schooling , Child care**

### **pos201.14 Self-Esteem and Academic Performance in Early and Middle Adolescence**

Anna Kołodziejczyk, Marta Białecka-Pikul, Iwona Sikorska, Małgorzata Stępień-Nycz  
*Institute of Applied Psychology, Jagiellonian University, Poland*

**Aim:** From studies on self-enhancement and reciprocal effect models, we have learned that improvement in Self-Esteem (SE), especially within the academic domain, leads to better academic achievement (Marsh & Martin 2011; Valentine et al., 2004). Moreover, changes are observable in SE during the first year after transition to a new educational level (Harter & Whitesell, 2003). The pattern of these changes might be different in early and middle adolescence (during the first year at high-school vs secondary school). We aimed to explore how changes in SE over a year, especially in school competence self-evaluations, affect relations between SE and academic performance in early and in middle adolescence.

**Method:** Using a cross-sectional and short-longitudinal design, 2 groups of adolescents (13-year-olds at T1, M=13.13, SD=3.77, N=109; 16-year-olds at T1, M=16.25, SD=4.26, N=141) were tested 2 times (T1: September 2014, T2: May 2015). Harter's Self-Perception Profile for Adolescence was used to measure SE. Grades at the end of the first year in school (T2) in all academic subjects (Maths, Polish, English etc.), school conduct and gymnastics were taken into account as indexes of academic performance.

**Results:** School competence self-evaluation was significantly, positively and more strongly related to academic subject and school conduct grades in early adolescence than in middle adolescence ( $z= 2.69$ ,  $p < .01$  and  $z= 2.33$ ,  $p < .05$ , respectively). The change in school competence self-evaluation over a year was more strongly and positively related to grades for gymnastics in middle adolescence in comparison to early adolescence ( $z= 2.46$ ,  $p < .05$ ).

**Conclusions:** During the transition year in early adolescence, school competence self-evaluation change is more pronounced and affects academic performance to a higher degree than in middle adolescence. The results are in line with the self-enhancement model of the relations between SE and academic performance. The educational implications are worthy discussion.

### **pos201.15 Teachers' assessment of children's oral language and literacy achievement: a multilevel approach**

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Most of the research addressing relations between oral language and reading and writing competencies has been conducted with children having reading and/or writing difficulties. Oral language was mostly measured through its various components, such as vocabulary, with predictor(s) and criteria often sharing method variance. Also, traditional approach to data analyses often fail to account for clustered nature of data collected at both pupils' and teachers' level. The aim of this study was to investigate the contribution of oral language to explaining variance in three reading and writing achievement indicators in general population (word decoding speed, reading comprehension, and word spelling accuracy), taking data nesting into account. A total of 723 students (48% girls) from 2nd and 3rd grades participated, together with 31 of their teachers. Teachers assessed the quality of student's overall use of oral language on six indicators. Reading and writing competencies were assessed by group tests: Word chains, Spelling test and Reading comprehension test, as part of a larger intervention project. Applying hierarchical linear modelling allowed us to control for data nesting and dependence of teacher's assessments on classroom-level. Average class size was 23 pupils (ranging from 14 to 29). Intraclass correlations (ICC) were calculated for all three outcomes and predictor, and appropriateness of multilevel approach to data analysis was confirmed. ICC for word-spelling accuracy and word decoding speed was significant for 2nd graders, and word-spelling accuracy and teachers' assessment of oral language for 3rd graders (ranging from .07 to .24). In both grades, oral language had a significant contribution to reading and writing achievement, when controlling for gender and classroom level nesting. Gender moderated the relationship between oral language and reading comprehension in 3rd grade, with a stronger correlation among girls. The results confirmed the significant contribution of oral language for explaining reading and writing competencies.

## **Family, parenting, parent-child relationships**

### **pos201.16 Parental marital satisfaction and divorce, sibling relationships, and well-being in emerging adulthood**

Avidan Milevsky

*Ariel University, Israel*

The central role of siblings throughout life has gained recent scientific focus. However, the limited work that is available on siblings has primarily investigated these relationships in childhood, adolescence, and older adulthood (Cicirelli, 1995; Milevsky, 2011, 2015). More specifically, research on the predictors and outcomes of sibling relationship quality has examined the impact of constellation variables with little attention on interconnecting family dynamics and its impact on sibling relationship quality in emerging adulthood. Hence, the current study seeks to assess the family system factors associated with positive sibling relationships and the outcomes linked with sibling relationship warmth in emerging adults. The paper reports on findings from a sample of 392 first year college students (143 men and 249 women) between the ages of 17 and 22 ( $M = 18.21$ ,  $SD = .57$ ) from a mid-size state university in the USA. Measures included indices of parental marital status and satisfaction, sibling relationships, and the psychological well-being outcomes of self-esteem, depression, and life-satisfaction. Furthermore, several demographic variables were assessed. Gender and parental marital status was linked with sibling closeness and communication. Furthermore, positive associations were found between perceived parental marital satisfaction and sibling closeness and communication. Perceived parental marital satisfaction was also found to be positively associated with self-esteem and life-satisfaction. Moreover, sibling closeness was positively correlated with satisfaction with life and the positive correlation of sibling warmth and satisfaction with life approached significance. Finally, perceived parental marital satisfaction was found to mediate the relationship between parental divorce and sibling closeness as well as the relationship between parental divorce and sibling communication. Perceived parental marital satisfaction was found to mediate the relationship between sibling closeness and life-satisfaction. Results demonstrate the importance of assessing the sibling bond of emerging adults in the context of other relationships within the family.

### **pos201.17 Questions in spontaneous twin infant-mother and singleton infant-mother interactions**

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**Aim:** A restricted number of naturalistic and semi-naturalistic studies has paid emphasis on the communicative function of questions in infancy mainly through the investigation of frequency/percentage of questions, the content, the structure, the prosodic features and the developmental course of them. To our knowledge, the comparison of the use of maternal questioning addressed to twin infants and singletons is restricted at 4 months of infant's life. In connection to this, the aim of this naturalistic and longitudinal study was to compare systematically the types (wh-questions, yes/no questions, questions answered by mothers themselves, and alternative questions) and the developmental trajectory of maternal questions addressed to twin and singleton infants in spontaneous dyadic mother-infant interactions in the course of early infancy. **Method:** Nine Greek-speaking mothers with twin infants and nine mothers with singletons were video-recorded in the course of spontaneous dyadic interactions from the 2nd to the 6th month of the infants' life. Micro-analysis of maternal questions was carried out within well-defined units and subunits of analysis according to the classification of maternal infant-directed speech into content, focus categories, and speech acts: **Results:** Preliminary results provided evidence of structural variations, hierarchical similarities and quantitative differences in the types and the developmental course of maternal questions addressed to twin and singleton infants. **Conclusion:** These results will be discussed according to the early communicative experiences of twin and singleton infants in the frame of the theory of innate intersubjectivity. The implications of these results for theory and practice will be noted.

## **pos201.18 Sibling Relationships and Child Functioning: Dual Risk or Differential Susceptibility?**

Kirsten Buist, Amaranta de Haan, Meike Slagt  
*Utrecht University, Netherlands*

**Aim** Several studies have shown that children vary in their susceptibility to social influences within the family, based on their temperament. Most of these studies have focused on parent-child relationships. However, it is unclear whether these patterns also hold for sibling relationships. The aim of the current study was to examine two competing models for the interconnections between temperament, sibling relationship quality, problem behavior and social competence of children at school entry: dual risk and differential susceptibility.

In the present sibling context, the dual risk (or diathesis-stress) framework posits that some children, due to temperamental vulnerability, are more likely to be negatively affected by negative, but not positive, sibling relationships. The differential susceptibility theory (Belsky, 2007) predicts that temperamentally vulnerable children are more likely to develop negative outcomes in response to negative sibling relationships, but are also more likely to benefit from positive sibling relationships.

**Methods** Our sample consisted of 1047 Dutch mothers (Mage = 35.7 years) reporting about their children (Mage = 4.7 years; 48.1% boys, 51.0% mixed-sex sibling pairs). Mothers filled out online questionnaires concerning sibling relationship quality (PRE-SIB), temperament (CBQ-VSF), problem behavior (CBCL 1,5-5) and social competence (SCBE). **Results** Preliminary analyses indicated that the effect of sibling conflict on internalizing and externalizing problems was significantly moderated by child effortful control. Additionally, child effortful control also significantly moderated the effect of sibling warmth on social competence. Our results indicate that children who exhibit less effortful control (i.e. who are more impulsive) are more adversely affected by sibling conflict by showing more internalizing and externalizing problems. However, children with low levels of effortful control also benefit more from sibling warmth in that they show higher levels of social competence. **Conclusions** Our results seem to be consistent with differential susceptibility. Additional analyses will be performed to confirm these findings.

## **pos201.19 Cross-Cultural Analysis on Parental Proxy Talk and Answer-like Talk in Infant-Parent Communication.**

Yoriko Okamoto  
*Rissho University, Japan*

Parental Proxy Talk (referred to as PPT) has been defined as parents' utterances of infants' thought and feelings from infants' perspectives, which have a form of utterances as if the infants themselves is saying (Okamoto, 2015). In other words, PPT is produced in infants' voices (e.g., voices involving the speaking personality in Wertsch, 1991), such as a mother's utterance of "I'm sleepy" for her infant who looks sleepy. Okamoto, et al. (2014) reported that Japanese parents produce PPT to communicate with their pre-verbal infants and that the PPT has different functions according to the age of the infants. They also suggested that, while parents take double voices based on adjacent pairs like question-answer, they may not interpret their infants' thought and feelings sufficiently. This study explored whether PPT can be produced cross-culturally in pre-verbal communication. In addition, it focused on Parental Answer-like Talk, which is parents' verbal answers without their infants' questions, such as "yeah" after a pause, in order to identify other indexes to establish communication without parents' full interpretation. Each infant-mother pair from Japan and the U.S., which represented collectivistic and individualistic cultures, were analyzed. The pairs participated with the parents' consents. Their free-play sessions at home were recorded at the infant's age of 3 (4), 6, 9, and 12 months. All of the parents' utterances were transcribed with the context of the observational sessions. The results show that both American and Japanese parents used PPT, and that the American parent used less PPT (for example Japanese; 28%, American; 12% in 3 months old) in some specific contexts, such as infant's accomplishment, while the Japanese parent typically tended to use PPT. Furthermore, the American parent produced more Answer-like Talk instead of PPT. We discuss how parents can establish a verbal dialogue in the pre-verbal stage in different cultures.

## pos201.20 Internal state language in personal narratives of Mandarin-speaking children with autism

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Following the theory-of-mind (ToM) account for the social-communicative deficits in autism spectrum disorder (ASD), a variety of studies have examined to what extent individuals with ASD can use internal state language (ISL) in narratives. Nevertheless, studies on the use of ISL by Mandarin-speaking individuals with ASD are relatively limited. Moreover, existing studies mostly had preschoolers or early school-age children as participants; as a result, little has been known about the ability of older autistic children in this regard. Also notable is that previous research mainly focused on storybook-based narratives; accordingly, we still lack knowledge about the abilities of Mandarin-speaking autistic children to relate personal experiences. This study investigated the ability of Mandarin-speaking autistic children to use ISL in personal narratives. The data consist of narratives from 9 school-age children (5th and 6th grade) with ASD (Mage: 11.29) and 9 typically developing children (Mage: 10.08), matched on language and cognitive abilities. Participants' personal narratives were evaluated in terms of the revised version of the Chinese Narrative Assessment Profile (CNAP); their ISL was analyzed by focusing on lexical expressions referring to emotion, desire, perception, and cognition. In addition, the Chinese Theory of Mind Battery was used to measure participants' ToM abilities. The analyses revealed no group differences in basic narrative measures or in ToM performance. The two groups of children were comparable in their overall use of ISL, in reference to individual type of internal states, and in CNAP measures (Table). In addition, consistent with Losh and Capps's (2003) findings, our results displayed no significant association between ToM abilities and the use of ISL. These findings are discussed in relation to linguistic and cultural factors in narrative construction.

M. Losh, & L. Capps. (2003). Narrative ability in high-functioning children with ASD or Asperger's Syndrome. *Journal of Autism and Developmental Disorders*, 33(3), 239-251.

	ASD (N=9)	TD (N=9)	<i>U</i>	<i>p</i>
Event sequencing	1.5	1.39	38.00	.86
Informativeness	2.17	2	35.00	.67
Descriptiveness	1.67	1.39	35.50	.67
Evaluation	1.83	1.33	27.50	.26
Referencing	2.33	1.89	31.00	.44
Conjunctive cohesion	2.33	2.11	36.50	.73
Topic Maintenance	3.11	3.33	36.50	.73

Significance level:  $p < .05$

Table 1. CNAP measures for two groups of children

## pos201.21 Assessing the Quality of Online Parenting Resources for Spanish-speaking parents

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This study proposed a preliminary framework for evaluating the formal and content quality of online parenting resources and empirically tested its application to a sample of websites ( $n = 100$ ) for Spanish-speaking parents. The selection of the formal criteria was based on the Health On the Net (HON) framework whereas the content criteria were based on the modern view of parenting and the family (Positive Parenting European framework) and the effectiveness of the learning materials used. Results showed that the formal criteria of privacy, authority, justifiability, financial disclosure and advertising policy were modulated by origin, type of entity and purpose of the websites. Content criteria were clustered into three quality profiles. The High quality websites, unlike the Low quality ones, valued gender equality, stressed a positive parental role, modeled a variety of parenting practices, included a variety of educational content with multimedia formats, and made use of

experiential, academic and technical information. The Medium quality type occupied an intermediate position. Moreover, formal and content criteria were related. Privacy, justifiability and financial disclosure were more likely to be found in the High quality cluster and less likely in the Low quality cluster, whereas privacy and financial disclosure were related to the Medium quality cluster. In conclusion, it is important to arrive at common definitions of formal and content criteria for the assessment of online parenting resources. These criteria may provide guidelines for those who develop websites and for professionals to help parents develop effective skills for browsing and searching for trustworthy sources.

### **pos201.22 The Investigation Of Relationships Between Children's Sibling Relationship, Adjustment Problem, Marital Conflict Perception**

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The purposes of this study are to investigate the moderating role of marital conflict between sibling relationship quality and children's adjustment problems. In addition, whether sibling relationship quality differs in terms of siblings' age space and birth order was investigated. For that purposes, 131 students who were 9-14 ages, filled out that Children's Perception of Interparental Conflict Scale, Sibling Relationship Scale, Child/Adolescence Parental Acceptance-Rejection Questionnaire and Personality Assessment Questionnaire. According to the analysis which was conducted to show whether there is the moderating role of marital conflict between sibling relationship quality and children's adjustment problems relationship, only moderating role of "perceiving threat from conflict" between children's differential treatment by father perception and adjustment problems was significant. In addition, "perceiving threat" moderated the relationship between "admiration-acceptance of sibling" and adjustment problems related with hostility/agression. According to analysis which was done to investigate whether sibling relationship quality differed as a function of siblings' age space and birth order revealed that children, whose age spacing with sibling is 6-13, perceived more differential treatment by father in their sibling relationship. Furthermore, while first children of their family reported more jealousy-competition, conflict, differential treatment by father and mother; second-born children reported more positiveness and admiration-acceptance. The results are discussed in the light of literature.

### **pos201.23 Parental weight perception, disturbed eating patterns, and mental health problems among adolescents.**

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Background: An accurate weight perception has been associated with motivation to change eating habits in the case of under- or overweight. However, recent studies have reported frequent misperceptions among parents and their offspring, both in the form of under- and overestimation of weight status. The aim of the present study was to investigate weight perception accuracy among parents of young adolescents in relation to reports on disturbed eating patterns and mental health problems.

Methods: Weight perception accuracy was assessed among parents of young adolescents (N = 5,781, aged 11 - 13 years) who participated in the ongoing Bergen Child Study (BCS). Parental weight perception was classified in overestimation, underestimation and accurate. Other measures included demographic variables, the parents' evaluations of disturbed eating patterns and mental health problems among their offspring as well as the adolescents' own weight perception accuracy.

Results: The parents accurately perceived more than 80% of normal weight adolescents, but nearly 60% of the underweight adolescents were overestimated, and a substantial proportion of overweight girls (34.8%) and boys (12.8%) were underestimated. In general, parents who were aware of deviations from average weight in their child also reported higher levels of disturbed eating patterns, emotional problems, and behavioral problems. After controlling for demographic factors, the risk of parental over- and underestimation was significantly predicted by weight status, the adolescents' weight perception accuracy as well as disturbed eating patterns reported by the parents ( $p < .05$ ).

Conclusions: Adolescents with under- or overweight proved most likely to be misperceived by their parents in this study. The pattern of perceptually correcting deviations from normal weight was interpreted as a positivity bias among the parents. These results suggest that weight perception accuracy should be targeted in family-focused interventions in order to strengthen adequate weight control among young adolescents.

#### **pos201.24 Divorced custodial fathers: Do paternal narcissism and caregiving make a difference?**

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Aim: Based on Belsky's model of parenting determinants, the present study aimed to examine the paternal involvement and acceptance of custodial divorced fathers versus divorced non-residential fathers, and married fathers. The predictors examined were narcissistic traits and caregiving dispositions; with coparental cooperation and child characteristics as moderators.

Method: The participants consisted of three groups of fathers: 218 divorced custodial fathers, 222 married fathers, and 105 non-residential divorced fathers. The fathers completed six questionnaires examining: father involvement (IFI), parental acceptance (vs. rejection) (PARQ-Short form), narcissistic personality traits (Narcissistic Personality Inventory – NPI), caregiving (Caregiving System Function Scale – CSF), characteristics of the child, and co-parental cooperation (the Co-parental Cooperation and Consideration Scale).

Results: The custodial fathers were found to be more involved in child rearing than married or non-residential divorced fathers, cooperating less with their children's mothers, and viewing their children as more difficult than other fathers. The interactions yielded in the regression analysis underscore the uniqueness of custodial fathers: their avoidant caregiving disposition was not associated with acceptance of their children, whereas among married fathers and non-residential divorced fathers it reduced paternal acceptance. Co-parental cooperation and narcissistic traits were associated with the greater non-residential divorced fathers' involvement, as opposed to custodial fathers. In addition, child difficulty moderated the association between acceptance and narcissistic trait, supporting Belsky's model.

Conclusions: On the whole, the findings provide support for Belsky's ecological model of parenting, which maintains that parenting is the product of the parent's personal and contextual variables and characteristics of the child. Moreover, our results highlighted the distinct paternal behavior of custodial fathers.

#### **pos201.25 Prospective associations between maternal weight status, reflective functioning, emotional availability and attachment**

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Mothers with obesity are thought to present a risk not only to their children's physical development (Linabery et al., 2013) but also to their children's psychosocial development (Van Lieshout et al., 2011; Van Lieshout, 2013). In this context, possible problems in the emotional and attachment related development of their children may play a role (e.g. Anderson & Whitaker, 2011, Yap & Jorm, 2015, Middleton et al., 2009). Emotional Availability (EA) in early mother-child interactions as well as maternal Reflective Functioning (RF) has shown to be important aspects in the development of secure attachment relationships (e.g. Cassibba et al., 2012, Fonagy & Target, 1997). The present study aims to explore prospective associations of these aspects in obese compared to normal-weight mothers. We expect children who share highly emotionally available relationships with their mothers at t1 to display a better attachment to their mothers and higher EA at t2. Also, we expect children whose mothers show high RF to show a better attachment at t2. The role of maternal weight status as a moderator is investigated.

The sample consists of n=30 children of obese and n=30 children of normal-weight mothers. During a visit to our laboratory (T1; child age: 6 to 47 months) we videotaped mother-child interactions which we coded with the Emotional Availability Scales (Biringen, 2008). At t2, 11 months later, we observed mother-child interactions at home coding for EA. We also assessed the quality of the mother-child attachment with the Attachment-Q-Sort (AQS, Waters & Deane, 1995). We furthermore assessed maternal RF with the Reflective Functioning Scale on the Adult Attachment Interview (Fonagy et al., 1998). Preliminary analyses show positive associations between EA at t1 ( $r=.31, p<.05$ ), EA at t2 ( $r=.40, p<.05$ ) and RF at t2 ( $r=.32, p<.05$ ) with attachment. We will present complex mediation and moderation analyses regarding our hypotheses.



**Peer relationships**

**pos201.26 Experiences of stigma among late virgins: A thematic analysis of virtual spaces**

Marie-Aude Boislard, Carl Rodrigue, Mylène Fernet, Christine Thoër, Isabelle Boisvert, Melissa Anne Fuller, Geneviève Brodeur  
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Developmentalists have a long tradition of investigating the challenges raised by normative lifecourse transitions, particularly when they occur off-time. With regards to sexual initiation, most research has focused on early transitioners, although recent studies have brought attention to the distress experienced by some late virgins and its increase over time. However, our knowledge remains limited, partly due to the difficulty of recruitment with traditional strategies and assessment of topic as intimate and sensitive as late virginity in the current paradigm of compulsory sexuality. Thus, the current study aims to explore the perceived social stigma of late virginity from the viewpoint of adult virgins in virtual spaces (VS).

Methods: VS addressing the experience of late virginity were searched using the inclusion criteria of being public, without membership fees, and in the French or English language. Religious VS promoting virginity or chastity were excluded. VS were then set in decreasing order of volume of interactions between participants. The five most active were selected for content extraction.

Results: A thematic analysis was performed to produce ideal-types (i.e. aggregates of multiple reworded excerpts). Two findings emerge from preliminary analyses. First, the perception of being stigmatized is a core issue, experienced both socially (i.e. being teased) and emotionally (i.e. feeling ashamed). Second, this stigma seems to increase over time, as older virgins report feeling “love-handicapped” and anticipate the disclosure of their virginity to a future partner to be a humiliating experience.

Conclusions: This study echoes the social clock theory, stating that culturally-defined windows for normative transitions, such as sexual virginity loss, serve as a barometer for social acceptance. It also contributes to the literature on the social stigma experienced by late virgins by revealing how it manifests in their interactions with alike-peers in anonymous virtual safe spaces. Clinical implications will be discussed.

Main findings	Themes	Reformulated excerpts
Social experience of stigma	Being teased and receiving mean-spirited comments	“Because when you don’t talk about your sexuality - like many people don’t hesitate to expose it -, once they ask you a question that you don’t want to answer, they tease you by constantly asking if you’re a virgin, if you’ve ever had sex, etc.”
Emotional experience of stigma	Feeling ashamed and lonely	“It hurts me to not be within the norm. I feel alone. I try to find what’s wrong and I feel even worse.”
Increasing stigma over time	Feeling <i>love-handicapped</i> when getting older	“Only after a while... we’re called abnormal, undesirable, that we don’t know how to love or be loved. It’s insidious because those feelings become more and more significant as time goes by.”
	Expectation of humiliation in disclosure	“But I’m at an age where my first time now represents shame, humiliation, something hard to experience, which makes it so that I wouldn’t be able to just do it with anyone because I would need to trust him in order to confess to him that no... <u>I’ve never experienced anything.</u> ”

Table 1: Preliminary results from a thematic analysis of the experiences of social stigma among late virgins

**pos201.27 Emerging Adults’ Coping Strategies with Cyberbullying**

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The development of electronic communication technologies is allowing youth to exhibit new forms of bullying called as cyberbullying. Emerging adults (EAs) as well as adolescents bully each other by using cell phones or Internet through e-mail, instant messaging, on a website or through digital images. Cyberbullying can have



devastating psychological effects on EAs due to the speed of distribution, anonymity, and 7/24 accessibility. The negative impacts of cyberbullying among EAs include depression, loneliness, low self-esteem, and academic problems (Mason, 2008). Studies show that the use of coping strategies is linked with an individual's psychological health. A growing body of research suggests different types of coping strategies employed by youth such as supportive (e.g., seeking for help), reactive (e.g., retaliation), technical (e.g., deleting), and avoidant (e.g., ignoring). The goal of this research was to examine the prevalence rates and types of cyberbullying among Turkish EAs and to investigate the types of coping strategies employed by them. A total of 333 Turkish EAs (73% female), aged 18-25 (M: 21.6 SD: 1.2), participated in this study. Participants completed demographics, Internet Use Questionnaire, Cyberbullying Questionnaire, and the Coping with Cyberbullying Questionnaire (Perren et al., 2012) in which participants were presented with two different types of hypothetical cyberbullying scenarios and list of 18 coping strategies. Findings revealed that 8% of Turkish EAs were involved in cyberbullying. The most common types of cyber victimization involved an e-mail password is stolen and spreading rumors on the Internet. In terms of coping strategies, EAs the most frequently used assertiveness followed by close support strategies and used least frequently helplessness strategy to cope with cyberbullying incidents. The findings, consistent with the literature, suggest developmental and gender differences in experiences of cyberbullying as well as coping strategies to combat cyberbullying and have important implications for the implementation of intervention programs.

### **pos201.28 Intergenerational Peer Relationships: Is it possible?**

Marta Gonçalves

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**Aim** This presentation aims to answer if intergenerational peer relationships are possible.

**Methods** Therefore we will explore available spaces to develop an ability to create, generate or produce new content together. Spaces for intergroup contact, for finding joint solutions to current problems, for challenging ageism, for social equity, cohesion and solidarity, for development, participation and quality of life, for cost reductions in health, education and social services, and for over time sustainability, by training, reuse, creation and mapping.

**Results** By 2030, 1 out of 5 adults will be aged 65 or older. There are pressures on pension plans and public health system. Reduction of early exits and increase of statutory retirement age has been the solution. Today's work force has at least three different generations. There is an intergenerational quotient. But society still lacks an integrated intergenerational dialogue, intergenerational equity, intergenerativity and a new paradigm of intergenerational learning.

**Conclusion** There is a need for a lens of intergenerational intelligence as a responsibility in the 21st century, working for quick and low cost interventions on online communities, social identity, group processes, group interaction, decision making, group influence and group identity, through an adaptive leadership approach.

### **pos201.29 Understanding the cyber victimisation-bullying relationship: The role of moderating factors**

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**Aim:** Having been cybervictimised is the strongest predictor of cyberbullying (Kowalski et al., 2014), and cyber bully-victims are at greatest risk (Holt et al., 2015; Kowalski & Limber, 2013). We aimed to identify risk and protective factors in this cyber victimisation-bullying relationship. Drawing on what is known about bully-victims, we examined a range of potential moderators of this relationship on adolescent users of Social Social Network Sites (SNSs) such as Facebook: moral disengagement, empathy, age, gender, Internet use, and parental monitoring of adolescent Internet use.

**Method:** We surveyed 175 Australian high school students (M age = 14.82 years; SD = 1.52; 53% male) who had a SNS profile (all had a Facebook profile) regarding their Internet and SNS use, experiences of written-verbal cyber-bullying and victimisation (i.e., perpetrators or victims of intentionally hurtful, rude, intimidating, or offensive status updates, messages, or comments on SNSs; Palladino et al., 2015), moral disengagement (Bandura et al., 1999), empathy (Jolliffe & Farrington, 2006), parental monitoring, and demographic characteristics.

Results: Moderation analysis via the PROCESS macro (Hayes, 2013) in SPSS was conducted. Between 30% and 48% of the variance in cyber-bullying was explained, with cybervictimisation the strongest predictor as expected. Higher moral disengagement was a significant risk factor, strengthening the cyber victim-bully relationship, whereas greater parental monitoring of what their adolescent was doing on the Internet (both at home and when away from home) was a protective factor, reducing the strength of this relationship (Figure 1). Neither empathy, age, gender, nor the amount of time spent on the Internet were significant moderators. Conclusion: The results suggest that cyber-bullying interventions need to also focus on experiences of victimisation and that reducing the adolescent's moral disengagement (or increasing their moral engagement) and educating parents about the importance of monitoring adolescent Internet use would be most effective.

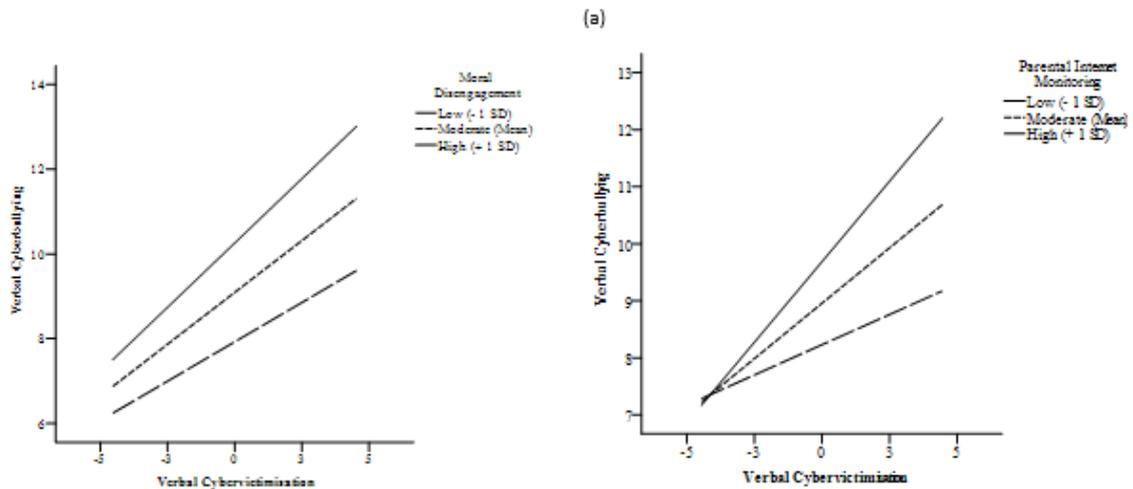


Figure 1. Moderation of the cyber-victimisation-bullying relationship by (a) moral disengagement and (b) parental Internet monitoring.

## **Prevention and Interventione**

### **pos201.30 Relations between the development of babies and contextual variables**

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The study aimed to relate the development of infants with maternal variables (age, schooling and paid activity), family (age and paternal schooling, family type and number of children), gestation and delivery (health in the gestation, number of prenatal consultations, type of delivery and problems in childbirth) and the baby (gender, weight and health at the birthday). A total of 246 mothers and infants of six-month-old were attended in an extension project at a Brazilian public university. The mothers answered the initial interview to characterize the proposed variables and the development of babies was evaluated by the Operational Portage Inventory in the areas of: Socialization, Self-Care, Cognition, Language and Motor Development. The results pointed out, that lower maternal as well as paternal age, may be a protective factor for the development of Self-care and Motor Development. This result may be related to the greater availability and interest of stimulation of infants in these areas by younger parents, favoring better exploration of the environment and development of autonomy. Regarding the conditions of birth, a better result was observed in the area of Cognition in babies born from natural childbirth, reinforcing the need to promote orientations to mothers during the prenatal period about the benefits of natural childbirth for child development. Among the family characteristics, the extended family and the smallest number of children were the variables associated with better results in the areas of Self Care, Socialization and Motor Development. Mothers who were single to in the project and remained longer in it, being more involved in the proposed activities, were positively associated with better results in the area of cognitive development. The data obtained reinforce the importance of the support network and the availability of services that inform the mothers about the development of their babies, orienting them from their context.

### **pos201.31 Mothers Of Babies In Nicu: Perceptions, Emotional Health And Social Support.**

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Pregnancy in all its stages generates in woman concerns and expectations around the baby in several aspects, one of them being health. The neonate is exposed to several stimuli from an early age, making the NICU an exhausting environment for everyone. Faced with a baby who aspires too much care is the possibility of developing symptoms of anxiety, stress and depression. The social support network is the perception that the person possesses of the people and resources that he has, such as the medical staff and family members, and can be used for coping the NICU situation. The objective was to describe the mothers' perception, to investigate emotional health indicators, the social support and how these variables are relate. For this purpose, 26 mothers were evaluated using a sociodemographic questionnaire, State-Trait Anxiety Inventory, Beck Depression Inventory, Lipp's Stress Symptom Inventory for Adults, Social Support Scale and Maternal Perception Assessment Protocol. It was verified that mothers showed a good perception of the child's health, expectations of recent high and without sequelae. When questioned, they indicated tranquility in dealing with the hospitalization process and had a positive expectation about the neonate's health. In addition, it was found that mothers, for the most, described their support network (family and medical) as good. However, this information is conflicting with the data obtained on maternal mental health, because 16 of the mothers presented symptoms of at least one of the impaired mental health indicators (stress, anxiety and depression). Due to the presence of symptoms, it is possible to verify that these mothers did not use or ineffectively used the social support as a strategy for maintaining good mental health.

## pos201.32 Early Intervention In Modifying Repetitive Behavior For Autistic Children Based On ABA

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The research Background: Autism Spectrum Disorder (ASD) is characterized by impairments in three main areas: social interaction, communication and repetitive behaviors. It is currently estimated that 1 in 88 children have autism, which also means that many families are affected by this disorder. Because of these impairments, children with autism will typically exhibit challenging behaviors such as self-injury, aggression and tantrums. It is expected that the number of affected children will increase from 2.3 million to about 2.9 million in Egypt by 2017 (Alahram, 2014). The majority of children who do not receive adequate care and attention belong to families who are living in poverty. Furthermore, these families lack knowledge regarding their children's disability. Although parents of children with autism experience high levels of stress without any additional social support, the Egyptian government does not intervene financially or in raising social awareness. This research aims to reduce children's repetitive behaviors (RB) based on the principles of Applied Behavior Analysis (ABA). Therefore, the main research question is to investigate whether there is a positive statistical effect for an early intervention program that focuses on modifying frequency repetitive behavior for autistic children based on ABA.

Methods: Participants included five autistic children as the experimental group who will receive the intervention program and five autistic children as a controlled group. The researchers used the following assessments and tools:

1. Goddard IQ assessment.
2. Socioeconomic level scale.
3. Assessment of Autism disorder.
4. Behaviors monitoring Cards.
5. Behavior Intervention program edited by researchers.

The researchers used Pearson correlation, Chi-square, Mann Whitney test, and Wilcoxon test. The overall results show that there is a statistical significance for the intervention program, suggesting that ABA is a useful tool in reducing certain behaviors such as: self-harming, compulsions, rituals or obsessions, stereotyped behavior and preservation behaviors.

## **Race, ethnicity, culture, context**

### **pos201.33 Ambiguous loss in transnational families' adolescents: A qualitative study from Ecuador**

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In literature on the psychosocial impact of migration, scholars have used the notion of ambiguous loss as a salient perspective to understand personal and relational experiences in the context of transnational families and ongoing separation. Here, while most studies have focused on adult members' experiences of transnational families, research exploring ambiguous loss in adolescents whose parents had migrated is still lacking. This present study aimed to explore adolescents' lived experiences of parental migration. In a qualitative, explorative study, in-depth interviews were administered in a sample of 14 adolescents. The study's findings are structured around four themes: of practices of separation creating confusion; current relationship with migrant parent permeated by ambiguity; conflicting representations of migrant parents; and social context reactivating the pain of loss. These findings reveal how in the context of parental migration, patterns of separation and relational processes, compounded by the uncertainty of reunification and an exclusionary social fabric, constitute core elements that shape adolescents' lived experiences of parent-child relationships as characterized by ambiguity and that are added to the typical developmental tasks of the adolescence. The present study highlights the need to understand the development of adolescents in different social and cultural contexts, especially in Latin American context.

### **pos201.34 Acculturation gaps: A domain- and context-specific view on immigrant family adaptation**

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Past research has shown that immigrant children adjust more quickly than their parents to a new society (acculturation gap). More recent findings criticize this view as overly simple and suggest a more contextualized and domain-specific perspective on intergenerational family relations. This study investigated mother-adolescent acculturation gaps across six domains (heritage vs. host adaptation in language, acculturation strategy, and identity) and two contexts (ethnic German immigrants in Germany vs. Russian Jewish immigrants in Israel). Based on acculturation theory, we expected a more pronounced adaptation among adolescents as compared to their mothers in the host domains and a more pronounced mother adaptation in the heritage domains (acculturation gaps). Due to the more pronounced segregation in Israel as compared to Germany, we expected acculturation gaps to differ between Germany and Israel with larger host domain gaps in Germany. In addition, we tested whether acculturation gaps explain inter-individual differences in the mother-adolescent relationship assessed via maternal report of child disclosure. The study comprised 80 diaspora immigrant mother-adolescent dyads in Germany (adolescents' mean age: 16.9 years, 48.8 % female) and 91 diaspora immigrant mother-adolescent dyads in Israel (adolescents' mean age: 15.8 years, 51.6 % female). Constructs were assessed using standardized well-established instruments.

A repeated measures ANOVA revealed main effects of dyad (mother vs. adolescent) and host country (Germany vs. Israel), showing the expected gaps for host language, heritage language, and heritage acculturation strategy. Unexpectedly, gaps for host acculturation strategy and heritage identity were contrary to expectations. Interactions revealed that acculturation gaps were larger in Israel for host language and larger in Germany for heritage language and host acculturation strategy.

Heritage language gap and heritage identity gap were positively associated with child disclosure in Germany and Israel respectively.

Results support domain- and context-specific approaches in immigrant family research and point out diaspora-specific considerations for our data.

## Social, and personaliy development

### pos201.35 Predicting Civic Participation among Turkish Emerging Adults: Roles of Demographics and Perceptions

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Within the last two decades, Turkey has been experiencing various socio-political changes under the impacts of oppression. These dynamics might have an influence on various social factors such as individuals' feelings of attachment to their society, and beliefs about their actual role on societal change. In turn, these factors can determine to what extent individuals want to invest to their communities. A way of contributing the development of communities is participating in civic activities. In this research, we examined the role of social conscience, opportunities for influence, conservatism and political ideology on current rates and future intentions of political participation and volunteering among emerging adults in Turkey (N = 572, 324 females, Mage = 21.75, SD = 1.74). The survey package included measures on volunteering, political participation, Social Conscience Scale (Theokas et al., 2005), Sense of Community-Opportunities for Influence (Albanesi, Cicognani & Zani, 2007). In addition, participants responded to single item questions on their future intentions for political participation and volunteering, conservatism level, and political ideologies. The mean scores were found to be quite low for current volunteering and political participation, which was also lower than future's intentions to participate in civic actions. According to regression results participants' sex, political ideology, and perceptions of opportunities for influence were predictors of current volunteering participation. For future intentions, social conscience was also a predictor factor. Current political participation was predicted by the participants' political ideologies, conservatism level and perceptions of opportunities for influence, whereas future intentions were also predicted by participants' sex and social conscience. By being one of the few studies in the related field in Turkey, findings provide a base of knowledge and important insights regarding the influence of conservatism, political ideologies; as well as perceptions on social conscience and opportunities for influence the society on civic participation.

	Today's Volunteering		Future's Volunteering		Today's Political Participation		Future's Political Participation	
	B (SE)	$\beta$	B (SE)	$\beta$	B (SE)	$\beta$	B (SE)	$\beta$
Participant's sex	-.13(.05)	-.11*	-.63 (.12)	-.21***	-.06 (.18)	-.06	-.36 (.13)	-.12**
Conservatism level	.03 (.02)	.06	-.04 (.05)	-.03	-.06 (.02)	-.14**	-.03(.06)	-.03
Political ideology	.06(.03)	.06*	.28 (.06)	.23***	-.08 (.02)	-.19***	-.35(.07)	-.27***
Social conscience	.02(.04)	.03	.70 (.08)	.35***	.07 (.03)	.09	.28(.09)	.13**
Opportunities for influence	.06 (.02)	.12**	.12 (.06)	.08**	.04 (.02)	.09*	.11(.06)	.08*
$R^2$ (F)	.05 (5.53)***		.24 (36.17)***		.12 (14.79)***		.17 (22.86)***	

Note: Participant sex is coded as '1' for females and '2' for males.

\*\*\* $p \leq .001$ , \*\* $p \leq .01$ , \* $p \leq .05$

Table 1: Predictors of Civic Engagement among Turkish University Students

### pos201.36 Life satisfaction and dimensions of emerging adulthood in regards to professional status

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According to Arnett (2004), Emerging Adulthood is the age of feeling in-between, identity explorations, instability, self-focusing, and possibilities. As most research on emerging adulthood has focused on college students, less is known about the perception of this period in the employed or the unemployed and its

relations to well-being. The main aim of this study was exploring the effects of gender, age and professional status on dimensions of emerging adulthood and life satisfaction. Additionally, we wanted to check the contribution of dimensions of emerging adulthood on life satisfaction, after controlling for demographics. Methods: A sample of 572 Croatian employed and unemployed youths, and college students (ages 19 to 28) was assessed. The measures used include the Inventory of the Dimensions of Emerging Adulthood (IDEA) and The Satisfaction with Life Scale.

Results: The effects of gender and professional status, after controlling for age, are different for specific dimensions of emerging adulthood. The females and the unemployed perceive this period more as time of self-focusing. Even if females, on average, see this period as time of instability and identity exploration, among the unemployed, gender differences tend to go in opposite directions. Regarding life satisfaction, unemployed men are least satisfied.

All dimensions of emerging adulthood were significant predictors of life satisfaction, after controlling for age, gender and professional status. Perceiving this period more as a time of possibility and self-focusing and less as that of instability and identity exploration, predict higher satisfaction with life.

Conclusions: Our results confirm that perceptions of Emerging Adulthood vary across demographic variables such as gender and professional status. Gender differences are more pronounced among unemployed emerging adults; being unemployed has more detrimental effects on males rather than females. This information could have effects on developing preventive programmes for emerging adults, especially in societies with high unemployment rates.

### **pos201.37 Effects of identity of new employees on the image gap of job**

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Aim: In Japan, problem of turnover among new employees have received considerable attention over the years. Harada (2016) examined which of the following variable acted as the strongest predictor for early turnover among new employees: "job stressors"; "stress reactions"; "job dissatisfactions"; and "image gap of job", a gap between their ideal image of the job and the actual job that they come to know. The study showed that of these variables, the image gap of job was the highest risk factor of early turnover among new employees (Harada, 2016). As a predictor of the image gap of job, the present study focuses on ego identity that is a developmental task in adolescence, and which is also strongly associated with adolescents' career formation (Erikson, 1959). Recently, researchers pointed out that ego identity consists of two aspects, "core identity" and "psycho-social self-identity" (Tani, 2008). The purpose of the present study is to examine which of the two aspects of ego identity has a more strong effect on the image gap of job.

Methods: The longitudinal surveys were conducted with 869 new employees (252 male, 617 female) who was employed in 2014 for the first time, at April 2014 (Time1) and August 2014 (Time2). The questionnaire at Time 1 assessed sex, employment-style, monthly income, and the two aspects of ego identity. The questionnaire at Time 2 assessed overtime hours and the image gap of job.

Results & Conclusions: Multiple regression analysis showed that monthly income ( $\beta = -.10$ ,  $p < .01$ ), overtime hours ( $\beta = .08$ ,  $p < .05$ ), and psycho-social self-identity ( $\beta = -.20$ ,  $p < .001$ ) had significant effects on the image gap of job. Of these variables, psycho-social self-identity had the strongest negative effect. These results indicate that psycho-social self-identity assume a crucial role to prevent new employees from increasing the image gap of job.

### **pos201.38 The Relationship between Career development and Job hunting**

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In the process of the transition from school to job, university students in Japan have several activities, what we call "shukatsu," in order to get a job before graduation. A lot of companies hire young people who have just graduated from the school as permanent employees. There are actually more chances to get a proper job while you are in school. The students are supposed to make an informal contract, *naitei*, with the firms which accept their application until they make a contract formally. We suppose that the student will grow according to such

experiences through those activities because we tend to give more weight to sociality as a generalist than a job ability.

This study surveys the relations between students' self-growth and several factors. Self-growth motivation is defined as the force to develop oneself by him/herself.

METHODS: Ss.519 seniors (228 males, 257 females).

Measures are self-growth motivation, career maturity, and career decision-making self-efficacy.

RESULTS: The students whose applications are accepted informally (S.A. n=291) gave higher mark in the measure of self-growth than the students whose applications are not accepted (S.N.A. n=228). They scored higher in the items of "developing humanity," "knowing about more things," and "broadening their minds." For these "self-growth," "personality-growth" and "career decision making" are the explanatory variables significantly and positively in S.N.A.

In addition to this, in S.A., "ability-growth" is also the explanatory variable ( $\beta=.243, p<.01$ ), and "personality-growth" must be a sign of development for both groups to be an adult. Career concern in their maturity is the explanatory variable significantly but negatively.

### **pos201.39 Parents' education is related to social participation of people with cerebral palsy**

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AIM: Social participation of children and adolescents with cerebral palsy (CP) has been associated with motor function, intelligence quotient (IQ) and social determinants such a socioeconomic status or parents' educational level. In other pediatric pathologies, executive dysfunction has also been linked with a lower participation. Although it has been shown an altered performance in executive functions in people with CP, their relationship with participation has not been proven yet in this population. This study aims to analyze in a sample of people with dyskinetic CP the relationship of social participation with 1) executive function, and 2) motor function, IQ and social variables.

METHODS: The sample comprised 52 subjects with dyskinetic CP (Table I). Social participation was assessed by means of the Frequency of Participation Questionnaire (FPQ). Executive functions were assessed using the Wisconsin Card Sorting Test-64, Stockings of Cambridge subtest of CANTAB and the Balloon Analogue Risk Task. A composite z score was calculated for executive functions by averaging the z scores of these tests. IQ was measured by Raven's Coloured Progressive Matrices (RCPM) and motor function was assessed by means of Gross Motor Function Classification System (GMFCS) and Manual Ability Classification System (MACS). Parental educational level was also registered. Pearson and Spearman's rank correlation coefficients were applied, depending on the distribution of the data.

RESULTS: Executive performance was not significantly correlated to social participation level ( $r=0.21, p=0.16$ ), as well as IQ ( $r=0.07, p=0.61$ ) and motor function (GMFCS  $r=0.07, p=0.6$ ; MACS  $r=0.03, p=0.86$ ). However, parents' educational level showed a positive correlation with social participation level ( $r=0.32, R^2=0.1, p=0.03$ ).

CONCLUSIONS: Social participation in a sample of children, adolescents and adults with dyskinetic CP is not related to motor or cognitive functioning (IQ and executive functions) but with social variables such as parents' educational level.

**Table 1. Demographic, clinical and cognitive data of the sample.**

<b>Age, mean ± SD (range)</b>	24.54 y ± 13.02 (7-62 y)
<b>Gender, n (%)</b>	Male: 28 (53.8) Female: 24 (46.2)
<b>GMFCS, n (%)</b>	I: 15 (29) II: 8 (15) III: 6 (12) IV: 11 (21) V: 12 (23)
<b>MACS, n (%)</b>	I: 5 (10) II: 10 (19) III: 17 (33) IV: 10 (19) V: 10 (19)
<b>IQ, mean ± SD</b>	91.56 ± 23.36
<b>Executive functions (n= 38), z ± SD</b>	-0.032 ± 0.67
<b>Parents' educational level, mean ± SD</b>	Father: 11.13 y ± 3.42 Mother: 10.89 y ± 3.85
<b>FPQ, mean ± SD</b>	31.23 ± 8.44

*Table 1: IQ: intelligence quotient; FPQ: Frequency of Participation Questionnaire; GMFCS: Gross Motor Function Classification System; MACS: Manual Ability Classification System; SD: standard deviation; y: years.*

#### **pos201.40 Social role transitions and perceived adulthood status: Which ones matter for whom?**

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Following the War, Western societies witnessed a socio-economic prosperity and security that made adulthood an institutionalized transition. Recent demographic changes, however, rendered this definition problematic. In this new context, many researchers focused on the perceived adulthood status. The connection between these two ways of defining adulthood remains largely unexplored. This study investigates which social role transitions are related to the perceived adulthood status in emerging and young adult men and in emerging and young adult women. Participants were 313 (27.8% male, overall average age 29.9 years) Greeks who answered questions concerning the achievement of adult role transitions (getting married, bearing children, moving away from parental home, becoming financially independent, and employed) and their perceived adulthood status. Logistic regressions run separately per gender and age group exhibited that the family condition and the living arrangement predicted the perceived adulthood status of young adult women. None of the social role transitions predicted the perceived adulthood status of the remaining three groups. This study showed that the social role transitions that have been traditionally related to the transition to adulthood matter for the perceived adulthood status of young adult Greek women. This finding has implications for the age range at which emerging adulthood is investigated, as well as for the possible combinations of different definitions of adulthood in a changing socio-economic context.

#### **pos201.41 Career development through time told by stories of Italian high school students**

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Planning career choices and commitments is one of the main tasks in adolescence. During this latter, the most of people attends high school so they are mostly involved in educational experiences that could have a significant impact on career development via the acquisition of work skills and career interests and values, and career guidance together with social and contextual factors (Skorikov & Vondracek, 2011). Thus career development seems to be a complex and not linear process.

**Aim.** The present longitudinal study aimed to explore content and process of career development of Italian high school students assessed at the second last year and at the last year of high school.

**Method.** For this purpose, we adopted a narrative approach to highlight the intersection of process and content. 20 high school students answered in two different times to the following narrative prompt: "Tell me

your life story. Tell me what point of your life story you have reached, and how you have arrived here...Start from wherever you like. In your story, remember the main turning points or changes and explain how you dealt with them. And now, what your plans for the future are.”

Results. The analysis of narrative products confirmed the complexity of career development and not linearity in terms of advancement. To design a career project produces in young people confusion and uncertainty as consequence of many variables felt as out of their control and the fear to make wrong decisions so it is delayed in time.

Conclusions. Findings suggest supporting career development especially with difficult labor market and provide evidences for counseling interventions.

## **pos201.42 Visions for the Future of Europe and European Identity of Italian Youths**

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Recent historical events pose new challenges for the European Union and its unit. Hence, there is the need to investigate the expectations and worries that young European citizens have about the future of Europe, and to understand how much they feel to be European. These are the main goals of the “Europe 2038” project (founded from the Europe for Citizens programme 2014-2020), which involves seven European countries, including Italy. The current study focuses on the Italian youth participating in the project, and explores their visions on the future of Europe and their identity as European, in association with their efficacy as European youth.

Method: In Italy, 780 youths people (16-25 years; 62% girls) answered a survey including: items assessing expectations and worries on the future of Europe, and the identification with the values at the foundations of the European Union; self-report scales assessing efficacy related to being European and sense of European identification.

Results: First analyses showed that the issues evaluated by Italian youths as top priorities for the Europe are human rights, education, safety, unemployment, rights of groups at higher risk of discrimination. Young people’s top worries for the future mainly include terrorism, unemployment, discrimination and racism, war in Europe and violence. Internal efficacy and collective efficacy related to being European youths were associated with higher levels of European identification (.29\*\* and .28\*\*, respectively) and agreement with EU values: .07\* and .32\*\*. Some moderations by age (adolescents aged 16-18 years, vs young adults) also emerged.

Conclusion: Italian youths feel the need of a Europe caring more of the issues of integration, unemployment and safety. Results also suggest that increasing the feeling of internal and collective efficacy as European youth can strengthen Italian youths’ identification with EU values and their felt bonds with people of the other EU countries.

## **Cognitive Development**

### **pos202.1 Effects of repeated retrieval on memory retention in children with developmental disorder**

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Many previous studies have shown the benefits for long term retention of repeated retrieval during learning in verbal tasks, but few have shown its effectiveness using nonverbal materials for preschool children with developmental disorder. The aim of this study was to examine whether the retention benefits of repeated retrieval extend to preschool children with developmental disorder (Asperger disorder) performing a spatial location memory task and verbal tasks. In the nonverbal task, the children first studied where eight small toys were located in a partitioned box. Then, in the repeated retrieval condition, the children were asked to put each one of the toys in its place by themselves three times successively with feedback, whereas in the repeated study condition, they were asked to put each toy in its place with the experimenter showing them the correct location. Next, the following the nonverbal task, all children studied the verbal task (six short-answer question related to animal life). Then, in the repeated retrieval condition, the children were asked to retrieve the answer in three items, whereas in the repeated study condition, the children were asked to hear the answer in the remaining three items. In the both tasks, half of the children were then immediately tested and the remaining half tested after one day. The results indicated that retrieval during studying was more beneficial than repeated study for the long-term retention of nonverbal and verbal materials for preschool children with developmental disorder, irrespective of the finding that the accuracy after delay decreased, especially in developmental disorder group. The results provide further evidence of the efficacy of repeated retrieval by showing that its benefits extend to 5 and 6 year old preschool children with developmental disorder in nonverbal and verbal tasks.

### **pos202.2 Pedagogical Practices and Their Association With Children's Executive Function: Intensifying the Gaze.**

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This paper examines pedagogical practices and their associations with children's executive function (EF). EF is a higher-order cognitive skill consisting of three components: inhibitory control, cognitive flexibility, and attention shifting. This skill is key for children's success in school and life. As a result researchers have introduced curricula or curricula add-ons in formal child care settings with the goal of enhancing children's EF. Such interventions are encouraging as they indicate that children's EF can be positively influenced. However, most interventions were based on the introduction of multiple practices making it difficult to discern which mechanisms are responsible for change. Existing classroom curricula (e.g. Montessori) emphasize certain pedagogical practices (e.g. children's choices). Therefore, it would be key to find out whether such emphases are associated with higher levels of certain EF components (e.g. cognitive flexibility). This study will investigate whether certain pedagogical practices adopted in naturalistic classroom settings are associated with higher EF levels with respect to each of its components. In the first instance, the research will be informed by pilot data of children aged 4-6 years participating in naturalistic classroom settings. Teacher questionnaires and classroom observations will indicate the level to which certain pedagogical practices are favored in such classrooms. Children's EF skills will be measured with a comprehensive battery of EF tasks. Correlations between classroom practices and children's performance on this battery of tasks will indicate associations. Establishing a correlational relationship between specific pedagogical practices and EF components will lay the groundwork for an intervention study to further investigate a causal relationship between these constructs. Since EF is associated with a variety of positive outcome variables it is important to find out how children's EF skills can be enhanced.

### **pos202.3 The relationship between executive functions and language in adult age**

Sanja Šimleša, Paula Krilčić, Marina Olujić, Jelena Kuvač Kraljević  
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The relationship between executive functions and language abilities is well established in the literature. Previous research on this topic is mostly based on children's development and language acquisition or on clinical population. However, the dynamic nature of those constructs changes significantly throughout the lifespan, so exploring their interactions in adult age would contribute to a better and wider understanding of that relationship.

The aim of this study was to examine the relationship between specific executive functioning components and language abilities in adult age. Participants in the study were 30 healthy adults, ages 20 to 40. Executive function components (spatial working memory, planning, cognitive flexibility and cognitive inhibition) were assessed with CANTAB battery of tests, whereas verbal working memory was measured with a subtest of WISC-IV test - the Memory for Digit Span. Test of receptive vocabulary (PPVT-III-HR) and test for the reception of grammar (TROG-2:HR) were conducted in order to assess language abilities

The results of regression analysis showed significant relation between executive functions and grammatically complex sentence comprehension. The relationship between executive functions and simple sentences or receptive vocabulary was not found. These results could implicate that the involvement of executive functions in language in adulthood is only required when facing with more complex syntactic structures that put greater demands on language processing.

### **pos202.4 Children's vulnerability to suggestibility: stability and consistency over time**

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The reliability of children's testimonies is a serious concern. Although it is generally recognized that situational factors may contribute to the increased vulnerability to suggestion, it is contentious that suggestibility is a dispositional factor which makes some people more vulnerable than others to the effect of leading questions. It is therefore of interest to examine the stability over time of children's individual differences in memory and suggestibility.

This study aims to investigate to what extent memory accuracy and interrogative suggestibility are stable over a 2 year period, by using the two parallel forms of the Bicocca Suggestibility Scales. BISS-A22 was administered at time 1, while its parallel version, BISS-B22 was administered two years later. The sample included 28 children (16 males, 12 females) tested at age 8 ( $m = 8:59$ ,  $sd = .36$ ) and age 10 ( $M = 10.68$ ,  $SD = .31$ ). The results show a high correlation between the measures of memory accuracy and suggestibility at time 1 and time 2, indicating a long-term stability of the quality of free recall provided by the children, as well as of the children's answers to misleading questions and their vulnerability to change their responses after the adult's negative feedback. The theoretical and applied implications of these findings are discussed in terms of both the need to identify individual risk factors underlying the vulnerability to leading questions and the importance of introducing into forensic practice, instruments able to assess the individual susceptibility to suggestibility.

### **pos202.5 The effectiveness of peer tutoring: the role of executive functions**

Magdalena Kosno  
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Aim: Teaching others effectively may rely on level of tutor's executive functions (Davis-Unger & Carlson, 2008; Flynn, 2010). Executive functions are also important for children academic achievements (Brocka et al., 2009). The goal of this investigation was to explore the role of executive functions (EF) in tutor and student's strategies during peer tutoring and effectiveness of peer tutoring. Methods: Six years old children (N=200) solved tasks measures four components of executive functions: inhibitory control (Simon task), planning (Tower of London), cognitive flexibility (Dimensional Change Card Sort) and working memory (Visual Backward Figures Span). Children were randomly paired. Tutors were asked to teach peer how to play a new board game.

Two weeks after peer tutoring students were asked to recall game rules. Two competent judges were encoding tutor and student's behaviors and strategies during peer tutoring. Four tutor's strategies were distinguished: Behind the Role, Initiator, Partner and Coordinator and three student's strategies: Passive, Dominant and Cooperation. Results: Results show that student's level of development of EF correlates with number of recall game rules ( $r=.41$ ,  $p=.01$ ). Students with high level of planning skills ( $r=.34$ ,  $p=.05$ ) and cognitive flexibility ( $r=.36$ ,  $p=.05$ ) recall more rules. Partners and Coordinators were characterized by the highest level of executive functions, especially planning skills and cognitive flexibility than others tutors. However, Partners were the most effective tutors. Students that applied active learning strategies (Dominant and Cooperation) were able to remember more rules than the rest. Dominant and Cooperation were characterized by higher level of executive functions than Passive students. Cooperation student's strategies had the highest level of planning skills. Conclusions: The executive functions are important for tutor and student's strategies during peer tutoring. Planning skills and cognitive flexibility are important for learning from peers and effective teaching skills.

## **Development of social cognition**

### **pos202.6 Indirect reciprocity in adolescents: Evidence from incentivized inequality-related economic paradigms**

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Indirect reciprocity refers to the phenomenon that people help strangers although they might never encounter this person again. Third-party reputation-based reciprocity and pay-it-forward reciprocity are two forms of indirect reciprocity. The former means that people are willing to altruistically punish unfair behavior of strangers and the latter means that people help a stranger after being helped by someone else.

The present study is the first to examine both types of indirect reciprocity during adolescence. Ninety-six Chinese adolescents (younger adolescents:  $N = 50$ , age =  $14.18 \pm 0.39$ ; older adolescents:  $N = 46$ , age =  $16.98 \pm 0.65$ ) participated in two tasks (within-subject design). After the experiment, they received different amount of cash based on their decisions.

The third-party task included two rounds. In each round, first, participants received an endowment of 40 monetary units (MU). Second, they were presented a scenario in which a Player A split money to a Player B, either fairly or unfairly (20/20 or 35/5 MU). Third, participants chose one decision from three options: decrease A's payoff (punish A) or increase B's payoff (help B) at a personal monetary cost (in both cases they further indicated the amount of the money they would spend on punishing/helping), or keep their money.

The pay-it-forward task included two rounds. In each round, first, participants received either fair or unfair money split from a Player X (i.e., 20/20 or 35/5 MU). Second, participants were endowed with 40 MU. Third, participants were asked to indicate the amount of money they would like to allocate to a new player. In the third-party task, younger (vs. older) adolescents were more likely to punish, controlling other between-group differences. In the pay-it-forward task, however, no age-related difference in transfer amount was found. Results shed light on adolescents' prosocial behaviors that go beyond direct reciprocity.

### **pos202.7 Facebook use, mood, empathy and self-esteem in early adulthood: a double-edged sword**

[Sophie Taylor](#), Lynne Barker, Andy Young, Lorna Allen  
*Sheffield Hallam University, United Kingdom*

**Aim:** Early adulthood is associated with protracted development of some aspects of social cognition (Taylor, Barker, Heavey, & McHale, 2015) and self-esteem (Orth, Maes, & Schmitt, 2015). Social media use is prevalent in early adulthood (Office for National Statistics, 2015) and research about how social media affects development is mixed (Steers, Wickham, & Acitelli, 2014; Whitman & Gottdiener, 2015). Previous research has focused on early adolescence (Vossen & Valkenburg, 2016) or middle adulthood (Sagioglou & Greitemeyer, 2014), highlighting a gap in the literature focusing on the effects of Facebook use in early adulthood.

**Methods:** One hundred and nineteen participants aged 18 to 25 years completed a mixed methods online survey. Participants completed measures of Facebook use (Facebook Intensity Scale; Ellison, Steinfield, & Lampe, 2007), mood (Positive and Negative Affect Schedule; Watson, Clark & Tellegen, 1988), anxiety and depression (Hospital Anxiety and Depression Scale, Zigmond & Snaith, 1983), empathy (Interpersonal Reactivity Index; Davis, 1983) and self-esteem (Rosenberg Self-Esteem Scale; Rosenberg, 1965).

**Results:** Correlational analyses showed empathy sub-scales correlated with anxiety, depression, positive affect and self-esteem. Regression analyses showed that number of Facebook friends, anxiety and depression predicted aspects of empathy. Age, number of Facebook friends, empathy and self-esteem significantly predicted depression. Thematic analysis (Braun & Clarke, 2006) of qualitative items identified main themes of 1) positives of Facebook, 2) negatives of Facebook and 3) developmental aspects.

**Conclusions:** Results indicate that number of Facebook friends, anxiety and depression predicted aspects of empathy, and also that number of Facebook friends and empathy predicted depression. Overall, this study shows Facebook use in early adulthood has both positive and negative effects on empathy and mental health. Divergent effects of Facebook may be explained by connection and the fulfilment of relatedness needs resulting in positive effects whereas social comparison may contribute to negative effects (Steers, 2016).

## **pos202.8 Effects of prematurity on infants' joint attention abilities: A meta-analytic study**

Vera Mateus, Ana Osório, Carla Martins  
*School of Psychology, University of Minho, Portugal*

Every year, about 15 million babies are born worldwide before completing 37 weeks of gestation (WHO, 2012). One important social-cognitive milestone believed to be impaired in premature infants is joint attention, the ability to coordinate attention with a social partner regarding an external object/event (Bakeman & Adamson, 1984). Despite general agreement on the deleterious effects of prematurity on social development, the case for a specific effect on infant joint attention remains unclear, as shown by the mixed results found in the literature. The present meta-analysis aimed at investigating whether premature infants differ systematically from full-term infants in several dimensions of joint attention – Initiating Joint Attention, Responding to Joint Attention, and Joint Attention Episodes – and exploring whether such differences are dependent on degree of prematurity.

Several bibliographic databases and repositories of dissertations and theses were searched for empirical studies (January 1970 to June 2016). Studies were eligible if an observational measure was used to assess joint attention abilities from 9- to 24-months corrected age and a full-term comparison group was included. An initial list of 3454 non-duplicated records were screened on bases of title and abstract, resulting in 126 full-text analysed for eligibility criteria. A final set of nine independent studies was included, comprising data from 323 full-term and 320 preterm infants.

The random-effects model revealed that, overall, the preterm group did not differ significantly from the full-term group across all joint attention dimensions. However, high heterogeneity was identified across studies. A differential effect emerged for responding and joint attention episodes when degree of prematurity was taken into account, indicating more impairments in specific preterm groups. Results suggest that distinct behavioral dimensions of joint attention may be differently influenced by prematurity. The role that environmental factors may play in the development of this important ability is also discussed.

## **pos202.9 Gaze cueing and the infant brain; an fNIRS study**

Rianne van Rooijen, Renata Di Lorenzo, Caroline Junge, Carlijn van den Boomen, Chantal Kemner  
*Utrecht University, Netherlands*

Eye contact and mutual gaze have high social importance and are involved in many learning processes. From birth onwards, infants are focused on the eyes (Farroni et al., 2002). Moreover, 5-month-old infants and even newborns show a gaze cueing effect (Farroni et al., 2000; 2004), which means that even the youngest infants are able to shift their attention in response to an eye movement. Yet, which brain areas are involved in gaze cueing in infants is still unclear. We aim to explore which brain areas are involved in this process by conducting an fNIRS study, a suitable measure for infant brain imaging.

We tested 10-month-old infants ( $n=30$ ) with a gaze cueing paradigm in a block design. The task consisted of two types of trials, which were either congruent (eye gaze in the direction where the target will appear) or incongruent (eye gaze in the opposite direction of where the target will appear). As a baseline, we used a period of 10s in between blocks in which we showed a screensaver. Brain activation was measured with a 22-channel array over the right hemisphere, which covered pre-frontal areas to occipital areas.

Data are not yet analyzed, yet we expect to find significant hemodynamic responses for congruent trials compared to incongruent trials in channels over areas involved in processing social information and attention. These are for example the superior temporal sulcus (STS) and the temporoparietal junction, and more prefrontal areas.

This would be the first infant brain imaging study which looks into the brain areas involved in gaze cueing, and we expect that the data of this study can provide valuable information about the brain mechanisms behind this important process.

## **Developmental methods**

### **pos202.10 The Utility of the Parent's Report Theory of Mind Tool. Polish Data**

Marta Białecka-Pikul, Małgorzata Stępień-Nycz  
*Jagiellonian University, Institute of Psychology, Poland*

**Aim:** The main aim of the study was to verify whether the Children's Social Understanding Scale (CSUS, Tahiroglou et al., 2014), a parent report technique, is a valid and reliable measure of individual differences in Theory of Mind (ToM) abilities in Polish-speaking children. Additionally, the role of language comprehension abilities and gender in ToM development was explored.

**Method:** 225 parents (80% mothers) of 3.5-year old Polish children ( $M = 43.2$  months;  $SD = 1.4$ ) were tested using the CSUS. Their children were tested with language test and 5 behavioural ToM tasks (e.g. Wellman & Liu, 2004).

**Results:** Satisfactory psychometric properties of the CSUS were proved ( $\alpha$  for full scale was .90; the correlation between behavioural ToM composite score and CSUS was  $r = .33$ ,  $p < .001$ ). The CSUS was not significantly related to language comprehension ( $r = .04$ ,  $p > .05$ ), but behavioural ToM (composite score) was ( $r = .24$ ,  $p < .001$ ). A two-factor structure was found in the CSUS, with the factors Mental State Talk and Mental State Comprehension together explaining 27% of the variance. Girls outperformed boys in Factor Mental State Talk ( $F(1, 223) = 7.49$ ;  $p < .01$ ;  $d = .38$ ) and language ability ( $F(1, 180) = 7.08$ ;  $p < .01$ ;  $d = .40$ ), but not in the ToM behavioural tasks ( $F(1, 174) = 2.69$ ;  $p > .05$ ;  $d = .25$ ).

**Conclusions:** The validity of the Polish version of the CSUS was discussed, as CSUS covers a broader range of ToM abilities than behavioural tasks. Girls were rated higher in the CSUS than boys, which could be the result of their higher language skills and parents' perception of gender roles. We concluded that the CSUS is a reliable and valid measure of ToM in non-English-speaking children, thus proving its usefulness for future cross-cultural research on ToM development.

### **pos202.11 Assessing anxiety through virtual social networks: Findings from a format equivalence study**

Alejandro de la Torre-Luque, Maria Balle, Aina Fiol-Veny, Xavier Bornas, Albert Sese  
*University of the Balearic Islands, Spain*

Nowadays, virtual social networking has become fashionable especially for adolescents. Likewise, virtual social networks are fruitful sources for recruiting research samples as they allow for accessing to large communities of people. On this basis, incorporating computerized tools for assessing anxiety and other health-related issues within the functionalities of social networking platforms could be very useful. However, an effort should be made to ensure that these computerized assessment tools are valid and reliable. This format equivalence study aimed to test the feasibility of administering a psychological questionnaire using a secure social network, preserving their original psychometric properties: the Revised Child Anxiety and Depression Scale (RCADS). An incidental sample of 703 adolescents ( $M = 13.86$  years old;  $SD = .49$ ) filled out the questionnaire either over a secure social network or using pencil and paper. We tested format equivalence using a two-way approach: quantitative equivalence by means of comparing the score distributions of both versions; and conceptual equivalence (i.e., the questionnaire's latent construct representations) by means of studying the between-factor correlations across versions as well as measurement invariance with structural equation modeling. Results showed no statistically significant differences between the score distributions of the two versions and a similar pattern of between-factor correlations was observed across versions. Moreover, both versions showed an adequate fit with their theoretical latent structure under strict invariance, thus preserving format equivalence. To sum up, the feasibility of conducting psychological assessment among adolescents through virtual social networks was proved to be appropriate environments for conducting studies in the field of psychopathology among adolescents. This may allow optimizing research resources, consolidating participant follow-ups and widening new fields of application.

## **Developmental psychopathology and disabilities**

### **pos202.12 Dissociation in family foster children**

Pablo Carrera, Jesús Jiménez-Morago, Esperanza León, Maite Román, Irene Viedma  
*University of Seville, Spain*

Adjustment problems and mental health of children in the child welfare system have been a concern for a long time. However, it hasn't been until recently that researchers and practitioners have claimed a more in-depth and nuanced knowledge of mental health in this population. Different research studies have shown a relevant presence of disturbances (such as trauma-related anxiety, disinhibited social engagement or dissociative symptoms) in foster care children specifically derived from the adverse experiences they have suffered. Some children develop significant dissociative symptoms because of traumatizing, emotionally overwhelming experiences that cannot be processed (such as physical or sexual abuse) and therefore disrupt the normal integration and coherence of memory, consciousness and perception. Severe dissociation places children in a maladaptive developmental pathway and entails significant risk for later psychopathology.

In this study, it was analyzed the presence of dissociative symptoms in a sample of foster children between 4 and 8 years old who were living in non-relative foster families for at least six months in Southern Spain. The Child Dissociative Checklist (CDC; Putnam, Helmers, & Trickett, 1993) was used to assess dissociative symptoms, the most widely used parent-reported questionnaire for this symptomatology. The CDC was answered by the primary foster caregiver during a home visit. We obtained the information related to adverse events and trajectory in the child protection services through the case records in collaboration with caseworkers.

The results of this study contribute to the knowledge of the development of dissociative symptoms in children in family foster care, particularly in those who have suffered the most severe adversity. An informed and comprehensive knowledge of the possible mental health issues in foster and maltreated children in general is essential if we want to provide tailored and effective interventions to this vulnerable population.

### **pos202.13 Developmental process of person with chronic illness: a case study**

Maria Markodimitraki, Maria Kypriotaki, Nifrida Ndreca  
*University Of Crete, Greece*

The aim of this qualitative study is to explore the developmental process of a person with chronic illness (epilepsy) from the perspective of the mother, as it is formed from its birth until today. This qualitative study was conducted based on semi-structured interviews to examine mother's experiences from child's birth to adulthood. The experiences of the mother include feelings and reactions after diagnosis, the relationship with her spouse, the relationship with the child with epilepsy, the relationship with grandparents, the social network, the role of experts in terms of family support, the role of educators, her perceptions towards professional and social development of the person with epilepsy, the possible support networks etc. The results showed that the relationships among family members are characterized as satisfactory, members are associated with strong family ties and have a sizable social network support throughout the lifespan of the person with this chronic illness. Additionally, the intimate relationship of the person with epilepsy with his sister is emerged and his future professional and social course is outlined in a positive manner.

### **pos202.14 Mothers perception of deaf children theory of mind**

Joanna Kossewska  
*Pedagogical University of Cracow, Poland*

Aim: Studies found that children who are deaf and hard-of-hearing are frequently delayed in ToM development (Peterson & Siegal, 1995; Steeds, Rowe, & Dowker, 1997; Peterson, Wellman, & Liu, 2005; Schick, de Villiers, de Villiers, & Hoffmeister, 2007).

Mother's role in deaf child ToM development is crucial and influenced by her child's perception. The main aim of research was to analysis relevance of mother perception of Theory of Mind deaf children development.

Methods: The Theory of Mind Inventory by Hutchins, Prelock, and Bonazinga (2011) in Polish translation as well as Theory of Mind computer application (false beliefs tasks, desires and emotions understanding and gaze monitoring) were used. The study involved 105 mother-child dyads of severely to profoundly deaf children of hearing families (N = 46, age 7-15) and hearing children (N = 59, age 6-11).

Results: No significant linear correlation was found between deaf child TOM development mother perception and the objective ToM task results. Neither lower (basic and elementary) level of children ToM capacities, nor higher and more advanced stages of ToM development (secondary and advanced) evaluated by deaf children mothers were reflected in the objective measures.

Mothers perceived their deaf child basic ToM abilities similar to the hearing. However deaf children were perceived to be less competent to the hearing in: elementary ToM competence (seeing-leads-to-knowing, visual perspective taking,  $z=3.92$ ,  $p<.001$ ), first-order false believes ( $z=5.43$ ,  $p<.001$ ), the second order false believes ( $z=3.78$ ,  $p<.001$ ).

Conclusions: The mothers' predictions of their deaf children's ToM development were found irrelevant and inconsistent with the experimental objective ToM measures.

Mothers perceived their deaf children as less competent in more advanced ToM abilities to the hearing.

## **Education, Schooling, Child care**

### **pos202.15 Consideration of future consequences and academic performance in Japanese adolescents**

Yuta Chishima, Jeff Joireman  
*University of Tsukuba, Japan*

Consideration of future consequences (CFC) is defined as “the extent to which people consider the potential distant outcomes of their current behaviors and the extent to which they are influenced by these potential outcomes” (Strathman, Gleicher, Boninger, & Edwards, 1994). Recently, researchers have found that the CFC is comprised of two-factors (future and immediate) by using the CFC-14 scale (Joireman, Shaffer, Balliet, & Strathman, 2012). Although there is a large body of research on the CFC in the areas of healthy, economic, or environmental behaviors, research areas on academic performance and career development is limited. Additionally, some studies have suggested that certain CFC items have readability concerns. Based on the previous studies, the purposes of this study were to examine the reliability and structural validity of CFC-14 scores in Japanese adolescents and to examine the relationship between the CFC and academic performance, with career maturity as a mediator. The CFC-14 was translated into Japanese by three professional translators, and the original author confirmed the back translated items. Participants were 1133 Japanese high school students aged 15-18 years old who completed a questionnaire-based study. Exploratory factor analysis showed two-factors clearly. Confirmatory factor analysis further showed that a two-factor model fit better than a one factor model, but the bi-factor model with ESEM showed the best fit. Internal consistency estimates for all scales were over .70. Results of structural equation modeling with the CFC, career maturities, and academic performance indicated that CFC-future promoted the students’ study time and academic performance while CFC-immediate decreased those performances. Moreover, the relationship between CFC-future and academic performance was mediated only by career autonomy which is subscale of career maturity.

### **pos202.16 Cyberbullying and mentalization: What do cyberbullies think?**

Nikolett Arató, Beatrix Lábadi, Kata Lénárd  
*University of Pécs, Hungary*

In the last few years, cyberbullying has become a popular research topic. In our study, we took our focus on the connection between mentalization and cyberbullying. Further on the aim of our study was to examine which factors (mentalization, empathy, school climate, anger expression style) determine how adolescents react to cyberbullying. Another aim was to discover student’s mentalization processes during cyberbullying: what do they think about the victim’s emotions, inner states.

113 students (65 boys and 48 girls) participated in the study, their average age was 17, 5 (SD=0, 73) years. In the first section of the study participants had to answer mentalization-related questions after reading stories about cyberbullying and everyday situations. The second part of the study consisted of the following questionnaires: Cyber Victim and Bullying Scale was used to determine their role in cyberbullying, Interpersonal Reactivity Index to measure empathy, Reading the Minds in Films Test to measure mentalization, Anger Expression Scale, and a questionnaire to explore school climate.

The results of our study demonstrate that mentalization processes are important in connection with cyberbullying: Being a cyberbully was determined by mentalization deficit and negative school climate. Most of the participants deemed the victims to feel humiliated, depressed, frightened, however those who were cyberbullies thought the victims don’t feel negative emotions. According to our results, victims, especially victims of sexual harassment on the Internet, behave antisocial when they see that cyberbullying is occurring. Our results about the importance of mentalization in cyberbullying might contribute to better prevention and furthermore the results emphasize the importance of understanding what cyberbullies think about the consequences of cyberbullying on victims. Further on the results raise our attention to the importance of helping victims to deal with the cyberbullying’s consequences because this can help to prevent them from becoming a perpetrator.

**pos202.17 Students' psychological evaluations on the immersion program at a Japanese school.**

Tomoyoshi Inoue

*Doshisha University, Japan*

Twelve 11th graders participated in an interview concerning their psychological evaluations on the educational methods employed at their immersion school. More or less positive and satisfactory responses were obtained from all the participants although some of them suggested that there might be some possible improvements concerning the educational methods there.

For example, at this particular school, certain subjects, such as science and mathematics, are taught both in English and in Japanese. In such a case, they sometimes felt uneasy because curriculum contents being taught was not necessarily matched due to the pace each of the two teachers taught their class. They felt some stress especially when they were tested because they had to prepare for the different tests in two languages.

As for the positive aspects of the dual teaching, one of the students mentioned she could recognize the equivalent term in the other language since they could learn the same contents in two different languages. Another student said that even if she did not understand the contents in one class, she could understand them when she heard the same things in another language.

It was also indicated that most of the students who felt their English abilities were not so good as their first language (that is Japanese) have selected so-called Domestic Course in which most of the subjects are taught in Japanese in order to prepare for the entrance examinations to Japanese universities or colleges.

IB Diploma Program was also provided at the school for the students who wished to be admitted to universities or colleges in English speaking countries or some domestic universities where all of the courses are taught in English.

## **Family, parenting, parent-child relationships**

### **pos202.19 Relationship between parenting styles, quality of friendship and moral emotions in adolescence**

Ana Fritzhand, Orhideja Shurbanovska, Biljana Blazevska Stoilkovska  
*University "Ss. Cyril and Methodius", Skopje, Macedonia, Faculty of Philosophy, Department of Psychology, Macedonia*

This study examines how parenting styles and the quality of friendship predict various moral emotions in adolescence. Five variables are considered as predictors (warmth of mothers and fathers, rejection of mothers and fathers and the quality of friendship). Moral emotions (shame, guilt, alpha and beta pride, detachment and externalization) are analyzed separately in early adolescence (N=67) and in middle and late adolescence (N=140). The analyses include 120 females and 87 males from Skopje, Macedonia.

Findings show that in early adolescence shame is positively related to perceived warmth of father, while guilt is positively related to the quality of friendship. For older adolescents, shame is positively related to perceived rejection of father and to perceived warmth of mother, while guilt is positively related to perceived rejection of father and the quality of friendship. Alpha pride (pride in one's self) is positively related to the quality of friendship (both for younger and older adolescents), while beta pride (pride in one's behavior) is positively related to the quality of friendship (older adolescents) but is negatively related to perceived warmth and rejection of mother and is positively related to perceived rejection of father in early adolescence. Externalization in early adolescence is negatively related to perceived warmth of mother but is positively related to perceived warmth of father. For older group there is no significant relationship between externalization and the five predictors. Detachment is negatively related to perceived warmth of mother (in early adolescence), i.e. positively related to the quality of friendship (in middle and late adolescence). Present research shows that parenting styles and the quality of friendship are related to the development of moral emotions in adolescence. Therefore, these variables should be analyzed in depth in further studies of development of moral emotions not only in adolescence but also in early and middle childhood.

### **pos202.20 Parental solicitation and adolescents' information management: Moderation by parenting style**

Sophie Baudat, Grégoire Zimmermann, Stijn Van Petegem  
*Institute of Psychology, University of Lausanne, Switzerland*

As adolescents are spending more time outside of direct parental supervision, they have the opportunity to manage their parents' knowledge of their daily lives, either by revealing information (e.g., disclosure) or by concealing (e.g., keeping secrets). Parents can actively encourage adolescents' disclosure by asking questions. However, little previous research has tested whether such parental solicitation may be perceived as intrusive and, thus, may ironically lead to more concealment (e.g., Hawk et al., 2013). Furthermore, no research has considered the moderating role of parenting style on the relationship between parental solicitation and adolescent information management. The present study aimed to examine the associations between parental solicitation and adolescents' information management (i.e., disclosure, secrecy, lies), and to explore whether these associations were moderated by two dimensions of parenting style (i.e., autonomy support and psychological control).

Our sample comprised 351 Swiss adolescents (45% women; Mage = 15 years) who completed questionnaires about their mother and their father, specifically.

Results showed that more parental solicitation as well as more autonomy-supportive and less controlling parenting were associated with more disclosure and less concealment, controlling for adolescent gender. Moreover, autonomy-supportive and controlling parenting moderated the relationship between parental solicitation and adolescent lying to parents. Specifically, simple slopes demonstrated that greater use of parental solicitation was associated with less lies at low levels of controlling parenting (mother:  $B = -.24$ ,  $p < .001$ ; father:  $B = -.22$ ,  $p < .001$ ) and at high levels of fathers' autonomy-supportive parenting ( $B = -.13$ ,  $p = .028$ ; see Figure 1). By contrast, greater use of paternal solicitation was associated with more lies at low levels of paternal autonomy-supportive parenting ( $B = .15$ ,  $p = .019$ ).

These findings underscore that the family climate is important for understanding how adolescents manage information in response to parental solicitation.

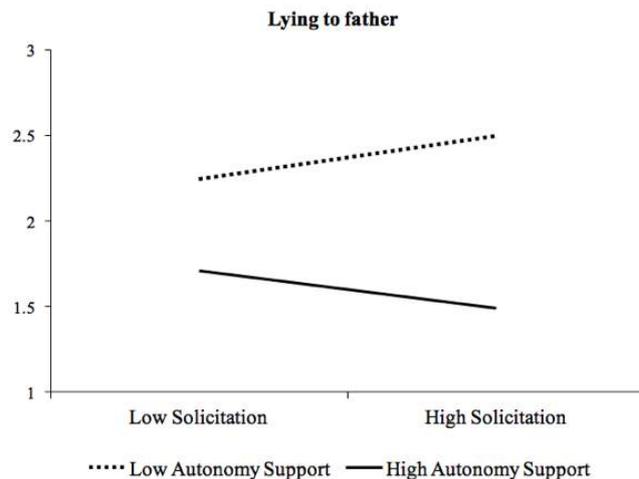


Figure 1. Moderation effect of fathers' autonomy-supportive parenting on the relationship between paternal solicitation and adolescent lying to father

### pos202.21 Triple P: an RCT with low-income portuguese mothers

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**Aims:** This study aims to evaluate the efficacy of a Positive Parenting Program – standard group Triple P with Portuguese mothers of low-income families. These families are confronted with additional challenges in their parenting as they often face socioeconomic deprivation and usually experience high levels of parental stress, depressed mood and multiple negative life events. These factors are consistently associated with the development or maintenance of behavioral/emotional problems in the child or adolescent and academic problems. Triple P is a positive parenting program that greatly contributes to the promotion of consistent and responsive family environments in which the child feels accepted and nurtured.

**Method:** We selected a randomized controlled trial design. Local social services signaled 70 families with children aged 3-12 years. All mothers were assessed for eligibility, some declined to participate (n=3) or were not selected because they didn't meet the inclusion criteria. 54 mothers were randomly assigned to Triple P (n=27) or control group (n=27) and the following dimensions were assessed at pre, post and 6-month follow-up: child emotional/behavioral problems, parenting styles, sense of parenting efficacy and satisfaction, parenting stress, depression, stress and anxiety and social support network.

**Results:** Compared with the control group, the intervention group reported a significant improvement in parenting dimensions (e.g., reduction on maternal verbal hostility and permissiveness), a reduction in the intensity of child behavioral/emotional problems, and a significant decrease in parental stress levels. Data further suggested an adoption of positive disciplinary styles and an increase on parental satisfaction.

**Conclusions:** Results globally provide evidence supporting the efficacy of Triple P in reducing child behavior and emotional problems. Despite the numerous evidences that Triple P already gathered, the program was studied for the first time in Portugal and proved to be a powerful tool for intervention with Portuguese low-income families.

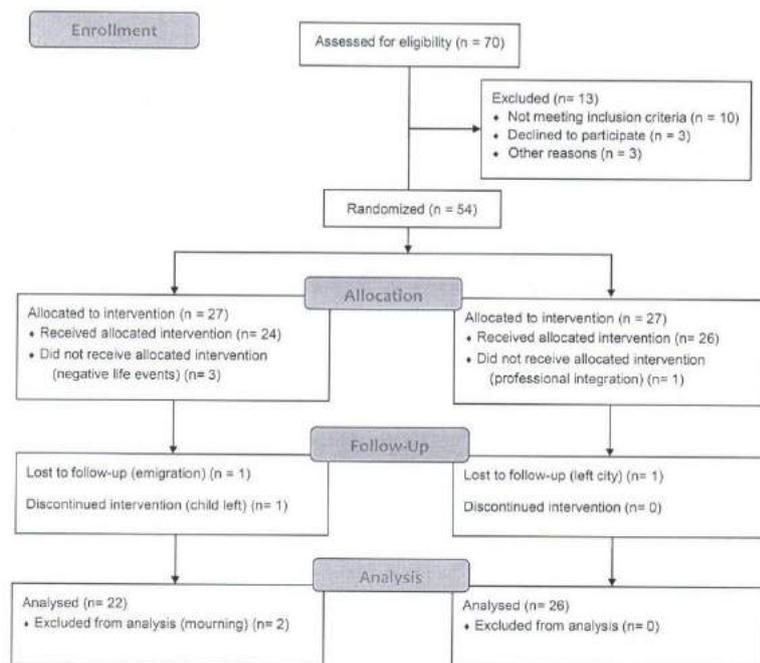


Figure 1: Flowchart Diagram for Selection of Participants

## pos202.22 Supporting at-risk families in Europe: Evidences from an international experts' targeted survey

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The inclusion of a strengthening approach in family support has translated in diversification of services in order to meet specific families' needs and to ensure child rights. This variability has been highlighted at a European level, due to existing disparity in family support services' orientation (Gilbert, 2012). Consequently, recent efforts have been made in order to offer a European view of this diversity (e.g., Boddy et al., 2009; 2011; Daly, 2011; Eurochild, 2012; Molinuevo, 2013). In this poster, a European view of family and parenting education is offered, adding from previous literature a focus on families at psychosocial risk as well as a broader scope. For this purpose, a panel of experts from universities and agencies from 18 European countries fulfilled a targeted survey on family support for at-risk families. The results from this survey showed similarities in agencies and sectors responsible for the interventions, as well as high disparities in the focus, the content and the delivery of the interventions. Concerning program's standards, less than half of countries reported counting on manualized programs as a general rule; positively, evidences for ecologic validity were found as most of programs were designed in the country or culturally adapted. In most of countries efforts for evaluation have been made, although only a small percentage counted on overspread rigorous evaluations. Having this into consideration, it is not surprising that only a third of the countries counted on evidence-based interventions as a general rule, although it should be noticed that in most of cases that proposals have started from partnerships with universities. Practical implications from these results are discussed.

## pos202.23 Preventive family assessment from the keys of positive parenting.

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Aim: to present results of an evaluation and preventive education experience carried out with normalized and no risk families with children of 2 years of age. The aim of the study was to show that even normal families can take advantage of a specific feedback aimed to improve their parenting skills.

Methods: 50 families were assessed using the HES\_2 (Haezi Etxadi Scale) through a home visit procedure. The scale assesses the quality of family context gathering data about the Stimulation of cognitive and Linguistic Development (subscale 1), the Stimulation of Socio Emotional Development (subscale 2) and the Quality of Physical Context and Organization of the Social Context (subscale 3). In light of the family assessment' results families were given a pack of parenting guidelines aimed to settle positive parenting routines in their daily life. After a three-month period families were again assessed in order to test if new positive parenting routines have been properly settled.

Results: 8 % of the families showed a low level of play at home, 4 % of the families showed a low level of linguistic Stimulation, 4% of the families showed a low level of Setting of Limits and Optimal Frustration Practice, 10 % of the families showed a low level of Enhancing of Self Esteem and Autonomy, 2 % of the families showed a low level of Children's Social Relations Stability, 6% of the families showed a high level of Child's Exposure to Family Conflict and 2 % of the families showed a high level of Parental Stress. A 66 % of the families declared that they have properly established new positive parenting routines after the assessment.

Conclusions: this data provides empirical support to the pertinence of implementing a family preventive education and evaluation strategy in the educational, health and social services domains.

	Quality of family context			
	High +	High	Medium	Low
<b>SCLDD Sub scale (Stimulation of Cognitive and Linguistic Development)</b>	74%	24%	2%	-
Materials for learning ( <i>ML</i> )	96%	4%	-	-
Potential for Play ( <i>PP</i> )	52%	26%	14%	8%
Stimulation of Cognitive Development ( <i>SCD</i> )	86%	8%	6%	-
Stimulation of Linguistic Development ( <i>SLD</i> )	80%	16%	-	4%
<b>SSED Sub scale (Stimulation of Socio Emotional Development)</b>	82%	16%	2%	-
Emotional Expressiveness ( <i>EE</i> )	90%	6%	4%	-
Setting of Limits and Optimal Frustration ( <i>SLOF</i> )	78%	16%	2%	4%
Self esteem and Autonomy Potentiation ( <i>SAP</i> )	48%	34%	8%	10%
Observation of Mother – Child Interaction ( <i>OMI</i> )	100%	-	-	-
<b>OPCSC (Organization of Physical Environment and Social Context)</b>	94%	6%	-	-
Quality of Physical Environment ( <i>QPE</i> )	100%	-	-	-
Father or second figure involvement ( <i>FI</i> )	84%	10%	6%	-
Quality of Substitute Care ( <i>QSC</i> )	100%	-	-	-
Relationships with the extended family and social nets ( <i>REF</i> )	94%	4%	2%	-
Stability of child's social relationships and parental interest in them ( <i>SSR</i> )	58%	40%	-	2%
Relationships with the school ( <i>RE</i> )	100%	-	-	-
Diversity of experiences ( <i>DE</i> )	96%	4%	-	-
Family conflict exposition ( <i>FCE</i> )	76%	12%	6%	6%
Parental Stress ( <i>PE</i> )	64%	18%	16%	2%
Total (N = 50)	84%	14%	2%	-

Table 1: Family classification (in percentages) according to level of family context quality in the three main subscales and their corresponding factors.

#### pos202.24 Parenting effects on young twin's behavioral control in hot and cool contexts

Claudia Vrijhof, Marielle Linting, Saskia Euser, Marian Bakermans-Kranenburg, Marinus van IJzendoorn  
 Leiden University, department of Child and Family Studies, Netherlands

Recent studies showed that children's performance on hot behavioral control tasks, i.e. tasks with an emotional component, and cool behavioral control tasks, i.e. tasks measuring more abstract forms of behavioral control, differentially predict children's developmental outcomes. These tasks seem to tap into unique aspects of the broader concept of behavioral control and are therefore only weakly to moderately related. Considering the extensive influence of both hot and cool behavioral control on future child development, it is important to investigate factors that are related to both types of behavioral control. One such factor might be parenting quality. Both parental sensitivity and parental discipline techniques have been related to children's behavioral control, but it is unclear if parental sensitivity and discipline techniques relate similarly to hot and cool behavioral control. We investigated these relations in a sample of four to five year old monozygotic and dizygotic same-sex twins (N=214 twin pairs, 52% girls, Mage=4.75 years). Hot behavioral control was measured with the marshmallow test and cool behavioral control with a stop-signal task. Supportive presence and intrusiveness of the primary parent was observed in a structured play situation and parental discipline techniques, e.g. physical interference, laxness and supportive presence, in two compliance tasks. Twenty-seven percent of the children waited the full eight minutes for the delayed reward in the

marshmallow test (M waiting time=3.6). In the stop-signal task, children responded correctly to more than 90% of the go trials and were able to inhibit their action in approximately 60% of the stop trials. We found a weak, although significant relation between both measures of behavioral control. Children who were better able to inhibit their reaction in response to stop trials waited longer in the marshmallow test. Behavioral genetics analyses and analyses of parenting effects on both types of behavioral control are currently conducted.

#### **pos202.25 Greek adolescents' and emerging adults' identity formation: does parental behavior matter?**

Spyridon Tantaros, Elias Besevegis, Vasilis Pavlopoulos  
*Department of Psychology/National & Kapodistrian University of Athens, Greece*

This paper investigates the relations of parental behavior with adolescents' and emerging adults' identity formation processes. 424 Greek high school students (14.5 - 15.5 years old, 43,6% males and 56.45 females) and 299 emerging adults (14-17 years old, 35,8% males and 64,2% females) filled in a) The Dimensions of Identity Development Scale-DIDS (Luyckx et al, 2008), evaluating five identity formation processes, b) The Assessment of Identity Development in Adolescence scale – AIDA (Goth, Foelsch, Schlüter-Müller, et al., 2012) c) the Parental Behavior Inventory-PBI (Barber, 1996; Kins et al, 2013; Vazsonyi et al., 2003) and d) a demographic questionnaire. Among other findings and consistently with previous research (Tantaros, 2015), Commitment Making, Identification with Commitment and Exploration in Depth were positively correlated to parents' Warmth while Ruminative Exploration was correlated to parents' Anxious Rearing and Rejection. Both parents' rejection and overprotection were negatively linked to identity's continuity and coherence.

#### **pos202.26 Implementing a web-based positive parenting program in the Spanish Primary Health-Care System**

Enrique Callejas Castro, María Josefa Rodrigo López, Sonia Byrne  
*Dpt. Developmental Psychology and Education, Faculty of Psychology, University of La Laguna, Spain*

In Europe there is an increasing use of parenting programs aimed at strengthening and empowering families and communities framed in the Council of Europe Recommendation (Rec2006/19) on Policy to Support Positive Parenting. The Recommendation places a prevention-based focus on the development of positive parent-child relationships, emphasizing the responsibility of the state to create the best conditions for this by providing parents with sufficient and adequate support (i.e., a parenting program) aimed at reducing risks and promoting protective factors for their children, in relation to their social, physical and emotional wellbeing. Inspired in this Recommendation, the Spanish National Health System is embarked in a nation-wide prevention initiative aimed at providing web-based parental support to families expecting children or with children up to the age of about three years. The assistance to parents covers: a) the information and education of parents to promote physical and emotional wellbeing by means of a universal online parenting program called "Ganar Salud y Bienestar, de 0 a 3 años" (Gain Health and Wellbeing, from 0 to 3 years old) and b) an indicated face-to-face version of this program based on the online materials aimed at parents whose situations in life are characterized by great stresses and diverse and/or serious risks (e.g. poverty, social exclusion). The program includes interactive materials illustrating everyday parent-child situations to foster the attachment bonds, and the establishment of adequate feeding, play and sleeping routines. This presentation reports preliminary results of the implementation process of both programs in 15 Health-Care Centers in Canary Islands, comparing the impact of three progressive levels: service information, professional training and collaborative participation of both families and professionals, on the promotion of parenting skills, family wellbeing, professional development (i.e., attitudes toward work with families) and positive child outcomes (health status and wellbeing), using questionnaires, checklist and interviews.

**pos202.27 Children’s genetic and psychophysiological susceptibility to reward- and punishment-based parenting**

Karen Fischer, Geertjan Overbeek, Alithe van den Akker, Helle Larsen  
 University of Amsterdam, Netherlands

Dysfunctional parenting strategies such as parental punishment and lack of reward based parenting have shown to be key determinants of children’s disruptive behavior and impairing externalizing psychopathology in later life. Accumulating research supports that children who are most vulnerable to punitive parenting may also benefit most from parental rewards: a “for-better-and-for-worse” effect. This differential susceptibility effect has shown to be genetically rooted in dopaminergic neurotransmission. Dopamine related genes modulate children’s reward based learning and relate to how acutely children pick up punishment signals. This genetic susceptibility may express itself “outside the skin” in children’s psychophysiological reactions to reward and punishment cues. That is, a more susceptible genotype may render children increasingly reactive to reward and punishment cues.

We aim to examine children’s reward-punishment sensitivity to parenting practices at the genetic (dopamine related genes) and psychophysiological level (heart rate and facial muscle reactivity) with targeted, experimental microtrials. The microtrials manipulate parental behaviors to assess both negative and positive parenting behaviors, creating the “for-better-and-for-worse” environmental dichotomization necessary to test differential susceptibility within a child. The study will be conducted among at-risk families with children (4-8 years). The “for-worse” parental environment will represent a parent-child problem solving episode, aimed to elicit the default dysfunctional parenting behavior characteristic of these families. Next parents will receive an intervention aimed at improving their parenting behavior. A post-intervention interaction will serve as the “for-better” environment. We hypothesize that genetically highly susceptible children will reduce their defiant-, and increase their compliant behavior more in response to improved parenting than genetically less susceptible children. We expect that this genetic moderation effect furthermore expresses itself indirectly through children’s heightened psychophysiological reactivity to reward-punishment cues (mediated-moderation). The findings will inform parenting-interventions about which environmental risks and opportunities crucially need to be targeted to accommodate for children’s biophysiological predisposition.

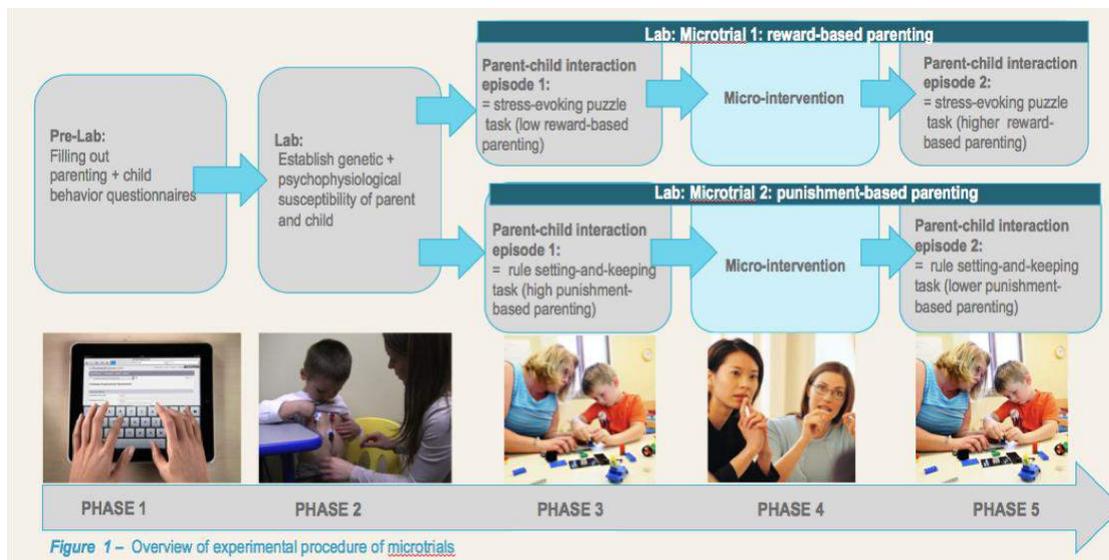


Figure 1: Overview of experimental procedure microtrials

## pos202.28 Italian Young People Vocational Identity Profiles: The role of Perceived Parental Influences

Laura Aleni Sestito, Luigia Simona Sica, Tiziana Di Palma  
*University of Naples Federico II, Italy*

The study focuses on the interface between family and career development mainly considering the perceived parental influences on the vocational identity processes. In this regard, some scholars suggest a parental identity agency, conceiving the parents as purposeful co-participants in their children's identity formation (Schachter & Ventura, 2008). Parental influence could be more significant in countries such as Italy where the family, due to the stressed economic situation, plays a central role acting as the main provider of care and welfare.

In light of this, the present study aims to understand the impact of family in supporting or hindering their children's vocational identity, identifying different narrative profiles of parental influences on career exploration and commitment, as retrospectively constructed by Italian young people.

**Method.** Within the narrative approach (Josselson, & Lieblich, 2001), a narrative interview (guided autobiography, McAdams, 2001) was chosen to collect career life stories of 10 Italian young people, balanced by gender, from the last year of high school and the first of university.

**Results.** The narrative accounts were analysed using content analysis and were coded (by a coding system specifically developed) for vocational identity processes and perceived parental influence dimensions. The results emerged was aggregated in order to identify different profiles (Aleni Sestito & Sica, 2014). The results, confirming that parents and child represent a two-way interrelated identity system, show the presence of three profiles of vocational identity processes.

**Discussion.** All profiles, even if in a different way, show that vocational identity can be interpreted as an interactive process (Vondracek, Lerner, & Schulenberg, 1986) and as a co-joined autobiographical project. Further, our results point out that, within a 'Mediterranean model', the absence of financial support from the state and increased psychological uncertainty seems to be substituted by parental support (Tagliabue, Lanz, & Beyers, 2014).

## **Language development and communication**

### **pos202.29 Learning languages and constructing values**

Joseilde Maria Teles

*University of São Paulo - Institute of Psychology, Brazil*

Introduction: Learning another language is highly beneficial as it enhances, for example, cognition, cultural awareness and language skills. However, adult Brazilians who study English, concerned about market opportunities, seem not to be aware of that. Their interests appear to be mostly influenced by extrinsic motivation, since many of them believe it is important to learn English in order to meet the market demand. According to Piaget (1954) affection and cognitive development are integrated, consequently, affectivity (energetic source) can increase or decrease the amount and quality of motivation in the interaction with the language.

Aim: Investigate the relations between English language learning and values construction.

Method: Twenty volunteers were questioned about “importance”, “utility”, “motivation”, “feelings” and “goals” related to studying English. Four interviews were selected for case studies. One of these case studies (F9) is briefly described below.

Results and discussion: Initially, F9 manifested mostly extrinsic motivation: when asked about “importance”, “utility” and “motivation” F9 replied English was “very important” because it was “necessary” and “universal”. Although, F9 could not make it clear where to apply it. F9 also evidenced negative feelings: “I have difficulty learning languages”, “Even though my parents speak Japanese, I gave up learning it”, “I gave up Spanish too”. Regardless of the predominant extrinsic motivation, F9 declared “curiosity” about understanding English, which can be considered mostly intrinsic motivation as “curiosity” emerges from personal interests and it is highly affective (energetic source). When asked about goals, F9 expected to be able to use English at work and stated the intention not to give up this time, specially because the experience to study English was helping to feel “more mature and intelligent”. This statement demonstrates perception about the learning process as a modifier agent, also favoring values construction.

### **pos202.30 Motor skills and language development in Italian toddlers: a longitudinal study**

Federica Rigo, Marinella Majorano, Manuela Lavelli

*University of Verona, Italy*

The relationship between language and motor abilities in toddlers with language delay has been explored with contrasting results. The present study aimed to: (a) assess possible concurrent and predictive associations between toddlers’ motor and language abilities; (b) describe the motor development profiles of children with language delay at 30 months.

One hundred Italian children aged between 12 and 36 months ( $M = 23.92$ ,  $SD = 5.56$ ) –all attending nursery schools– participated in the study. Motor, cognitive and language development were assessed using The Griffiths Mental Development Scales; vocabulary development was further assessed using the Italian version of the MacArthur-Bates Communicative Development Inventory. The lexical comprehension and production of children older than 18 months were reassessed after six months using the PinG task (Bello et al., 2010).

Correlational analysis showed that both gross and fine motor skills were related to lexical [ $r = .508$ ,  $p < .01$ ;  $r = .441$ ,  $p < .01$ ] and morphosyntactic production [ $r = .523$ ,  $p < .01$ ;  $r = .364$ ,  $p < .01$ ]. Among the fine motor skills, visual-motor integration was more strongly related to language production [ $r = .337$ ,  $p < .05$ ] than the other skills. Furthermore, the total score for fine motor skills was negatively related to the number of absent answers in the Ping task [ $r = -.398$ ,  $p < .05$ ]. Different profiles emerged among children whose lexical production fell below the 10th percentile for age at 30 months. Three children displayed a more general delay in fine motor skills; three children displayed a more specific delay in visual-motor integration, while the other two children did not show any delay in fine motor competence.

These findings display the complexity of the relationship between language and motor skills; furthermore, they could contribute to describe early indicators of risk for language development.

## **Peer relationships**

### **pos202.31 A study on the stress mitigation effect of a playful game experience.**

Shigeru Nakano, Hisami Hashimoto  
*Sapporo International University, Japan*

The question what is play remains unsolved. In this study, we propose a psychobiological approach as a new research methodology for play. "Acchi-muite-hoi"(Look over there) is a paired hand game and popular in Japan. In the game, two competitors stand in face-to-face; firstly, they decide an initiator and a follower by the "Paper-Stone-Scissors." Secondly, the initiator suddenly points toward right, left, up or downward with his/her finger in front of the follower saying "Look over there." At the moment, if the follower synchronized his/her head with an initiator's pointing direction, the initiator wins the game. In the opposite case, the follower is a winner. We used this game to examine the stress mitigation effect of play. As the "Chameleon effect" (Charchland et al., 1999) has evidenced, follower's synchronized head turnings can be more observed when he/she is paired with a nice playmate.

Sixty university students were assigned in one of two experimental groups or the control group. Participants of experiment group 1 (EXPG1) played the game with a joyful experimenter and in experiment group 2 (EXPG2) participants did a nasty experimenter. They repeated the game 10 times. Control group did not play the game. After finishing the game, each of participants was asked to solve a puzzle within an unrealistic time-limit. The levels of cortisol and epinephrine in saliva in participants were also measured before and after the game (baseline) and after the stressful session.

The secretion level of epinephrine in saliva in EXPG1 was significantly higher than EXPG2 after the game. The assessment after the stressful session showed that the cortisol level of EXPG1 was remarkably lower than EXPG2 and the control.

Those findings were interpreted as suggesting that to play with a joyful playmate may mitigate and help to overcome a stressful event.

### **pos202.32 The role of Victimization Behaviors between Internalizing Behavior and Peer Rejection**

Ozge Metin Aslan  
*Hacettepe University, Turkey*

The aim of this study was to examine the role of physical and relational victimization between social adjustment and peer rejection. We hypothesized forms of victimization roles would be affected between internalizing behavior and peer rejection as mediations. Because of different content of physical and relational victimization, we expected that physical and relational victimization would have different indirect effect on peer rejection.

A total of 94 children in the study (37 girls; 57 boys) between the ages of 36 and 70 months ( $M = 49.97$ ;  $SD = 8.91$ ). Forms of victimization behaviors, internalizing behavior and peer rejection were assessed using teacher-report measures. Hayes's (2013) SPSS macro PROCESS (Model 4) with 95 % bias corrected confidence interval (CI) based on 1000 bootstrap samples was used to examine the indirect effects of internalizing behavior on rejection through forms of victimization. Gender was controlled variable in analysis.

The results shows internalizing behavior significantly predicted physical ( $B = .15$ ,  $p < .01$ ) and relational ( $B = .14$ ,  $p < .05$ ) victimization. Physical victimization didn't had significant impact, but relational victimization had a significant impact on peer rejection ( $B = .47$ ,  $p < .001$ ). Moreover, the total effect of internalizing behavior on peer rejection was significant,  $B = .25$   $p < .001$ . The direct effect of internalizing behavior on peer rejection continued to emerge after controlling the impacts of physical and relational victimization,  $B = .15$   $p < .01$ . The total indirect effect was significant,  $B = .07$ ,  $SE = .04$ ,  $CI [.01, .18]$  and the sobel test was only for significant;  $z = 2.13$ ,  $p < .05$ , for relational victimization.

In conclusion, this study supports that relational victimization can provide unique information about children's adjustment. Furthermore, the distinction between physical and relational victimization may be particularly important in understanding children's peer rejection by peers.

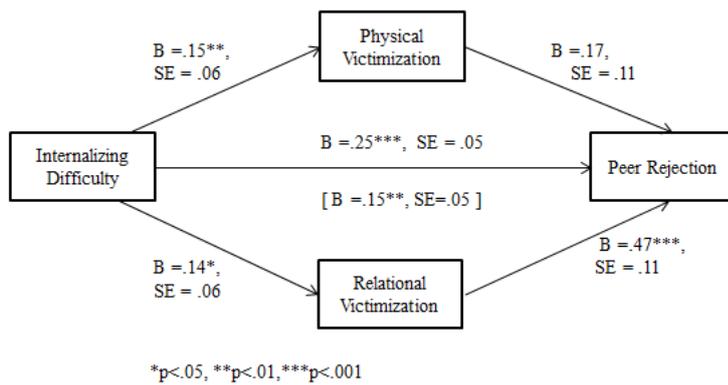


Figure 1: Physical and relational victimization mediation effects in the relationships between internalizing behavior and peer rejection

### pos202.33 Social withdrawal, peer relationships and depressed mood in adolescents.

A. Elisabeth Aleva, Yolanda Van Beek  
 Utrecht University, dep. Developmental psychology, Netherlands

Social withdrawal is a symptom of depression (DSM-5) but also may be a predictor of depression. Social withdrawal in children may develop into a depressed mood in early adolescence, through the experiences of problematic peer relationships, while friendship may function as a buffer (Rubin, Coplan, & Bowker, 2009). Few studies have examined these relations in adolescents.

Aim: Our study examined the relation between social withdrawal and depressed mood in adolescence, and whether peer relationship variables do have an effect on this relation.

Method: Participants: 457 Dutch adolescents (13-18 years) from regular schools.

Instruments: peer nominations of social withdrawal (Revised Class Play Method; Masten et al., 1985), self-reports of depression, friendship quality, positive and negative peer relationships (based on Parker & Asher, 1993; Stocker, 1994; Windle, 1994)

Results: Hierarchical regression analysis indicated that all variables contributed to the explanation of depressed mood. The interactions between social withdrawal and the peer relationship variables were not significant (no moderation effects). Mediation analyses were conducted separately for each peer relationship variable as mediator. All three peer relationship variables fully mediated the relation between social withdrawal and depressed mood.

Conclusions: Social withdrawal was a predictor for depressed mood in adolescents. Friendship and positive peer relationships did not function as a buffer between social withdrawal and depressed mood. The mediation effects showed that social withdrawal effected the perceived quality of peer relationships, which in turn, influenced depressed mood. Future studies may focus on lack of social skills, biased perception of peer rejection, and how to support socially withdrawn adolescents.

Kokin, J., Younger, A., Gosselin, P., and Vaillancourt, T. (2016) Biased Facial Expression Interpretation in Shy Children. *Inf. Child. Dev.*, 25: 3–23.

Rubin, K. H., Coplan, R. J., & Bowker, J. C. (2009). Social withdrawal in childhood. *Annual Review of Psychology*, 60, 141-171.

## **Prevention and Intervention**

### **pos202.34 Age-specific trends in adolescent alcohol use in the Netherlands, 1992-2015**

Margreet de Looze, Saskia van Dorsselaer, Karin Monshouwer, Wilma Vollebergh  
*Utrecht University, Netherlands*

**Aim:** Since the 1990s, sociocultural norms and policy measures regarding adolescent alcohol use have changed dramatically in the Netherlands. While documented in national reports, time trends in alcohol use among Dutch adolescents have not been systematically examined. This study examines trends between 1992 and 2015, describes the sociocultural context in which they took place, and tests to what extent these trends can be attributed to changes in the demographic composition of the adolescent population. It also tests whether time trends differ according to age group and gender.

**Methods:** Using data from ten waves of two nationally representative studies with a repeated cross-sectional design, overall trends were examined for eight different alcohol measures. Interaction analyses, with survey year as a continuous variable, indicated whether trends differed according to gender and age group.

**Results:** Adolescent alcohol use increased significantly and substantially between 1992 and 2003, and decreased sharply thereafter. These time trends cannot be ascribed to changes in the demographic composition of the research population. The decrease in adolescent alcohol use since 2003 was stronger for 12- to 15-year olds, compared to 16-year olds. Boys had higher drinking patterns than girls, but gender differences remained constant over time.

**Conclusions:** This study shows clear time trends in adolescent alcohol use among Dutch adolescents. Adolescent alcohol use may be subject to societal influences. Although national prevention programs may have played a role in the decrease since 2003, the decline in alcohol use should be interpreted in a broader context of changing sociocultural norms.

### **pos202.35 Evaluation of the ViSC Program: Fostering intercultural friendships**

Elisabeth Stefanek, Dagmar Strohmeier, Takuya Yanagida  
*University of Applied Sciences Upper Austria, Austria*

The ViSC program (Strohmeier, Hoffmann, Schiller, Stefanek & Spiel, 2012) aims to combat aggressive behaviour and to foster social and intercultural competencies in young adolescents. The theoretical framework of the ViSC program is grounded in concepts of aggression (Card & Little, 2006; Dodge, 1991), bullying (Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996), and social information-processing theory (Crick & Dodge, 1994, 1996; Huesmann, 1988), and principles of intergroup contact theory from Allport (1954), i.e. equal status, common goals, cooperation, and authority support. In former studies the ViSC program has been proven its effectiveness to prevent victimization (Yanagida, Strohmeier, & Spiel, 2016).

The aim of the present paper is to examine the effectiveness of the ViSC Program to foster intercultural friendships. In the present study 747 adolescents (66% Intervention, 52% girls, 58% Austrian, 21% Turkish, 21% Serbian students) nominated at two time points their three best friends in the class. Four indicators of same cultural friendships were investigated: Percentage of (1) reciprocal and (2) unilateral friendships. Furthermore, to control for the availability of same cultural peers in the class, the opportunity index developed by Strohmeier (2012) was calculated, i.e. same cultural friendship preferences (3) for reciprocal and (4) unilateral friendships. Finally, as peer nominations are depending on presence of peers at both measurement points we investigated three groups with high, medium and low data quality.

Results of ANOVAS yielded a significant intervention effect in reciprocal friendships in data with medium quality. Turkish students participating in the ViSC program nominated after the intervention less same cultural friends and showed less same cultural friendship preferences compared to Turkish students in the control group. Thus, there are some small effects to foster intercultural friendships but only in one group of immigrants. Concerning age and opportunity, results are in line with previous studies (Table 1).

Table 1. *Same cultural friendships*

	Ol rec	Ol uni	% rec	% uni
Time	T1 < T2	n.s.	T1 < T2	n.s.
Intervention	n.s.	n.s.	n.s.	n.s.
Group	A < T, S	A < T, S	A > T, S	A > T, S
Time x Intervention	n.s.	n.s.	n.s.	n.s.
Time x Intervention x Group	T2 ViSC T < T2 Control T	n.s.	T2 ViSC T < T2 Control T	n.s.

Note. Only results from data with medium data quality are reported; A = Austria, T = Turkish, S = Serbia

Table 1

## **Social, and personality development**

### **pos202.36 Mediators of relationships between procrastination and personality features**

Katarzyna Markiewicz

*Maria Curie-Skłodowska University (UMCS), Poland*

**Aim:** Procrastination is a serious problem both in academic and work settings since it leads to reduced performance levels, and gives rise to psychological distress resulting in lower levels of health and well-being. Therefore, it is imperative to acquire better knowledge of its reasons and relationships with psychological factors. Yet, the nature of those relationships remains ambiguous. One of reasons is that many factors considered as causes of procrastination work as mediators. It means that they modify the relationships of procrastination with other factors. Hence, the presents study aimed at delineating the factors, which might have mediating effect upon the interface of procrastination with personality features.

**Method:** A self-constructed Questionnaire of Predictors of Procrastination (QPP), the Polish version of NEO-FFI test, and Polish adaptation of the Pure Procrastination Scale (PPS) were administered. Undergraduate students (n=62) participated in the study. The participation was voluntary and anonymous, and there was no time limit. **Results:** Positive significant correlations between neuroticism and general, decisive, and behavioral procrastination were found. There was also significant interaction of neuroticism with the fear of failure, evaluation anxiety, low motivation and lack of persistence as well as lack of time management. In addition, the tendency to succumb to temptations and distractibility proved to be significantly related with procrastination, which suggests a lack of self-control.

**Conclusions:** The current study confirmed observations that neurotic personality does not determine procrastination but both those variables do interact. This study also shows that anxiety plays a significant role in starting actions and/or accomplishing it. It is not only fear of final evaluation, but the fear following the belief of impossibility to properly deal with a given action. The capability of controlling emotions is closely connected with self-control. enabling planning, and organizing action, which is one of the main problems of procrastinators.

### **pos202.37 Children's drawings of social vs basic emotions**

Fotini Bonoti, Plousia Misailidi

*University of Thessaly, Greece*

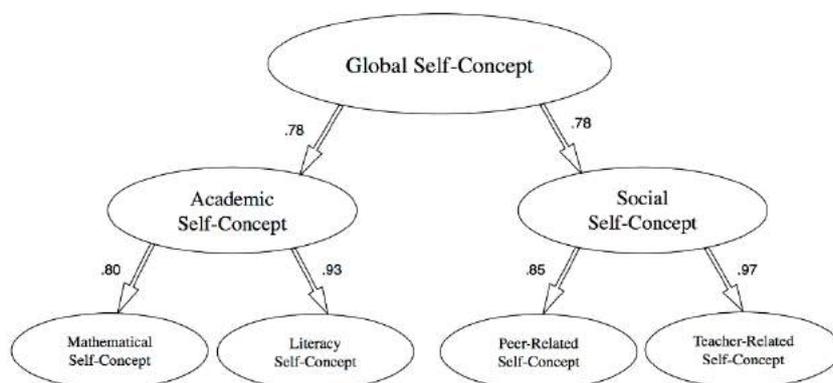
Despite the growing body of research on the graphic cues that children use to convey basic emotions in their human figure drawings, no study has examined how children depict social emotions, such as pride, shame and jealousy. This was the aim of the present study which attempted to explore the graphic cues that children use to express social emotions as compared to those they employ for the depiction of basic emotions. To this end, 100 children were divided into three age-groups (4-, 6- and 8 years) and were asked to draw a person feeling pride, shame, jealousy, happiness, sadness and fear as well as a person feeling no emotion (control drawing). Two independent raters compared each emotional drawing to the control, attempting to identify possible differences in (i) the face, or (ii) the posture of the human figure, or (iii) the general context of the drawing. The results showed that children used significantly less graphic cues to depict social as compared to basic emotions, while they chose different types of graphic cues for the representation of each type of emotion. Contextual cues were more frequent in the drawings of social emotions, while facial cues were preferred for the depiction of basic emotions. Finally, the investigation of developmental differences revealed that the two older age groups included in their drawings more graphic cues to denote emotions than the youngest group. The findings are discussed in terms of children's developing ability to express emotions in their drawings as well as in relation to the existing literature on children's emotional understanding.

## pos202.38 The Self-Concept in Kindergarten and First Grade Children

Laura C. Dapp, Claudia Roebers

*Institute of Psychology, University of Berne, Switzerland*

The self-concept refers to a multidimensional construct that organizes a person's self-perceptions into a hierarchical structure comprising global and specific facets (Shavelson, Hubner, & Stanton, 1976). Children's self-concept, however, is believed to be less differentiated and less realistic, as children tend to systematically overestimate their abilities (Harter, 2015). Since little research has been conducted with children before the beginning of formal schooling, the present longitudinal study aimed to explore the structure of kindergarten children's self-concept, as well as the links between self-concept and achievement in first-graders. Subjects ( $N = 155$ ) were aged 6 1/2 years at the first (kindergarten) and 7 1/2 at the second testing session (first grade). To counteract the undifferentiated and positively biased self-ratings in children, self-concept was assessed by the pictorial Self-Concept of Attainment Scale (PSCAS; Cimeli, Neuenschwander, Röthlisberger, & Roebers, 2013), an instrument that allows for fine-tuned self-evaluations. Structural Equation Modeling (SEM) showed that kindergarten children's self-concept is already organized in a multidimensional structure, and thus, differentiates much earlier than previously believed. Like the self-concept of adults, kindergarten children's self-concept is composed of domain-specific facets (see Figure 1). Moreover, gender stereotype conforming differences—like boys having a higher mathematical and girls having a higher literacy self-concept—already seem to develop at such a young age. Upon first grade entry, children's academic self-concept increases and becomes positively related to achievement, indicating at least some realism in children's self-perceptions. Thus, contrary to the widely held belief that children's self-concept is undifferentiated and unrealistic, the present study demonstrates that it is already multifaceted in kindergarten and related to achievement in first grade. In conclusion, the findings offer new insights into the structure, development, and validity of young children's self-concept, contributing substantially to the generalizability of a multidimensionally organized self-concept.



The hierarchical model of kindergarten children's self-concept. Factor Loadings are based on Maximum Likelihood Estimation. First-order factors are mathematical, literacy, peer-related, and teacher-related self-concepts (shown in the bottom); second-order factors are the academic and the social self-concept; and third-order factor is the global self-concept (shown in the apex). Model Fit:  $\chi^2 = 55.668$ ,  $df = 51$ ,  $p = .303$ ; GFI = .946; CFI = .991; RMSEA = .024; AIC = 109.668; BIC = 191.841.

Figure 1: Hierarchical Model of Self-Concept in Kindergarten

## pos202.39 The relationship between infant temperament and adolescent life satisfaction

Keumjoo Kwak, Yeonsoo Kim

*Seoul National University, Korea, South*

Life satisfaction is a construct that reflects the individual's overall functional levels (Proctor, Linley, & Maltby, 2009). According to the prior studies, high life satisfaction was related to happiness and achievement, while low satisfaction was linked with depression and psychopathology; therefore, life satisfaction can be seen as an indicator of individual's well-being (Gilman & Huebner, 2003; Greenspoon & Saklofske, 2001; McKnight, Huebner, & Suldo, 2002). However, there is limited number of longitudinal studies that examined how early life individual differences influence life satisfaction in adolescence. The present longitudinal study looked at how one's temperament in infancy is related to life satisfaction and optimistic attribution in early adolescence. The

temperament of the participants at 12 months and their life satisfaction and the optimistic attribution in early adolescence were measured by the parental report.

Participants were 178 Korean adolescents who joined the longitudinal study immediately after the birth and their parents. Infancy temperament was measured by Infant Behavioral Questionnaire-Revised made by Gartstein and Rothbart (2003) and life satisfaction in adolescents was measured by Multidimensional Students' Life Satisfaction by Huebner (1994). Also, optimism of adolescents was measured by using a Korean version of the Youth Life Orientation Test, originally developed by Ey et al. (2005).

The results of the present study showed that positive aspects such as smile, laughter, high pleasure and activity level in infancy were positively associated with optimism and life satisfaction in the area of school ( $r=.21$ ,  $p<.05$ ) and friend ( $r=.36$ ,  $p<.01$ ) during early adolescence. However, fear or sadness in infancy did not predict high life satisfaction in early adolescence. Therefore, it can be concluded that life satisfaction and optimism in early adolescence is mediated by temperament in infancy.

#### **pos202.40 Spanish Adaptation Of The Temperament In Middle Childhood Questionnaire**

Carmen González-Salinas, Noelia Sánchez-Pérez, Mary K. Rothbart, José A. Carranza, Ana Vanesa Valero García, Jennifer Simonds, José A. Hernández, María T. Bajo, Manuel Carreiras, Luis J. Fuentes  
*University of Murcia, Spain*

From Rothbart's framework, temperament has been defined as individual differences in reactivity and self-regulation in the domains of affect, activity and attention (Rothbart & Derryberry, 1981).

Among the measurement instruments developed under this framework, the Temperament in Middle Childhood Questionnaire (TMCQ; Simonds & Rothbart, 2004) permits to obtain a fine-grained temperament profile of children based on 17 scales, which further group into four factors labeled Negative Affectivity, Surgency/Extraversion, Effortful Control, and Sociability/Affiliation. This questionnaire was developed in the U.S. for an English-speaking population; however, it is necessary to count on equivalent forms of this instrument in order to address important research questions, such as the generalization versus specificity of the temperament components across cultures.

The aim of this work was to develop a European-Spanish adaptation of the TMCQ, and study the reliability of the scales as well as the structure of temperament in childhood.

A total of 1,454 families of typically developing children from different cities in Spain participated. Children were enrolled in Primary School, with ages ranging from 6 to 12 years. Parents completed the TMCQ.

Results at the level of the scales informed of satisfactory internal consistency. Confirmatory factor analyses replicated four factors: Surgency, Negative Affect, Affiliation, and Effortful Control. Age and gender effects were assessed using ANOVA. The results showed that Activity Level and scales composing Negative Affect exhibited a tendency to decrease with age, whereas Inhibitory Control scores exhibited a tendency to increase. Concerning gender, girls –compared to boys– scored higher in scales included in Negative Affect and Effortful Control, and lower in scales that constitute Surgency.

This study brought out a validated instrument to measure children's temperament in Spanish population. Moreover, the structure of temperament found in this sample is in consonance with the original TMCQ and provides support for Rothbart's framework.

#### **pos202.41 Development of Children's Fairness Judgments on Distribution of Rewards and Responsibilities**

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**Aim:** The authors have investigated children's fairness judgments on the distribution of rewards as well as resources with negative values such as responsibilities. Applying the same methodology of our previous cross-sectional studies, children were interviewed longitudinally at age 5-6 and again at age 7-8. The aim was to clarify the developmental trends of children's fairness judgments from preschool age to primary school age.

**Methods:** Participants were interviewed at Time 1 (preschoolers; age 5-6) and at Time 2 (second graders; age 7-8). All participants were shown two kinds of scenarios. In a reward distribution scenario, either the participant or one classmate was depicted to be more productive than the other in making party decorations. The participants were then asked how rewards should be distributed. In a responsibility distribution scenario, either

the participant or one classmate played with toys. The participants were then asked to distribute clean-up job after playing. Their responses were categorized into four allocation types (Equity, Equality, Selfish and Generous) and compared.

Results and Conclusions: The percentage of Generous-type did not increase significantly from age 5-6 to age 7-8. While several children shifted from other types to Generous-type later, opposite shifting compensated it. Among shifting-to-Generous children, 89% were boys, whereas among opposite children, 75% were girls. These suggest that Generous-type answers (favoring others even with costs) might have different intentions depending on their age or gender.

We also counted the number of children who showed the same distribution types through two kinds of scenarios. Contrary to our presumption, the number of children who showed consistency was smaller at age 7-8 than at age 5-6. This also suggests the necessity to further explore the reasons for the judgments.

### **pos202.42 Personality correlates of problematic tendencies and links to relational competences in adolescence**

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During the transition from early to mid- adolescence some adolescents' personality characteristics may represent risk factors for their later adjustment or promoting factors for their positive development (Caspi & Roberts, 1990; Tackett, 2006). In particular, in the last years, research has found specific association among some personality profiles and negative behavior or with positive interpersonal experiences (e.g., Asendorpf & Van Aken, 1999; De Clerq et al, 2012, Yu et al, 2014; Xie et al, 2016).

According to those studies, our contribution was aimed to examine: a) preadolescents' personality profiles based on the Big Five personality traits model (McCrae & Costa, 1999); b) the role of personality profiles in predicting problematic behaviors (i.e. externalizing problems), and relational competence (i.e. prosocial behavior, PB, and Quality of Friendship, QoF) three years later; c) the moderating role of gender in the association between personality profiles and indicators of (mal)adjustment.

Participants were 331 boys and 284 girls Italian preadolescents (age M = 12.5) from Genzano Longitudinal Study. They were examined at age 12 (T1) and three years later (T2).

Latent Profile Analysis on personality traits at T1 suggested four different personality profiles: (a) Resilient (high on all traits); (b) Moderate (average on all traits); (c) Vulnerable (low on all traits); and (d) Undercontrolled (low on Conscientiousness and Emotional Stability, high on Extraversion). Multiple group path analysis suggested that Vulnerable profile predicted at T2 lower PB in boys and girls, and higher externalizing problems and QoF only in girls; Undercontrolled profile predicted higher externalizing problems and lower PB in boys and girls, and better QoF in boys.

Our findings suggested that adolescents' personality profiles may affect adolescents' proneness to positive or negative interpersonal behavior, and the quality of their relations with peer over time. Furthermore, those longitudinal associations may be partially different for boys and girls.

### **pos202.43 Openness to new experiences in brazilian students a comparison by sex**

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*Faculty of Philosophy, Sciences and Language of Ribeirão Preto, University of São Paulo, Brazil*

This study aims to compare the socio-emotional competence "openness to new experiences", according to sex, in a sample of Brazilian adolescents. The convenience sample consisted of 165 students, aged 14 to 17 years, from the first year of high school, from two public schools. The instrument used to measure openness to new experiences was the Social and Emotional or Non-cognitive Nationwide Assessment (SENNA), a brazilian instrument that evaluates socioemotional competences in basic education students in the school context, using a five-point Likert scale. This instrument was constructed with the Big Five theory as an organizing model of socioemotional competences. Data collection was done in the classroom. Ethical care was taken to collect data with teenagers. The comparison between the sexes was made through the t test for independent samples. The results showed that there was no difference  $t(163) = 0,190$ ;  $p = 0,850$ ; IC a 95%  $]-0,181; 0,219[$  between Brazilian male and female adolescents regarding openness to new experiences . This result is according with

other studies in the literature that did not find gender differences for the "openness to new experiences" dimension using the same measure, however, is contrary to the findings of other investigations carried out based on theoretical contributions of personality theory. A hypothesis for the absence of differences in relation to the "openness to new experiences" in this group, may be due to the small sample size and the specificity: adolescents who are in the stage of development that stimulates the exploitation of experimentation and the search for the new . Thus, in this group, girls and boys would tend to present similar behavior in the search for the new, and still without gender / sex stereotypes, which is especially relevant in the school context.

### **Cognitive Development**

#### **pos203.1 Effects of self-awareness on transgression in a gift delay task**

Dorothea Ulrike Martin, Jordy Kaufman, Conrad Perry  
*Swinburne University of Technology, Australia*

Self-awareness is a fundamental ontogenetic milestone. From 18-24 months, children begin to recognize the relationship between their reflection in a mirror and their own body. Self-awareness continues to develop during early childhood. While this development is well documented, less is known about the effects of self-awareness on children's behaviour. Here we ask: Would the presence of a mirror affect young children's transgressive (i.e., rule-breaking) behaviour?

Specifically, we explored the role of self-awareness on children's transgressive behaviour in a gift delay task. Thirty- to 42-month-old children ( $n = 40$ ) were informed that they would receive a gift, which was placed on a table in front of them. Children were confronted with an instruction ("don't touch the gift bag") and were given the opportunity to transgress during a five-minute-trial, while the experimenter was leaving the room to, ostensibly, search for the gift bow. All children were seated either in front of a mirror or a non-reflective sheet. We hypothesized that children in the mirror condition would exhibit lower transgression rates and higher transgression latencies than children in the control condition.

Preliminary results suggest that, as predicted, the mirror elicited a level of self-awareness which reduced transgression. Children in the mirror condition were significantly less likely to reach for the gift, compared to the children in the control condition (35% vs 60%,  $p = .04$ ). Interestingly, among those who transgressed, children in the mirror condition did so earlier ( $p = .03$ ) (contrary to our predictions).

The results suggest the presence of a mirror facilitated self-monitoring, such that deviations from a behavioural standard are noticed and corrected immediately. The latency data suggests that transgressions in the presence of a mirror indicate particular poor executive functioning. Follow-up studies will investigate whether enhanced self-awareness can elicit prosocial behaviour.

#### **pos203.2 The relationship with number line and judgement of estimation in young children**

Moe Uragami, Shinichiro Sugimura  
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There are two schemas related to mathematics, counting and global quantity. These schemas begin developing at 4 years of age, and the integration is completed by around 6 years of age. Case & Yukari (1996) refer to this initial central numerical structure as a "mental number line."

Many researchers (e.g. Siegler & Opfer, 2003) have investigated the development of the mental number line using the number-to-position task (NP task), which estimates the numbers on the number line. The mental number line shifts from logarithmic representation to linear representation (e.g. Siegler & Booth, 2004). Recently, Uragami & Sugimura (2015b) have researched not only the development of representation of NP task but also children's judgment of representations using tasks other than NP task, such as the judgment of estimation pattern (JEP) task. The present study investigates the 2-year longitudinal developmental relationship between NP task and JEP task. A group of 33 children (mean age = 4.9 years) were given each task twice. In NP task, the children were presented with a 0-10 number line sheet with 9 target integer numbers (1-9) randomly listed on each sheet. In JEP task, a puppet estimated the number shown on the 0-10 number line. Children looked at the estimation and determined whether the puppet's estimation was correct.

At Time 1, 39% of the children had logarithmic or linear representations on NP task, but their accuracy was around 58% when they judged the estimation pattern of obvious error on JEP task. Yet at Time 2, 97% of the children had representations on NP task, and around 80% children could judge accurately on JEP task.

Therefore, the beginning of the mental number line, in which 2 schemas were integrated, was found to be unstable. However, the mental number line was found to be mostly established by children's experiences.

### **pos203.3 The impact of positive emotions on children's creative thinking**

Līga Roke-Reimate, Malgozata Rascevska  
*University of Latvia, Latvia*

Previous studies mostly point to positive effect of positive emotions on creative thinking measured with different kinds of tasks of creative thinking, though, studies about the topic with children's samples have been relatively rare (Davis, 2009). Recently proposed Broaden-and-build theory explains the mechanisms of cognitive flexibility and openness facilitated by positive emotions (Fredrickson, 1998). Nevertheless, positive emotions need to be regulated in the course of cognitive demands and problems with regulation of positive emotions might affect the outcome.

**Method.** Sample of research consisted of 60 children aged 7 years and 60 children aged 11 years (boys 50%), and their parents; children of each age group were assigned to experimental and control group. The study was carried out in school settings. For the experimental group, the positive affect was induced using a false positive feedback technique in group after doing a cognitive task, whereas the control group received neutral feedback about the results. Manipulation check was done using emotional valence scale designed for the purposes of the study to check the manipulation effect. The creative thinking was measured via "Test for Creative Thinking – Drawing Production" (Urban & Jellen, 2010). Emotion regulation and emotional reactivity of children was measured with Emotion Regulation Checklist – Latvian version filled by parents (Shields & Cicchetti, 1995; 1997; Roke-Reimate & Rascevska, 2017) and Affect Intensity Scale – Latvian version (Eisenberg et al., 1995; Roke-Reimate & Rascevska, 2017).

**Results.** Slight positive impact of positive emotions on creative thinking was found in both age groups. It was also found that emotion regulation and emotional reactivity had different mediating tendencies for the impact of positive affect on creative thinking.

**Conclusions.** The study uncovers the importance of positive affect in creative thinking facilitation for children, and their relationship as a function of age and individual differences in emotional functioning.

### **pos203.4 Developmental trajectories of goal orientations and math skills**

Kaja Mädamürk, Eve Kikas  
*Tallinn University, Estonia*

The study focuses on the developmental trajectories of mastery and performance goal orientations and their relationships with math skills. The sample included 476 students from Grades 7 to 9 (mean age at the beginning of the study 13 years). Goal orientations were assessed with questionnaires and math skills with tests. The number of unanswered math tasks was also included to the analyses to get more detailed data considering the math skills. The tasks were same at all three study points. Latent class analysis and latent transition analysis was used to find developmental trajectories. Five latent groups were found in each grade. The most stable group throughout the years was with high mastery goals, average performance goals and high math skills along with low number of unanswered math tasks. Another relatively stable group of students had high performance goals but low math skill level and, as well, low number of unanswered math tasks. The results indicated that the mastery goals are essential to reach high math skill level. Performance goals may enhance persistence to solve the tasks, but they may not be completely supportive of moderating the solution strategies and correcting wrong answers. Thus, the teachers can support performance goals to keep students working on the tasks, but emphasize mastery goals for moderating the solution strategies.

### **pos203.5 Impact of Sports on Academic Achievement of Adolescent Athletes**

Rayda Anaya-Soto, Mary-Annette Moreno-Torres  
*Carlos Albizu University, Puerto Rico*

**Aims:** In a previous study, we found an association between the actual practice of sports and cognitive processes in 12 to 17-year-old adolescent athletes. Given this relationship, we compared the performance of adolescent athletes and adolescent non-athletes on several measures of academic achievement.

Methods: Four subtests from the Spanish version of the Woodcock-Johnson® III (WJ III), Bateria III Woodcock-Muñoz were used: 1) Reading fluency 2) Reading Passage Comprehension, 3) Math Calculation and 4) Spelling. These subtests were administered to a sample of 172 students, 86 student athletes and 86 non-athletes (94 females), with a mean age of 15.53 (SD=1.15, range 13-17). A quasi-experimental design with two independent groups, adolescent athletes vs adolescent non athletes, was used.

Results: Multivariate analysis of variance revealed significant between group differences on the four subtests, Wilks lambda  $\Lambda=.417$ ,  $F(4,167)=58.313$ ,  $p=.001$ , suggesting a significant effect of sports on academic achievement.

Conclusions: Results stress the need for the development of public policies aimed at the promotion of physical activity as part of the school curriculum. The implementation of public policies that promote the practice of sports may reduce school dropout rates by improving both the development of cognitive abilities and academic achievement.

## **Development of social cognition**

### **pos203.6 Toddlers' Empathic Behavior: The Role Of Emotion Regulation, Language, Maternal Emotional Style**

Veronica Ornaghi, Alessia Agliati, Sabina Gandellini  
*University of Milano-Bicocca, Italy*

During toddlerhood responses to others' distress transform from an overwhelming personal distress reaction to a more other oriented empathic reaction that gives rise to precocious prosocial behaviors (Zahn-Waxler et al., 1992). There also appears to be a transformation from concern for the self to a capability for concern for the other, along with the development of self-other differentiation, perspective taking, and emotion regulation (Knafo et al., 2008). This study aimed to deepen the relation between toddlers' empathic behavior and both internal and social factors, such as emotion regulation, language ability, emotion knowledge and maternal emotion style, all found to play a crucial role in the development of positive social skills in early childhood (Denham, 2007).

Participants were 335 toddlers (156 girls), with a mean age of 28.79 months (SD = 3.55; range: 20-36). They came from middle-class families and were recruited in 34 nursery schools in the north of Italy. Their mothers were asked to fill in a battery of questionnaires assessing their children's empathic-prosocial behavior, emotion regulation, language ability, and their own emotional style. All the children were tested for their emotion knowledge through the Affective Knowledge Task (Denham, 2006).

Results showed significant correlations between toddlers' empathic and prosocial behavior and their emotion regulation ( $r=.40$ ;  $p<.0001$ ), language ability ( $r=.22$ ;  $p<.001$ ), and coaching maternal emotional style ( $r=.17$ ;  $p=.002$ ), when controlling for age and gender. Toddlers' emotion knowledge was found to be positively correlated with emotion regulation and language, and negatively correlated with dismissing maternal style. Stepwise regression analyses revealed that positive emotion regulation is the best indicator of empathic and prosocial behavior in toddlerhood ( $R^2=.20$ ;  $\beta=.37$ ;  $p<.0001$ ).

Our findings suggest the importance of implementing at a very early age emotion-based programs, especially focused on emotion regulation, in order to promote children's empathic and prosocial actions toward others.

### **pos203.7 Understanding internal and external shame in childhood: Associations with theory of mind**

Plousia Misailidi  
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Shame can be either 'internal' –the result of one's perception that the self is inadequate or bad– or external – the result of one's belief that others judge the self negatively. This distinction is important in order to evaluate the role of theory of mind in young children's understanding of this emotion. We report the results of a study that aimed to: (i) examine children's understanding of internal and external shame, and (ii) test associations between each aspect of the shame concept and children's ability to make inferences about others' mental states. Ninety six 4- to 6-year-old children were presented with eight vignettes, depicting situations that could evoke internal or external shame in the story-protagonist. Children were asked to predict the likelihood that the protagonist would experience shame. A battery of first- and second-order theory of mind tasks was also administered to children. Age had a significant effect on children's performance on the shame task. Analyses also indicated that external, but not internal, shame understanding was associated with children's ability to attribute second-order mental states to others. No other associations were significant. Implications of these findings for future research and for interventions aiming to foster children's understanding of self-conscious emotions are discussed.

### **pos203.8 The relation between the constructivist theory of mind and trait anxiety**

Melania Moldovan, Laura Visu-Petra  
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Interpretative bias is a core process in anxiety disorders (e.g., Mathews & Mackintosh, 1988), but it is still unclear how exactly interpretative bias develops. Until now, literature suggests the acquisition model as the

best explanation, which considers the bias as a cognitive element acquired due to cognitive, emotional and social development. In this paper we aimed to investigate for the first time the relation between interpretative bias and the constructivist theory of mind, a socio-cognitive ability proposed as necessary in the development of anxiety related biases (Field & Lester, 2010). A sample of 88 children, aged 10-12 years, completed an anxiety scale and was presented with two-part vignettes. The first one depicted hypothetical ambiguous scenarios, intended to measure interpretative bias, and the second part, adjoined to it, was the Pillow's (1991) modified task, intended to measure the constructivist theory of mind. Parents also completed the anxiety scale, as well as a theory of mind inventory. Theory of mind was negatively associated with both interpretative biases and anxiety symptoms, meaning that the high-anxious children from this sample have theory of mind deficits, contrary to our hypothesis. These results suggest that theory of mind may not be directly involved in the bias development. We know that children are very susceptible to learning a response to an ambiguous situation from their parents without actually adopting a critical stance (e.g., Lester, Field, Oliver & Cartwright-Hatton, 2009). Future studies should investigate which abilities make this learning possible, and whether constructivist theory of mind is a buffer later in development.

Keywords: interpretative bias; acquisition model; constructivist theory of mind

### **pos203.9 Emotional Intelligence in Elderly People: Effects on Psychological Well-being Through Life Satisfaction**

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Emotional intelligence plays an essential role in aging, a process during which important changes occur in different areas of development. The main goal of this study was to examine the mediating role of life satisfaction in the relationship between emotional intelligence and psychological well-being. Participants were 215 older adults (60.15% women) with a mean age of 69.56 (SD = 6.42), without cognitive impairment. Data on emotional intelligence, life satisfaction, and psychological well-being were obtained, using the TMMS-24, the SWLS, and Ryff's psychological well-being scales, respectively. Structural equation modelling showed that emotional intelligence exerted an influence on psychological well-being both directly and indirectly through life satisfaction. These findings are discussed considering the important role of emotional intelligence on promoting positive mental health in elderly people.

## Developmental methods

### pos203.10 Recurrence Quantification Analysis of infant Eye Tracking Data

David Lopez Perez, Alicja Radkowska, Alicja Niedźwiecka, Joanna Rączaszek-Leonardi, Przemysław Tomalski  
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Recurrent Quantification Analysis (RQA) is a technique that has increased in popularity over the past years. However, little attention has been paid in the analysis, using RQA, of the temporal dynamics of eye tracking (ET) data and the available studies have focused uniquely on adult populations (Anderson et al., 2013, Wu et al., 2014). Here, we explore for the first time the use of the RQA measures to characterise the temporal structures of fixation sequences of infant ET data.

Data from 110 infants ( $208.11 \pm 20.035$  days) was analysed in this study. The stimuli consisted of ten circular arrays of 6 coloured objects from different categories on a white background. Five objects, common in the ten arrays, were varied exemplars for the categories of shoes, cars, mobiles, birds and clocks. The remaining object was selected from the categories of chairs or faces (four female and one male). All the faces had neutral expressions.

Significant differences were found in the RQA parameters between the chair and face arrays (Figure 1a). Heat maps computed by back projecting the RQA parameters into the imaging showed that when faces are not present, infants tend to explore more the scene, otherwise, faces attract their attention and they explore less the image (Figure 1b-c).

This is, to our knowledge, the first time RQA has been applied in infant ET data. These results are in good agreement with the literature that showed that during the first year of life infants extract lots of information from faces and therefore they focus their attention longer at them (e.g., Johnson et al., 1991, Frank et al. 2008). Thus, we believe that RQA presents itself as a powerful tool that may shed light about the spatial and temporal dynamics of ET data in infancy research.

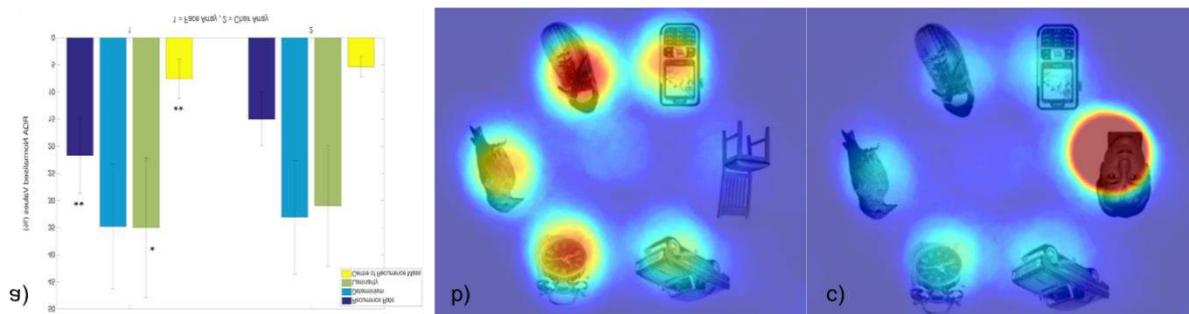


Figure 1. Mean RQA parameters for the face and chair arrays (a). Significant differences were found between both types of arrays (\*\*  $p < 0.01$  and \*  $p < 0.05$ ). Examples of the heat maps were obtained by back projecting the recurrence rate values into the i

### pos203.11 Eliciting and using expert information in latent growth curve models

Duco Veen, Nancy van Loey, Anneloes van Baar, Frank Wijnen, Rens van de Schoot  
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When data are sparse and latent growth curve models with distal (long term) outcomes are the model of choice for particular problems, the limited data cannot be analyzed with conventional statistical techniques (i.e., maximum likelihood estimation). These models have many parameters that need to be estimated and sufficient power and precision cannot be attained with the sparse data. A possible solution lies in Bayesian statistics. With Bayesian statistics background knowledge about the parameters in a model can be incorporated into the statistical analyses, via the so-called 'prior distribution'. By eliciting beliefs from experts and using these beliefs to construct a statistical prior distribution, the data can be analyzed and research questions can be answered. We develop methods to assist experts in specifying their background knowledge of the parameters in complicated models and translating this knowledge into statistical distributions. The proposed methodology will be applied to real life examples concerning: 1: Parental stress reactions to severe burn

injuries of their young children (<1.5 years) and the long term effects on health related quality of life. 2: The intensive study of babies with a family risk of dyslexia who have been found to display phonological difficulties at an early age (<1 year), possibly related to problems in learning to read and write several years later. 3: Long term outcomes of infants of drug-dependent mothers who used cocaine, heroin or methadone during pregnancy.

**pos203.12 Benefits of musical training in children: preliminary results.**

*Jimena Bonilla-Carvajal, Elena Pérez-Hernández, Magdalena Méndez-López, M.Carmen Juan  
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Previous research has shown that continued musical training (MT) has positively influenced socioemotional, cognitive and academic development in childhood, compared to the absence of it. Method: We recruited 142 participants (66 girls), 73 no-MT and 69 with MT into three age groups according to musical training: Level 1 (6 and 7 years old, n=44), level 2 (8 and 9 years old, n=49) and level 3 (10 years old, n=49). We assessed social-emotional abilities, (BASC-Parent), attention and memory abilities, (Digit, Backwards Digits and Memory Location, subtests of TOMAL), the IQ (RIST) and spatial memory using the Clinical Memory Scale. In addition, we collected the annual grades of Math, Spanish language, English as a Second Language, Music and Physical Activity. Results: The variance is homogeneous among the participants according to IQ,  $F(5,136)=1.415$   $p=.223$ . The ANOVA (Table 1) showed main effects according to the MT and the age and interaction on some BASC-P scales, some cognitive subtest and school grades, with advantage for participants with MT. Conclusions: The musical training influences the behavioral characteristics of leadership and adaptive skills, cognitive ability in verbal reasoning, everyday life spatial memory and visuospatial memory and the grades of all subjects. Together MT and age decreased depression symptoms and internalizing problems. Further, the increase of age improved visuospatial memory and Math, Music and English grades. MT may contribute to the development of primary school children.

Scales of BASC-P	ME			Age			ME * Age		
	F	P	$\eta^2$	F	p	$\eta^2$	F	p	$\eta^2$
Depression	2,278	,134	,016	1,183	,309	,017	3,088	,049	,043
Anxiety	,456	,501	,003	,152	,859	,002	2,144	,121	,031
Internalizing Problems	2,708	,102	,020	,967	,383	,014	3,617	,029	,051
Adaptability	2,747	,100	,020	,996	,372	,014	,356	,701	,005
Social Skills	1,731	,190	,013	,633	,533	,009	1,379	,255	,020
Leadership	8,870	,003	,061	,808	,448	,012	1,174	,312	,017
Adaptive Skills	6,352	,013	,045	1,272	,283	,018	1,149	,320	,017
<b>Cognitive Test</b>									
Verbal reasoning (Guess what – RIST)	8,758	,004	,060	1,735	,180	,025	1,420	,245	,020
Non—verbal reasoning (Odd-Item out – RIST)	3,486	,064	,025	,727	,485	,011	,956	,387	,014
IQ (RIST index)	1,015	,315	,007	,188	,829	,003	,182	,834	,003
Digits Forward (TOMAL)	,256	,614	,002	1,304	,275	,019	1,361	,260	,020
Digits Backward (TOMAL)	,830	,364	,006	10,138	,000	,130	1,096	,337	,016
Memory Location(TOMAL)	,256	,614	,002	11,350	,000	,143	3,739	,026	,052
Clinical Memory Scale (CMS)	5,663	,019	,040	,820	,443	,012	1,041	,356	,015
<b>School grades</b>									
Math	30,541	,000	,183	3,714	,027	,052	5,447	,005	,074
Spanish Language	27,429	,000	,168	4,718	,010	,065	2,702	,071	,038
Music	34,915	,000	,204	,466	,629	,007	4,940	,008	,068
English as Second Language	25,986	,000	,160	4,953	,008	,068	6,022	,003	,081
Physical Activity	19,077	,000	,123	1,063	,348	,015	,291	,748	,004

*p*<.05

Table 1: Analysis of variance, main effect and interaction of musical training and age

## **Developmental psychopathology and disabilities**

### **pos203.13 Gait patterns of the elderly showing a tendency toward depression**

Shin Murata

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The incidence of falls has been reported to be high among the elderly in a depressed state, indicating that such a state is a risk factor for falls. This study aimed to clarify the gait patterns of the elderly showing a tendency toward depression, using a sheet-type gait analysis device. On comparison of the gait patterns of 17 (depression group) and 68 (non-depression group) elderly individuals, who met 2 or more criteria of the 5-item Geriatric Depression Scale, the former showed a significantly lower gait speed with markedly shorter strides and/or step lengths. Furthermore, the durations of the stance phase and double-support were significantly longer in the depression compared with non-depression groups. On the other hand, there were no significant differences between them in the cadence, step width, foot or gait angle, duration of the swing phase, or fluctuations in the center of the body mass. In short, the gait of the elderly showing a tendency toward depression was characterized by decreases in the stride and/or step length influencing the gait speed, as well as the prolongation of the stance phase and double support. However, neither a significant decrease in the standing balance ability nor increase in the step width or gait angle to compensate for instability, which is characteristic of the elderly with an increased risk of falls, was observed. Based on this, the increased risk of falls in the elderly showing a tendency toward depression may be associated with declines in physical fitness due to reduced attentiveness or inactivity, rather than such a tendency, as the latter itself is unlikely to lead to poor standing balance.

### **pos203.14 Parents' perceptions of grandparenthood**

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The present study was designed to examine how parents with typically developing and parents with special needs children value the involvement of the grandparent who is more actively engaged in the family's life. More specifically, the aim of the study was to assess how parents evaluate the quality of the child-grandparent relation, how involved the grandparent is in the child's life and how much help and support the family receives from the grandparent. The participants of this study are parents of nursery and school aged typical developing children and parents of children with disabilities who attend special schools. Parents' demographic information, their perceptions regarding the extent of grandparents' involvement and the kind of activities they share with their grandchild regarding parents' opinion were accessed by a structured questionnaire. A modified version of the Grandparent Support Scale (Baranowsky & Schilmoeller, 1999) was adjusted to explore the types of support provided by grandparents in families with children with and without special educational needs. The findings of the study suggest that grandparents play an important role in the lives of their grandchildren and their families. Maternal mothers are more frequently involved and form a close relationship with their grandchildren. Grandparents form a strong relation with their TD and the SN grandchildren. However, they appear to have less contact and less involvement with their SN grandchildren, possibly due to their communication difficulties and physical disabilities, but offer help and support to the parents. The findings will be discussed in relation of the need to consider grandparents as part of the family support system, who provide childcare, emotional support and encouragement for parents of children with and without special educational needs.

**pos203.15 Video game content associated with prosocial behavior, socioemotional concerns and compulsive gaming**

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In light of increasingly more technologically sophisticated contemporary video games, which are also more diverse in regard to combinations of violent, neutral or prosocial content, the aim of the present study was to examine the type of content in relation to young people's behavior and socioemotional concerns. Participating in the study were 339 adolescents and young adults, ages from 12 to 29 years old, from various regions of Latvia. They answered questions about the frequency and time spent playing video games, the names of the video games played, items based upon the Compulsive Internet Use Scale, the Trauma Symptom Inventory, and Strength and Difficulties Questionnaire. Data was collected during the autumn of 2016. Video games were coded in categories of violent, neutral, prosocial, or a combination of content. Results showed that young people playing primarily violent video games indicate higher ratings of sexual concerns, those playing primarily neutral or prosocial video games report higher prosocial behavior ratings. Associations were found between compulsive video gaming, dissociation and sexual concerns. Regression analysis shows that the association between frequency of playing video games and compulsive video gaming is partially mediated by the content of the video games. Although most frequently research on video gaming is focused upon the negative sequelae of violent video game playing, this study has been with the intent to present a more balanced view of the associations and differences in regard to varying video game content – violent, neutral, prosocial or in combination – and how these results may benefit parents and educators concerned with the effects of youth gaming.

## **Education, Schooling, Child care**

### **pos203.16 Predicting reading achievement from reading self-concept, leisure time reading, and gender**

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There is considerable research evidence showing that reading self-concept is an influential non-cognitive predictor of reading achievement. However, it is not clear whether different reading self-concept components are differently related to reading achievement. Also, not much is known about the processes through which reading self-concept influences reading achievement and factors that moderate this relationship. The aim of this study was to examine the contribution of two components of reading self-concept (reading attitudes and self-perceived reading competence) to variance in three reading achievement measures (word decoding speed, reading comprehension, and word spelling accuracy), and to test possible mediating role of leisure time reading and moderating role of child's gender in the relationship between reading self-concept and reading achievement. Participants were Croatian elementary school children in second and third grade (N = 724, 48.1% girls). Data were collected in the screening phase of a computerized training project aimed at improving literacy skills of poor readers. Results showed that self-perceived reading competence, but not reading attitudes, explained a significant proportion of variance in all reading achievement measures. Leisure time reading did not mediate any of the relationships between self-perceived reading competence and reading achievement. However, gender moderated the relationship between self-perceived reading competence and word decoding speed, as well as the relationship between self-perceived reading competence and word spelling accuracy. Both relationships were stronger among girls than among boys. Gender also independently, although weakly, predicted reading achievement, with girls scoring higher than boys on all reading achievement measures. These gender effects were partly mediated by self-perceived reading competence. Overall, the results support reading self-concept theories but also indicate that different reading self-concept components relate differently to reading achievement and that reading self-concept is more important for girls' than for boys' reading achievement.

### **pos203.17 The role of basic functions training in developmental dyslexia therapy.**

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**Aim.** Basic functions training is a part of The Warnke Method - the purpose of which is to improve central auditory processing, visual processing, hand-eye coordination and auditory-motor coordination. Method is directed to the children and adults with learning difficulties. The aim of the following research is to specify the role of basic functions training and thus the efficiency of this method in developmental dyslexia therapy in Polish children.

**Methods.** The research group constituted of 38 pupils from the primary schools in northern and central Poland. A total of 38 individuals had been diagnosed with developmental dyslexia. Participants were subjected to preliminary diagnosis, including tests with Brain-Boy Universal Professional for basic functions and Bateria Metod Diagnozy Przyczyn Niepowodzeń Szkolnych 10/12, which verifies school skills. Then each child has 20 training sessions using Brain-Boy Universal, contains a set of training programs similar to the games, that enhance the basic functions. Trainings were held every week. After completion of the 20 therapy sessions, children were subjected to final diagnosis, using the same tools as in preliminary diagnosis.

**Results.** Results shows statistically significant differences between the preliminary and the final diagnosis. Data suggest improvement in most of the basic functions, all of tested auditory-language functions, as well as the skills of reading aloud. Children with dyslexia after 20 trainings using the Warnke Method demonstrates also better speed and correction of decoding the meaningless text. They were also found to make less spelling errors.

**Conclusions.** We can with high probability considered the basic functions training as effective method in dyslexia therapy in children. A special value, obtained as a result of the therapy is the improvement in specific academic skills, which highlights the broad practical possibilities and opportunities to improve future school achievement.

### **pos203.18 Cognitive Predictors of Mathematical School Achievement: A Three Year Longitudinal Study**

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Numerous studies demonstrate that cognitive abilities such as intelligence, visuo-spatial memory, information processing speed and number sense predict academic achievement at school age. At the same time, the results of longitudinal studies indicate that the most important factor affecting the increase in the mean cognitive test score with age is schooling. Thus, the differences in educational systems might mediate the relationship of cognitive abilities and academic achievement in the course of development.

The current three-year study focuses on the longitudinal analysis of the causal relationships between non-verbal intelligence, number sense, visual spatial memory, information processing speed and Math achievement in Russian primary school students.

The sample included 133 Russian students (45.1% boys) from one public secondary school. The testing took place three times during primary school age with one-year interval. The mean age of students at first testing in Grade 2 was 8.82+0.30, at second testing in Grade 3 – 9.82+0.30, and at third testing in Grade 4 – 10.82+0.30. Cross-lagged structural equation modeling was used for the analysis of the developmental structure of causal relationships between cognitive abilities and Math achievement measured three times at primary school age (MPlus).

Three competing models of the relationship of cognitive abilities and mathematic achievement were sequentially compared. According to cross-lagged structural equation modeling, a reciprocal model best described the empirical data suggesting that cognitive abilities predicts the subsequent success in learning mathematics, and on the contrary, success in learning mathematics predicts subsequent test scores for cognitive abilities. The analysis also showed that among the analyzed variables the mathematics achievement as measured by teachers' assessments was most stable at primary school age.

The results are discussed in terms of the similarities and differences of national educational systems.

### **pos203.19 Early adolescents' perception of their math learning and predictors of math achievement**

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In the study we examined early adolescent students' perceptions of motivational goals, attitudes and school anxiety in mathematics as well as students' perception of their teacher's support, regulation of students' behavior and autonomy granting in mathematics. In addition, we examined a predictive power of MATS model when explaining students' achievement in mathematics. A mixed-effects model, which is flexible and efficient analytic framework for repeated measures data and for a nested or hierarchical data structures, was applied. The sample consisted of Slovenian students (N = 489; 50.9% girls) in Grades 5, 6 and 7. They responded to questionnaires about their academic motivation (PALS, Midgley et al., 2000), attitudes towards mathematics (items used in TIMSS 2011), the three scales measuring math teacher's relationship with students (Puklek, 2001) and school anxiety (SAI, García-Fernández et al., 2011). In order to gain statistical power, we applied the measures at two time points, in the middle and at the end of the school year. Final grades in mathematics were used as indicators of students' academic achievement. The results showed that academic motivation, positive attitudes towards mathematics, regulation of students' behavior and autonomy granting decreased over grades and a school year while teacher's support and cognitive aspect of school anxiety in mathematics did not change significantly according to grade level and time point in a school year. Accounting for grade or time-point dependency of data, the MATS model showed that students' mastery- and performance-avoidance goal orientation and math teacher's support predicted math achievement positively while teacher's regulation of students' behavior, autonomy granting and school anxiety in mathematics were negative predictors (Table 1). The results will be discussed in terms of importance of students' motivation, attitudes, and anxiety about mathematics as well as teacher's behaviors which might help to reduce negative feelings and attitudes about learning mathematics.

	$\beta$	$p$
<b>Fixed effect</b>		
Mastery goal orientation	.255	<.001
Performance-approach goal orientation	.036	.371
Performance-avoidance goal orientation	.113	.006
Teacher's support	.240	<.001
Regulation of students' behavior	-.164	.010
Autonomy granting	-.287	<.001
Liking of mathematics	.076	.177
Positive evaluation of mathematics	.060	.421
School anxiety	-.340	<.001
<b>Random effect</b>		
$N_{\text{grades}}$	3	
$N_{\text{timepoints}}$	2	

Table 1. A mixed-effects MATS model predicting students' achievement in mathematics.

## **Family, parenting, parent-child relationships**

### **pos203.20 Gender as a moderator of the relationship between sexism and parental attitudes**

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**Aim:** The aim of the study was the analysis of the relationship between parental ambivalent sexism and parental attitudes within parental dyads. The role of the gender of both parents and children was taken into account in analyses.

**Methods:** 294 couples of parents of 5-year-olds (153 girls, 141 boys) participated. The Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996) was used to measure levels of benevolent and hostile sexism, and the Parental Attitudes Scale (SPR; Plopa, 2008) was used to assess parental attitudes.

**Results:** Gender of the parent proved to explain the level of parental sexism and a profile of parental attitudes regardless of the gender of a child: 1) fathers exhibited higher levels of hostile sexism in comparison to mothers, especially highly educated mothers who exhibited the lowest levels of hostile sexism and 2) mothers and fathers scored highest for inconsequent and demanding attitudes, and lowest for overprotective and autonomy attitudes. We found moderating effect of a child's and a parent's gender for relationship between parents' sexism and parental attitudes towards own child. Among fathers of daughters, hostile sexism strengthened the overprotective attitude, while levels of both benevolent and hostile sexism as well as education influenced the autonomy attitude. For fathers of sons, the inconsequence attitude increased under the influence of both hostile and benevolent sexism. In the case of mothers of sons, the intensity of benevolent sexism was negatively related to overprotective and demanding attitudes. Also, the more educated the mothers of sons, the more demanding they were.

**Conclusion:** The gender of both - the parents and the child proved to moderate the relationship between parental sexism and parental attitudes. The role of sexism in shaping the attitude of mothers towards sons is the most prominent - it seems that it guards the 'manliness' of young boys.

### **pos203.21 Effects of sense making and benefit finding in parenting children with autism**

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Several studies suggested two aspects involve in finding meaning in parenting a child with autism spectrum disorder (ASD), benefit finding and sense making, play important role in parental adjustment (Samios et al., 2008, 2009; Yamane, 2014, 2015). Although Janoff-Bulman and Frantz (1997) suggested that successful adaptation to adversity involves first trying to make sense of the situation, and then finding some life-specific benefit in the experience, little is known in the case of parenting children with ASD. Hence, the present study utilized longitudinal data to investigate whether sense making has short-term and benefit finding has long-term stress-buffering effects in parental adaption to caring for a child with ASD. Online questionnaire surveys were conducted with 212 Japanese parents (65% female) of children with ASD, aged 2-18 years, at Time 1 (T1), 6 months (T2) and 1 year later (T3). The questionnaire assessed sense making, benefit finding, parenting stressors and stress response. Hierarchical regression analyses showed that the interaction between sense making and stressors was a significant predictor of stress response at T2, controlling for stress response, stressors and demographic variables at T1. Benefit finding, interactions between benefit finding and stressors, and between sense making and stressors, were significant predictors of stress response at T3. Simple-slope analyses indicated that high sense making decreased the stress response at T2 among parents reporting low experience and high undesirability of stressors. For parents who reported low experience of stressors, high sense making decreased stress response at T3, while it increased in the case of parents with high experience of stressors. In contrast, high benefit finding decreased stress response at T3 for parents with high experience of stressors. The present study results suggest that sense making and benefit finding play different roles in parental adaption; sense making has short-term and benefit finding has long-term stress-buffering effects.

**pos203.22 Cultural differences in mother-child interaction among Chinese, Chinese immigrant and English families**

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**Aim:** The current study used both questionnaire and behavioural observation to assess cultural differences in parenting style and mother-child interaction dynamics among Chinese, first-generation Chinese immigrant, and English mother-child dyads.

**Methods:** Eighty nine (30 Chinese in Taiwan, 30 Chinese immigrants in the U.K., and 29 non-immigrant white English) mother-child dyads (Mean child age = 6.08, SD = 0.82) were observed for a 10 minutes Etch-A-Sketch task in participants' home, and the mothers filled out the Parenting Style and Dimension Questionnaire (PSDQ, Wu et al., 2002) to report their parenting styles. The author video-recorded and coded the mother-child interactions with the Parent-Child Interaction System (PARCHISY, Deater-Deckard, 2000; Deater-Deckard, Pylas & Petrill, 1997).

**Results:** A one-way MANCOVA, with child age as a covariate, was conducted to examine the effects of cultural group on the observed mother-child interaction dynamics in the Etch-A-Sketch task (dyadic reciprocity, dyadic conflicts, and dyadic cooperation) and on the parenting dimensions (authoritative, authoritarian and Chinese-specific parenting). The MANCOVA revealed significant effect of cultural group on the outcome variables, particularly on Chinese-specific parenting ( $F(2, 85) = 6.693, p < .01$ ), dyadic reciprocity ( $F(2, 85) = 4.517, p < .05$ ) and dyadic cooperation ( $F(2, 85) = 5.665, p < .01$ ). Correlational analyses also revealed different patterns of associations between parenting dimensions and dyadic interaction dynamics in each cultural group (See Table 1).

**Conclusions:** The current research revealed novel findings in cultural differences in both reported parenting, observed mother-child interaction dynamics, as well as in the different patterns of associations between parenting dimensions and parent-child interaction dynamics. As cultural-specific parenting values and behaviours can affect parent-child interaction dynamics and influence children's social development differently in each cultural group, the findings underscored the importance of taking cultural factors into account to understand children's development holistically.

	Authoritative Parenting	Authoritarian Parenting	Chinese Parenting
<b>Dyadic reciprocity</b>			
Chinese (Taiwan)	-.057	-.034	-.091
Chinese immigrant in the UK	.398*	.078	-.537**
Non-immigrant white English	-.315	-.088	-.153
<b>Dyadic Conflicts</b>			
Chinese (Taiwan)	.239	.245	-.014
Chinese immigrant in the UK	-.228	.072	.145
Non-immigrant white English	.255	.197	.451*
<b>Dyadic cooperation</b>			
Chinese (Taiwan)	.154	-.252	-.011
Chinese immigrant in the UK	.404*	-.001	-.439*
Non-immigrant white English	-.406*	.004	-.201

\* $p < .05$ , \*\*  $p < .01$  (2-tailed)

*Table 1. Partial correlations between reported parenting dimensions and observed mother-child interaction dynamics across three cultural groups (controlling for the effect of child age)*

**pos203.23 Factors related to parenting in Japan, China, and Korea (1): physical aspects**

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**Aims:** Our group has developed a new psychological scale to assess the characteristic development of preschoolers in social, verbal, and physical aspects in East Asian countries (Aoyagi, et al., 2012). This study

examined parenting in three countries, from the perspective of effects of recognizing development and anxiety on parenting attitudes, by examining developmental anxiety and measures to deal with such anxiety.

Methods: Participants were 1,179 Japanese, 1,304 Chinese, and 1,349 Korean parents having three- to six-year-old children. They were requested to rate “anxiety about development (having=1/not having=0)” and “measures to deal with anxiety (taking=1/not taking=0)” at each age, through which parenting attitudes were measured. In this study, Fine motor skills (Fms: 13 items) and Gross motor skills (Gms: 14 items), which are sub-domains of the physical aspect, were also examined.

Results and Discussion: Five percent of participants responded, “having anxiety”. There were very few such responses in Japan (0-2) at every age. In China, at three years of age anxiety was shown for 6 items, which was half of all items which decreased with advancing age to 1-4 items. In Korea, Fms showed a similar tendency to China, whereas Gms remained high (8-10) regardless of age.

Five percent of participants responded, “taking measures”. Fms had a score of 6 in Japan at three years of age and decreased to one at 4-6 years of age. Gms was 4 at five years of age. It is suggested that certain measures might be taken to cope with new tasks depending on the age (e.g. being able to ride a bike without using training wheels). In China, measures were taken to deal with all the items in two sub-domains at three years of age, which decreased with advancing age. In Korea, measures were taken for every item at every age.

### **pos203.24 Adolescents’ sensitivity to young children’s cues of physical and cognitive immaturity**

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Are adolescents more responsive to young children’s cues of physical immaturity (e.g., “baby schema”) or to young children’s cues of cognitive immaturity (e.g., a child overestimating own performance, or verbalizing animistic, prelogical thinking), and, when does this sensitivity start (e.g., younger or older adolescence)? To answer these questions we tested 167 adolescents (78 10- to 13-year olds, and 89 14- to 18-year olds) with two versions of a questionnaire, one including only pairs of children’s face photos (one morphing the appearance of a 4- to 7-year old child vs. the other morphing the appearance of an 8- to 10-year old child), and another version including both children’s faces and pairs of vignettes depicting a child’s thought or reasoning, consistently matched with the immaturity of children’s faces (i.e., an immature vignette with a 4- to 7-year old child’s face photo, and a mature vignette with a 8- to 10-year old child’s face photo). For the latter version, we used two types of vignettes: one depicting immature vs. mature forms of “magical” or “supernatural” thinking about natural phenomena (e.g., “Sun’s not out today because it is mad” vs. “Sun’s not out today because clouds cover it”), and another depicting immature vs. mature forms of more “regular” or “natural” thinking (e.g., “I can recall the 20 cards!” vs. “I can recall 6 or 7 cards”). Results showed first that cognitive cues were more powerful than physical cues for adolescents’ appraisal of young children’s immaturity status, and, second, that positive affect toward young children starts during older, but not younger, adolescence. Results are discussed in terms of possible evolved mechanisms to foster survival and child-parent relationships in infants and young children.

### **pos203.25 Cognitive representations of children: difference between referred and non-referred mothers**

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Child maltreatment constitutes an important social problem with serious consequences for child’s development. There are several factors that determine this phenomenon, some still rather unexplored. This work aims to increase the knowledge in this area, using an innovative approach, namely the examination of the cognitive representations that mothers have about children, adopting a multidimensional approach of person representations. We also intend to compare the representations of mothers referred to child protection services and mothers not referred in those services.

To achieve these goals, two studies were conducted. In the first study we collected 100 attributes that were then evaluated by 99 mothers regarding their respective valence and frequency of occurrence in a child. In the second study, we asked 35 referred and 35 non-referred mothers to perform a grouping task of 90 attributes about children.

A multidimensional scaling analysis allowed to represent in space how referred and non-referred mothers represent children. The results replicated the dimensions typically obtained in the literature, namely intellectual and social dimensions, in their positive and negative poles. Furthermore, results also indicate that referred mothers, compared to non-referred ones, seem to have a simpler cognitive representation of the child, differentiating less the attributes in the positive pole. Since these representations can influence how mothers interact with their children, and beyond the theoretical potential that this line of research may present, it can also frame intervention with abusive mothers.

### **pos203.26 The relation of child's characteristics and parent-child interactions with children's school adjustment**

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Based on the theoretical assumptions of family-school relationships model (Ryan & Adams, 1995, 2005), the aim of this study was to explore how dimensions of parenting, parental involvement in school and at home and child's individual characteristics relate to children's school adjustment. Data was collected as a part of a larger research project involving 1024 children (508 girls) aged 11 to 16 years and their parents. Children completed a questionnaire assessing their self-esteem, social competence, perception of relations among students and relations between students and teachers in their class, and grade point average (GPA). Parents completed a questionnaire assessing their involvement in their child's schooling at home and in school and dimensions of parenting (positive parenting, inconsistent discipline, and parental supervision). The results show that positive parenting is positively related to parental involvement at home and in school and child's self-esteem. Parental insufficient supervision is negatively associated with parental involvement at home and in school and child's social competence. Parental involvement at home is positively related to child's self-esteem and the perception of relations among students. Parental involvement in school is positively related to child's self-esteem, social competence, perception of relations among students, and GPA. Children with higher self-esteem and social competence also have higher GPA and perceive relations among students and relations between students and teachers in their class positively. Dimensions of parenting have only indirect effects on children's school adjustment via parental involvement in school and child's individual characteristics. Parental involvement in school has both direct and indirect, via child's individual characteristics, effects on children's school adjustment. The findings support the importance of parenting and school-focused parent-child interactions for children's school adjustment.

### **pos203.27 Comparison of interactions mother-preterm infant and mother-term infant in Face-to-Face Still-Face paradigm**

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This study compared the interactive behaviors of 20 dyads mother-preterm infants and 20 full-term infants which attended a service to monitor the baby development during the first year of life in a Brazilian public university issued during Face-to-Face Still-Face (FFSF). Premature infants were between five to six months old and term infants were between three and four months old, ensuring the corrected age of preterm infants. Face-to-Face Still-Face (FFSF) predicts the observation of the interactive behavior of the dyad for nine minutes, in three intervals of three minutes each. In the first and third intervals, the mother interacts with the baby as usual, and in the second, she keeps eye contact, but does not interact. The categories of interactive behaviors of the baby were: positive social orientation, negative expression and regulation and, for the mother, positive social orientation and negative expression. No significant differences were observed in the behaviors emitted by the mothers. Term infants had significantly more regulation behaviors during episode one of FFSF and also exhibited more negative expression behaviors in the third episode, which may suggest difficulties in resuming the interaction. Such data contradict other studies which relate such problems to preterm infants. The results suggest that, for this sample, prematurity was not a variable of the infant which influenced the interactions established with the mother during FFSF. However, corrected age was considered, which implies a longer

interaction time of preterm infants with their mothers when compared to term infants' dyads. It is suggested carrying out further studies which consider the chronological age of preterm infants. The descriptions of these behaviors may help in the elaboration of interventions to promote more efficient and healthy interactions between the dyads.

### **pos203.28 Parental psychosocial functioning and Parent-child sleep interactions in toddlerhood**

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**Background:** The regulation of sleep-wake states represents one of the most challenging task occurring in parent-child relationship. Bedtimes routines, a range of parenting practices and parent-child interactions serve to encourage or interfere with a child's capacity for sleep regulation. Surprisingly little research has focused on these relationships during toddlerhood. While mothers' role in toddlers' bedtime routines has been widely described in literature (Mindell, Telofski, Wiegand, Kurtz, 2009; Jian & Teti, 2016) the involvement of fathers is not so often taken into account. The current study was designed to advance understanding of the influence of the "immediate context" on sleep bedtime routines in toddlers aging from 18 to 36 months, considering both mothers' and fathers' contribution. Specifically, the aims of the study were to explore the relationships among child emotion regulation, parenting stress and perceived social support by both parents and to integrate a novel combination of aforementioned dimensions into a predictive model of parent-child sleep interactions. **Method:** 40 Italian intact two-parent families participated (18 boys) in this study. Parents completed Emotion Regulation Checklist (Shields & Cicchetti, 1997), Parent-Child Sleep Interaction Scale (PSIS, Alfano et al., 2013), Parent-Stress Index-Short Form (PSI-SF; Abidin, 1995), Social Provisions Scale (SPS, Cutrona & Russell, 1987). **Results:** As expected, the results confirmed that child emotion lability and parenting stress' dimensions were significantly positively correlated with PSIS Total and Sleep Conflict scores. Furthermore, the results of the regression model showed that child emotion lability reported by the mothers predicted variance PSIS Total of both parents namely mothers ( $\beta = .76, p < .001$ ) and fathers ( $\beta = .68, p < .001$ ), even when controlling for the effect of parenting stress dimensions. **Conclusion:** the findings provide further support for the suggestion that the family context can play a meaningful role in young children's developing sleep patterns

### **pos203.29 Parenting Style and Physical Punishment as Predictors of Gender and Religious Attitudes**

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The aim of our study was to explore the associations between frequency of experienced physical punishment and perceived parenting behaviors during childhood and the self-reported conservative attitudes during late adolescence. We investigated whether the frequency of physical punishment and the parenting behaviors participants experienced predict their current gender role attitudes and fundamentalist religious orientation. Ninety-five undergraduate students (80% female; Mage = 20.26) from a university in Northeastern United States participated in the study. They reported on parenting styles by responding to Child Rearing Questionnaire (Paterson & Sanson, 1999). The participants also reported on the frequency of their experience of physical punishment. Lastly, they reported on their current gender role attitudes (Attitudes toward Women Scale; Spence & Helmreich, 1978) and fundamentalist religious orientation (items adapted from Ercan & Sakalli-Ugurlu, 2009).

Two regression models were run to predict participants' gender role attitudes and fundamentalist religious orientation, with (1) frequency of experienced physical punishment and (2) maternal obedience-demanding parenting as predictors, controlling for (1) sex and (2) sex and perceived religious similarity with mother, respectively. Both models were significant. Results for the first model indicated that mother's obedience-demanding significantly predicted gender role attitudes (see Table 1). Maternal obedience-demanding was associated with more traditional gender role attitudes. The results for the second model indicated that both physical punishment and maternal obedience-demanding were significant predictors of fundamentalist

religious orientation (see Table 1). Maternal obedience-demanding and receiving physical punishment were associated with higher scores of fundamental religious orientation. Our findings were consistent with the literature in demonstrating that maternal obedience-demanding is associated with more traditional gender role attitudes. Our findings also indicated that maternal obedience-demanding and the experience of physical punishment were unique significant predictors of more fundamentalist religious attitudes. This study will help understand how these distinctive elements of parenting independently predict religious and societal attitudes.

Variable	Gender Role Attitudes			Fundamentalist Religious Orientation		
	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$
Religious Similarity with Mother				.88	.24	.37***
Sex	.64	.10	.54***	.08	.26	.03
Received Physical Punishment	-.04	.04	-.10	.20	.09	.24*
Mother's Obedience-Demanding Parenting Behaviors	-.13	.07	-.18*	.35	.16	.21*

Note. Sex: Female=1, Male=0; Religious Similarity with Mother: Yes=1, No=0.  
\* $p \leq .05$ , \*\* $p \leq .01$ , \*\*\* $p \leq .001$

Table 1: Summary of Regression Analyses Predicting Fundamentalist Religious Orientation and Gender Role Attitudes

## **Prevention and Intervention**

### **pos203.30 LEGO as an intervention tool promoting elderly cognitive stimulation and personal growth**

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Ageing is an important demographic change faced by contemporary European societies. Portugal has one of the highest ageing rates of Europe (140%) and life expectancy increased immensely in the last decades (from 64 years of age in the 1960s to 81.3 years of age in 2014). These changes made late adulthood (65+ years) a period of interest for psychological intervention and human development research. Although older people face numerous changes (physical, social, psychological) challenging their sense of self and wellbeing, late adulthood is also a period of development and personal growth. As an increasing body of research highlights, intervention with this age group can be effective and prevention is crucial for the minimization of developmental losses attached to functional skills, cognitive development or psychological wellbeing. Therefore, it is our aim to describe an intervention programme designed for the elderly (65+ years) that intended on promoting their cognitive stimulation and personal growth and used LEGO as a key intervention strategy. The intervention programme took place at the Vila Nova de Gaia Delegation of the Portuguese Red Cross, and mainly targeted elderly attending the day center. The intervention offered 10 by-weekly sessions structured around the following dimensions: playfulness, promotion of social competences (e.g., team building, interpersonal communication) and of cognitive stimulation (e.g., plasticity and organization of thought processes, memory and attention). At least one activity in each session required the elderly to use LEGO, which was a fun and often challenging means of achieving the aims of the session. In our presentation, we will not only provide an overview of the intervention but also discuss next steps in the development of an action research project using LEGO as a key intervention tool for optimizing physical and psychological development in late adulthood.

### **pos203.31 Relationship of exercise participation, wellbeing and subjective health among elders**

Huey-Hong Hsieh  
*Taiwan Shoufu University, China, Republic of (Taiwan)*

**Aim:** Subjective health (SH) is found to be highly correlated to objective health, hence can be used as a predictor to self-health. Among the elderly, exercise participation is important to health. This study aims to find the connections between exercise participation, wellbeing and subjective health.

**Methods:** Questionnaires were distributed to 750 elders in southern Taiwan with a return rate of 80%. Confirmatory Factor Analysis was performed to test the hypotheses.

**Results:** Analyses indicated the 13% variance of SH were explained by wellbeing and exercise participation. In addition, age was negatively correlated to SH and men perceived higher SH than women.

**Conclusions:** SH appeared to be dependent on wellbeing and exercise participation among elders. Since exercise is not popular in Asian culture especially for women, efforts should be made to encourage exercise participation to improve health.

### **pos203.32 The characteristics of shoplifting suspects in different age groups**

Tomoo Okubo  
*Kagawa University, Japan*

The purpose of this study was to examine the characteristics of shoplifting suspects in different age groups by conducting a survey on shoplifting suspects and ordinary people. The population for the study consisted of 180 shoplifting suspects (87 adolescents, 51 adults and 42 elders), 2090 ordinary adolescents and 213 elders. The survey asked about the family relations, the relationships with friends, aggression, the number of times of shoplifting and the arrest records of the respondents. I performed statistical analysis using ANOVA, and the results revealed that the shoplifting suspects have bad relationships with their family and friends compared to ordinary adolescents and elders. Yet, the level of aggression of shoplifting suspects is not significantly higher than ordinary people. Secondly, the analysis on the characteristics of shoplifting suspects by age groups

showed that the adolescent shoplifters have better relationships with their friends than adult and elder suspects, and it suggested that adolescent shoplifters are more likely to have accomplices. Finally, I conducted a path analysis by age groups in order to examine the effects of the family relations and the relationships with friends through the level of aggression on shoplifting. The results indicated that the effects on shoplifting are different among generations.

## **Race, ethnicity, culture, context**

### **pos203.33 Effects of Family Income Dynamics and Cognitive Outcomes in Early Childhood**

Edward Sosu

*University of Strathclyde, United Kingdom*

Background and Aim: The association between family income and cognitive ability in childhood is well established. Children from low income households have significantly lower cognitive outcomes compared with peers from more affluent households. However, familial economic circumstances are not static but changes over time. Apart from poverty, other forms of income dynamics (income loss, income gain, and volatility) have been found to be associated with developmental outcomes. The way these income dynamics influence cognitive outcomes may also depend on time of occurrence, persistency, direction, or a family's overall income position (Hardy, 2014). Despite these complexities, very few studies have attempted a comprehensive comparison between the various forms of dynamics and their impact on child cognitive outcomes. The current study attempts to address these limitations through the following questions:

1. What are the impacts of different forms of income dynamics on child cognitive outcomes
2. To what extent are the effects of income dynamics on child cognitive outcomes dependent on time of occurrence, persistency, direction, or a family's overall income position?

Methods: Data for the study is based on the Growing Up in Scotland longitudinal survey (n=3621). Analyses were undertaken in Mplus using Ordinal Least Square regression techniques. All analyses took into account child and parental characteristics.

Results and conclusion: Preliminary results indicate that income gain and income lost (defined in absolute terms rather than percentages) had significant influence on child cognitive outcomes, in addition to average income levels. Income gain was associated with higher cognitive outcomes while income loss was associated with lower scores. A multigroup analysis indicated that, income gain and income loss only had a significant effect on cognitive outcomes for those within the middle income group, but not for children from low or high income families. The policy and practice implications will be explored.

### **pos203.34 Redesigning civic education with a participatory lifespan approach**

Christa Nieuwboer

*APPARENT R&D, Netherlands*

Educational courses for migrants are aimed to support their efforts to participate in a host society. In this presentation the differences of design will be identified between common classroom curricula, mostly focussed on language acquisition, and participatory semi-structured curricula, concentrating on the lifespan. Research suggests that migrants without formal learning experience benefit more from the participatory lifespan approach, including attention for the family context.

In seven pilot projects, carried out in three European countries (N = 100), a redesign of civic education programme was tested and evaluated, taking the most relevant issues for the learners as a starting point for course development. Classic civic education mostly instructs dominant and stereotype cultural habits and beliefs by taking goals or tests as the starting point of design, serving mixed groups regarding age, gender and cultural background. Participatory methods foster the development of new ways of awareness and coping with the differences between cultures by taking a different approach, providing a safe and conducive learning environment, taking the most relevant issues for the learners and their life experiences as a starting point and moving towards the goals one step at the time.

The evaluations of the participatory pilot projects show that the learners improved in self-efficacy, participated in the host society more, improved their second language proficiency and showed more insight and skill in their parenting roles.

Several key principles for the design of participatory adult learning have been identified during the pilot projects, especially suited for migrants without formal education experience, informing future development for civic education and social integration of migrant families in western societies.

## **Social, and personality development**

### **pos203.35 Predicting Adolescents' Body Change Strategies: Body Dissatisfaction And Body Image Importance**

Inja Erceg, Gordana Kuterovac Jagodić

*Department of Psychology, Faculty of Humanities and Social Sciences, University of Zagreb, Croatia*

Body change strategies can be defined as a series of different behaviours focused on changing body shape, size and/or weight. Body dissatisfaction is a discrepancy between the ideal and the current body size. During adolescence body image, as it gets compromised or distorted because of the pubertal development, becomes more important for self-perception. More studies are needed to better understand the relationship between body dissatisfaction, body image importance and body change strategies. Previous research have focused more on body dissatisfaction in adolescent girls than boys, as well as on body change strategies related to losing weight than to those of weight increasing and muscle tone and size changing. Thus, the aim of this research was to test the predictors of various body change strategies, including strategies to increase weight, increase muscle tone and muscle size, in both adolescent girls and boys. 1056 primary and secondary school students aged from 10 to 19 years ( $M=15.14$ ,  $SD=2.55$ ; 54% girls, 46% boys) filled in the Body Image and Body Change Questionnaire (McCabe & Ricciardelli, 2002). The results of hierarchical regression analysis show that gender, body mass index, body dissatisfaction and body image importance are significant predictors of some of the body change strategies. Adolescents of both sexes with higher body mass index, adolescents who give more importance to their physical appearance and girls practice more strategies to lose weight while boys practice more strategies to increase their body mass, muscle tone and size which can be explained by the sociocultural influences on body image in girls and in boys that differ. Findings of this research indicate that sex and body image importance are predictors of all measured body change strategies therefore emphasising the significant role of body image importance that is often neglected in research on body image and body change strategies.

### **pos203.36 The Relationship between Friendship Quality and Subjective Well-Being among Emerging Adults**

Güleycan Akgöz, Aysun Dogan

*Mersin Üniversitesi, Turkey*

Subjective well-being (SWB) is defined as the cognitive and affective evaluations of a person's life. It consists of global life satisfaction, presence of positive affect, and relative absence of negative affect (Deiner, 1984). According to Lyubomirsky and colleagues (2005), there are three main predictors of SWB: personality traits, intentional activities (e.g., friendship), and circumstances. Research has shown that personality traits account for 40-50% of the variance in SWB and appear to be critical for an individual's psychological well-being (Demir and Wietekamp, 2007). Previous studies have consistently documented positive relationships between friendship experiences and SWB. For example, having close friends and positive friendship experiences (e.g., overall quality of friendship, social support, intimacy) were found to be the essential predictors of one's own SWB (Argyle, 2001). Social support from friends buffers the effects of college-related stress and eases the transition to adulthood. The third factor influences SWB is demographics (e.g., age, gender). In this study, based on the model proposed by Tkach and Lyubomirsky (2006), we investigated the role of personality, best friendship relations, and gender in predicting an individual's SWB.

Participants were 594 university students ( $M_{age}=20.2$ ,  $SD=1.6$ ; 75% female) who completed demographics, McGill Friendship Relationship Questionnaire, The Big Five Inventory, Satisfaction with Life Scale, and Subjective Happiness Scale. Findings showed that participants' friendship relations are positively and neuroticism is negatively associated with their SWB. Moreover, females reported higher friendship quality and less friendship conflict than males. According to multiple regression analyses, 45% of the variance in SWB was accounted by personality traits (especially neuroticism), friendship quality, and conflict. Research results are important because of the fact that interpersonal relationships are closely related to SWB and this study contributes to future studies of SWB during emerging adulthood.

## pos203.37 Adolescents Who Choose No One, a Friend, or a Parent for Help

Heather Sears, Trisha-Lee Halamay  
University of New Brunswick, Canada

When adolescents encounter problems, many prefer to seek help from a friend or parent. Other youths, however, are reluctant to seek help and choose “no one” when asked who they access for assistance. We were interested in whether youths who choose no one or a friend or parent as their first choice for help differ on characteristics linked previously to help-seeking behavior (e.g., gender, perceived support). Because studies have shown that helper choice varies by problem and that interpersonal problems are particularly stressful for adolescents, we evaluated whether patterns of important characteristics differed across groups for three interpersonal problems.

Participants were 437 predominately White Canadian adolescents (254 girls, 183 boys; Grades 9–11) who completed a survey at school. Youths indicated their first choice for help for a problem with a parent, good friend, or romantic partner. They also reported their individual characteristics (gender, self-concealment, disclosure to parents and to friends) and contextual characteristics (perceived support from parents and from friends, sense of community at school) (e.g., Kerr et al., 1999; Larson & Chastain, 1990).

Adolescents’ selection of no one or a friend or parent as their first choice for help determined their group for each problem. Three discriminant function analyses each revealed two significant functions (see Table 1). For all problems, Function 1 separated the no one group from the other groups and Function 2 further separated the friend and parent groups. The no one group was significantly different from the other groups on the individual and the contextual characteristics; and the friend group was significantly lower than the parent group on disclosure to and perceived support from parents. These results indicate that multiple characteristics shape youths’ reluctance to seek help and adolescents’ perceptions of parents are key for choosing a friend or parent for assistance with interpersonal problems.

Adolescents' First Choice for Help									
Problem with	F1		No One (n = 60)		Friend (n = 273)		Parent (n = 82)		F(2, 412)
	r	r	M	SD	M	SD	M	SD	
Parent									
Gender	<b>-.39</b>	<b>.53</b>	1.68 <sub>a</sub>	.47	1.35 <sub>b</sub>	.48	1.57 <sub>a</sub>	.50	15.87*
Self-Concealment	<b>-.49</b>	<b>-.33</b>	3.43 <sub>a</sub>	.90	2.89 <sub>b</sub>	.89	2.60 <sub>c</sub>	.82	15.92*
Disclosure – Parent	<b>.54</b>	<b>.53</b>	1.88 <sub>a</sub>	.94	2.56 <sub>b</sub>	1.06	3.10 <sub>c</sub>	1.09	23.55*
Support – Parent	<b>.61</b>	<b>.57</b>	2.54 <sub>a</sub>	1.04	3.28 <sub>b</sub>	1.03	3.84 <sub>c</sub>	.87	29.34*
Disclosure – Peers	<b>.77</b>	<b>-.39</b>	2.44 <sub>a</sub>	1.03	3.59 <sub>b</sub>	.92	3.29 <sub>b</sub>	.99	36.30*
Support – Peers	<b>.68</b>	<b>-.45</b>	2.71 <sub>a</sub>	.84	3.71 <sub>b</sub>	.93	3.36 <sub>c</sub>	.91	30.95*
School Community	<b>.61</b>	<b>.07</b>	2.46 <sub>a</sub>	.47	2.85 <sub>b</sub>	.44	2.89 <sub>b</sub>	.43	20.74*

Problem with	F1		No One (n = 97)		Friend (n = 213)		Parent (n = 109)		F(2, 416)
	r	r	M	SD	M	SD	M	SD	
Good Friend									
Gender	<b>-.40</b>	.13	1.59 <sub>a</sub>	.50	1.44 <sub>ab</sub>	.50	1.30 <sub>b</sub>	.46	8.75*
Self-Concealment	<b>-.48</b>	<b>-.44</b>	3.34 <sub>a</sub>	.84	2.74 <sub>b</sub>	.90	2.81 <sub>b</sub>	.90	16.11*
Disclosure – Parent	<b>.78</b>	<b>-.40</b>	2.02 <sub>a</sub>	.95	2.53 <sub>b</sub>	1.03	3.20 <sub>c</sub>	1.06	35.12*
Support – Parent	<b>.77</b>	<b>-.27</b>	2.74 <sub>a</sub>	1.05	3.29 <sub>b</sub>	1.02	3.84 <sub>c</sub>	.86	32.13*
Disclosure – Peers	<b>.57</b>	<b>.57</b>	2.72 <sub>a</sub>	1.10	3.55 <sub>b</sub>	.92	3.43 <sub>b</sub>	.99	24.08*
Support – Peers	<b>.60</b>	<b>.47</b>	2.89 <sub>a</sub>	.94	3.63 <sub>b</sub>	.87	3.59 <sub>b</sub>	.99	23.27*
School Community	<b>.48</b>	.12	2.61 <sub>a</sub>	.46	2.84 <sub>b</sub>	.46	2.91 <sub>b</sub>	.47	12.15*

Problem with	F1		No One (n = 78)		Friend (n = 327)		Parent (n = 32)		F(2, 434)
	r	r	M	SD	M	SD	M	SD	
Romantic Partner									
Gender	<b>-.64</b>	<b>-.20</b>	1.81 <sub>a</sub>	.40	1.33 <sub>b</sub>	.47	1.34 <sub>b</sub>	.48	33.88*
Self-Concealment	<b>-.32</b>	.31	3.26 <sub>a</sub>	.98	2.90 <sub>b</sub>	.87	2.43 <sub>c</sub>	.82	N/A
Disclosure – Parent	<b>.53</b>	<b>-.79</b>	1.96 <sub>a</sub>	.90	2.57 <sub>b</sub>	1.03	3.85 <sub>c</sub>	1.06	39.59*
Support – Parent	<b>.47</b>	<b>-.54</b>	2.73 <sub>a</sub>	1.06	3.31 <sub>b</sub>	1.02	4.22 <sub>c</sub>	.77	25.23*
Disclosure – Peers	<b>.77</b>	.30	2.40 <sub>a</sub>	.93	3.58 <sub>b</sub>	.91	3.47 <sub>b</sub>	1.22	49.85*
Support – Peers	<b>.59</b>	.27	2.76 <sub>a</sub>	.91	3.65 <sub>b</sub>	.91	3.52 <sub>b</sub>	.99	30.06*
School Community	<b>.48</b>	.04	2.54 <sub>a</sub>	.49	2.87 <sub>b</sub>	.43	2.93 <sub>b</sub>	.38	18.87*

Note: Structure coefficients greater than .35 are in bold. Means in the same row that do not share subscripts differ at  $p < .007$ .

\* $p < .001$ .

Table 1: Summary of Discriminant Function Analyses for Adolescents’ First Choice for Help

### **pos203.38 Materialism and the importance of appearance: two interrelated constructs**

Ekaterina Kornilaki

*University of Crete, Greece*

Our consumer culture is characterized by two ideals: the body-perfect ideal which is unrealistically thin for women and the material good life which stresses the importance of money and expensive possessions (Dittmar, 2008). Both ideals are presented extensively and concurrently in advertising and are exemplified in popular media. There is evidence showing an association between the endorsement of materialistic values and the desire for the thin-ideal in women (Ashikali & Dittmar, 2012). However, there is a lack of developmental research examining the onset of the internalization of materialistic values and their association with the body-perfect ideal. This study aims to fill the research gap and examine the internalization of materialistic values, and of the body-ideal in young adolescents. In addition, the study examines whether materialistic values, the investment in body image, and the pressure to comply with the body-ideal affect adolescents' self-esteem. One-hundred eighty-five adolescents aged 13-15 years took part in the study. They filled a questionnaire entailing Richins' (2004) Material Values Scale, Thompson's Sociocultural Attitudes towards Appearance Questionnaire-3 (SATAQ), the Appearance Schema Inventory (Cash et al., 2004) and Rosenberg's Self-esteem Scale (1965). The preliminary analyses suggest that adolescents are high in materialistic values. Both girls and boys invest in their physical appearance and have internalized the sociocultural attitudes towards appearance. There was a positive association between materialist values and the body-perfect ideal, and a negative association of those factors to self-esteem. The findings suggest that interventions targeting adolescents' body image concerns should also consider the role of materialism.

### **pos203.39 Forgiving adolescents: Anger, Hedonic Balance and Depression**

Susanna Pallini, Giovanni Maria Vecchio, Michela Milioni, Barbara Barcaccia

*Roma Tre University, Italy*

**Aim:** The present study examined the role played by forgivingness (or the disposition to forgive) in contrasting depressive tendencies and in improving positive affect, and the mediational role of anger, using cross-sectional data.

**Methods:** Participants were 773 middle and high school students (69% females and 31% males), with a mean age of 15.6 years (SD = 2.00). The measures included were: Trait Forgivingness Scale (Berry, Worthington, O'Connor, Parrot & Wade, 2005), State-Trait Anger Expression Inventory-2 Child and Adolescent (Brunner, & Spielberger, 2009), PANAS (Watson, Clark, & Tellegen, 1988) and Children Depression Inventory (Kovacs, 1992). A structural equation modelling and mediational analysis (M-PLUS) were used to test the hypothesised model.

**Results:** As showed in fig.1, forgivingness significantly and negatively predicted the Trait-Anger and Expression Anger-Out, while significantly and positively predicted the Expression Anger-In and Anger Control. In addition, two different mechanisms emerged leading to depression and hedonic balance through anger. Particularly, Trait-Anger predicted negatively Hedonic Balance (HD) and positively Depression; while Anger Control predicted positively HD and negatively Depression. Moreover, Expression Anger-Out seems to be helpful in decreasing Depression, but it has no effect on HD; Expression Anger-In negatively influences HD but not Depression. This model fits well with the data:  $\chi^2(2) = 5.18$ ,  $p = .00$ , CFI = .997, TLI = .969, RMSEA = .045 (90% CI = .000 – .095), AIC = 29859.797

**Conclusions:** this study highlights the role of forgivingness as a partly unexplored mechanism contrasting depressive tendencies and improving positive affects in adolescents, through the mediating role of anger regulation.

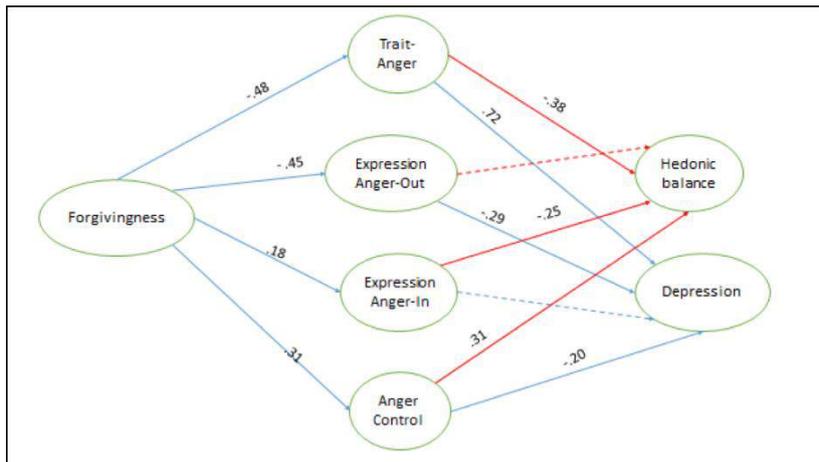


Figure 1: Fully mediation model with estimate coefficients

### pos203.40 Moral dilemmas: results for attractive and unattractive victims

Elena Nikitina

*Institute of Psychology, Russian Academy of Sciences, Russia*

Moral dilemmas are commonly used as a tool to measure the moral development. They are often presented in text form in the previous works. Our aim was to study the role of a potential victim's attractiveness when the admissibility of causing harm to him is assessed.

45 Russian psychology students (mean age = 22,27; 77,78 % females) were asked to rate 1 control and 3 pairs of test scenarios by a 7 points scale and to justify each decision. We chose these dilemmas from the Russian version (Arutunova et.al, 2013) of questionnaire used by Cushman and colleagues (2006) and created the pictures where the participants could see the victim's face. In these dilemmas the harm was caused either by action or by omission to 1 person in order to rescue 5.

The results confirmed the action/omission principle. The harm caused by action was rated as less admissible. However, when considering the separate results for the dilemmas illustrated by the images of attractive and unattractive victims, causing harm to unattractive persons by omission turned out to be most different from other data. Young boys and girls considered it significantly more acceptable ( $p < 0,01$ ) to save 5 lives instead of one unattractive man. If the victim was attractive, the harm caused to him by action was rated only slightly worse ( $f: p < 0,05$ ) than harm caused by omission.

Justifications for all dilemmas were coded by 3 experts and compared with ratings of admissibility. We found that for dilemmas with unattractive victim our participants used mainly such explanation as "5 is more than 1", while if the victim was attractive nearly half of young girls avoided the choice and suggested to rescue all.

### pos203.41 Dating Violence Among University Students

Gamze Er Vargün, Serap Akgün

*Mersin University, Turkey*

**Aim:** The main purpose of this study was to examine the relationships between university students' attitudes towards dating violence, parental violence in childhood, perpetrating violence and being exposed to violence in romantic relationships.

**Method:** Two hundred (82 males and 118 females) university students who were between the ages of 18 and 28 participated in the study. Participants filled out the attitudes towards dating violence scales, and a violence measure including questions on parental violence during childhood, perpetration of violence and exposure to violence in their romantic relationships.

**Results:** In order to find the predictors of dating violence two separate hierarchical regression analyses were performed. The results of the analyses indicated that parental violence in childhood significantly and positively predicted both perpetration of physical and psychological violence and exposure to violence in romantic

relationships. Perpetration of violence in romantic relationships was also predicted by positive attitudes towards physical/psychological and sexual violence. Finally, gender was a predictor of being victim in a romantic relationship. Women were more likely than men to be a victim of dating violence. Conclusion: The results suggest that parental violence experienced during childhood plays an important role in dating violence among university students.

### **pos203.42 Goal Contents, Goal Appraisals, and Well-Being of Turkish Emerging Adults**

Deniz Kurt, Zehra Uçanok  
*Hacettepe University, Turkey*

The main purpose of this study is to investigate emerging adulthood from a goal-setting perspective in the frame of developmental regulation model. For this purpose, emerging adults' developmental goals and their appraisals (goal importance, goal attainability, positive and negative feelings) of these goals were investigated. The associations between goal appraisals and individual's well-being were also examined. The sample consisted of 396 participants (54% female), aged between 18-30 years, graduated from high school or above. The participants were administered a battery that consists of Rosenberg Self-Esteem Scale, Satisfaction with Life Scale, UCLA Loneliness Scale, Brief Symptom Inventory and questions to determine their life goals and appraisals about these goals.

Emerging adults' developmental goals were investigated by qualitative method. The results revealed that emerging adults' goals classified into ten categories on the basis of goal content. These categories were occupation, education, family, self, financial issues, lifestyle, travel, hobby-leisure activities, health and social issues. Emerging adults frequently mentioned occupation, education and family related goals. Additionally, canonical correlation analysis was conducted to determine the pattern of relationships between goal appraisals and well-being indicators. Analysis indicated that the first canonical variate (root) from the canonical correlation accounted for the significant relationships between the two sets of variables. The first canonical variate yielded a canonical correlation of .44, capturing 20% of the overlapping variance. Furthermore, there was positive relationship between positive goal appraisals (goal attainability, positive feelings) and well-being; and a negative relationship between negative goal appraisal (negative feelings) and well-being. In terms of developmental goals, the results showed that young adults set goals appropriate to properties of their developmental period. Furthermore, the results were emphasized the importance of goal appraisals for emerging adults' well-being.

Key Words: Emerging adulthood, goal contents, goal appraisals, and well-being.

\*This presentation was produced from the first author's doctoral dissertation.

Friday September 1

Session 301, 11:00 – 12:00 hrs.

### **Cognitive Development**

#### **pos301.1 Enhancing executive function through imaginary play**

Sue Walker, Marilyn Fleer, Nikolai Veresov, Linda Harrison  
*Queensland University of Technology, Australia*

Research has demonstrated that improving children's Executive Function (EF) skills in the year prior to school can produce lasting benefits across the school years. However, while EF interventions have been found to enhance children's EF skills, many focused interventions are not sustainable because teachers tend to discontinue EF programs. This poster presents data from a pilot study conducted with preschool teachers trialling an intervention in which EF activities are embedded in teachers' daily practices by using imaginary play to build meaningful problem situations that children solve using EF. The participants were 91 preschool children (31 female, M age = 55.2 months, SD = 5.4) in 5 preschool groups from Brisbane, Australia. Five teachers and 5 teaching assistants also participated in the study. One preschool group served as the comparison group whilst 4 groups participated in the intervention. The intervention condition consisted of educators and children creating and developing an imaginary situation (Playworld) over an extended period of time (e.g., 1 school term) within which children could engage in inhibition, shifting and planning tasks for a real purpose. EF was assessed pre and post the intervention using the Day-night Stroop, the Dimension Change Card Sort test (DCCS) and the Truck Loading task. Paired sample t-tests were used to compare the pre and post test results for the intervention groups and the comparison group. Results demonstrated significant differences between the intervention groups and the comparison group on the DCCS ( $t = 4.424$ ,  $p < .001$ ) and the planning task ( $t = 3.525$ ,  $p = .001$ ) but not on the Day-night Stroop ( $t = .204$ ,  $p = .839$ ). Results indicate that teachers are able to develop children's EF when EF activities are embedded in teachers' daily practices, and when imaginary play is used to build meaningful problem situations that children solve using EF.

#### **pos301.2 The factor structure of cognitive abilities of Japanese children and adolescents**

Tamaki Hattori, Yuichiro Yamagiwa  
*Hosei University, Japan*

Aim: Kaufman, Reynolds, Liu, Kaufman & McGrew (2012) examined the degree to which the general cognitive ability (COG-g) relates to the general ability that underlies achievement tests (ACH-g). They showed that COG-g and ACH-g factors are separate but highly related constructs during childhood and adolescence across two different test batteries. However, they used only US participants drawn from the standardization samples in USA. Therefore, this study aimed to assess the relation between COG-g and ACH-g factors extracted from the standardization samples of Japanese Kaufman Assessment Battery for Children-2nd ed. (KABC-II) (Kaufman & Kaufman, 2013). Methods: We used correlation matrices and standard deviations, which are listed in the Japanese KABC-II manual, of four cognitive scales (Sequential, Simultaneous, Planning, and Learning) and four achievement scales (Vocabulary, Reading, Written language, and Math). Multiple-group confirmatory factor analysis procedures using the software program LISREL 8.54 (Jöreskog & Sörbom, 2001) were conducted on twelve age groups: 7 ( $n=160$ ), 8 ( $n=175$ ), 9 ( $n=179$ ), 10 ( $n=150$ ), 11 ( $n=169$ ), 12 ( $n=153$ ), 13 ( $n=142$ ), 14 ( $n=151$ ), 15 ( $n=142$ ), 16 ( $n=143$ ), 17 ( $n=127$ ), 18 ( $n=146$ ) to determine whether the eight subscales of Japanese KABC-II measure the same constructs across its age span. Results: The strict strong invariant model with COG-g and ACH-g factors resulted in an acceptable fit to the data (Chi-square=709.019,  $df=467$ ,  $p < .001$ , CFI=.978, RMSEA with Steiger's multiple-group correction=.057, AIC=818.823), correlation coefficient between the two factors was .888. This model had a better fit than the factor model which hypothesized that COG-g factor was the same as ACH-g factor (Chi-square=785.657,  $df=468$ ,  $p < .001$ , CFI=.971, RMSEA with correction=.075, AIC=910.130). Conclusions: Although COG-g and ACH-g factors highly correlated across the twelve age groups of Japanese children and adolescents, they were not isomorphic. These results support the findings of Kaufman et al. (2012).

### pos301.3 Preschoolers' understanding of extraordinary characters: Difference between seeing and knowing

Fumikazu Furumi, Megumi Masuda, Masuo Koyasu  
*JSPS/Kobe University/University College London, Japan*

**Aim:** We used a Samson's task and a Smarties task to investigate young children's ability to infer extraordinary characters' mental states.

**Method:** Sixty-two children participated in this study. The target characters used in the two tasks were God, a robot, Mr. Smart, and a child of the same age as the participant. In the Samson's task, the experimenter showed the participants a picture. There were two vases and one character who stood sideways looking at one of the vases. There was a screen behind the character and there was the other vase behind it. Thus, the character saw just one vase, but participants could see two vases (e.g. Figure 1). The experimenter asked the participant how many vases the target character could see. In the Smarties task, the experimenter showed the participant a crayon box and a paper bag and asked which the participants thought crayons were in. Then, the experimenter showed the contents: crayons were in the paper bag and marbles were in the crayon box. After the participants knew each content the experimenter asked them about the target characters' beliefs.

**Results:** The younger age group (47-58 months) chose the paper bag significantly more for all characters in the Smarties task ( $p < .05$ ) and their performances in the Samson's task were at the chance level. The performances of the middle age group (59-69 months) were at the chance level for both tasks. The older age group (69-79 months) chose the paper bag significantly more for Mr. Smart and the crayon box for the target child ( $p < .05$ ). Furthermore, they answered that the target child and Mr. Smart saw only one vase for the Samson's task ( $p < .05$ ).

**Conclusion:** These results suggest that older group children can differentiate between the ability of seeing and that of knowing.



Figure 1. An example of Samson's task

### pos301.4 Preschool childrens' overconfidence about performance in memory tasks and physical tasks

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Research conducted on predictions of the performance of young children in cognitive and physical tasks has shown that children are overconfident in their predictions. In this study, it was expected that predictions of physical performance of preschool children between 48-72 months were more consistent than metacognitive decisions that are judgements of learning (JOL) and feeling of knowing (FOK), and that giving feedback to children on task performance would lead to an increase in the subsequent prediction consistency. Findings have shown that the consistency of predictions in initial experiments on physical tasks is higher than the consistency of predictions in the judgement of learning. The difference between consistency of feeling of knowing, as the second stage of the memory task, and the consistency of the predictions of the second trials of

the physical tasks, was found to be significant only for one physical task. It has been found that there is a significant difference between the consistency of judgements of learning and feeling of knowing. Also, there is a significant difference between the consistency of the predictions of the first and second phases of each physical task. It was also found that the consistency of the tasks in the second phase was higher. Findings indicate that overconfidence about performance in memory tasks are higher than physical tasks and also giving feedback made it possible for children to have more consistent predictions about their performance in each type of tasks.

### **pos301.5 A comparison of Japanese, Australian and Korean adults' theory of mind**

Kaoru Toyama, Kana Imuta, Virginia Slaughter, Michiteru Kitazaki, Shoji Itakura  
*Ryukoku University, Japan*

**Aim:** A meta-analysis examining the cultural differences in development of false belief understanding has revealed that, in comparison to American children, Korean children pass the false belief task around the same age, Australian and Canadian children pass the task at an earlier age, and Japanese and Austrian children achieve this milestone the latest (Wellman, Cross, & Watson, 2001). In the Japanese language, it is common to refrain from clearly stating mental state words (Naito & Koyama, 2006) and also to omit the subject from sentences, which makes the agent ambiguous (Kobayashi, 2005). This may cause delays in the development of their abilities to understand other people's mental states. We administered questionnaire to Japanese, Australian and Korean adults to investigate whether there are any cultural differences in their responses and reasoning for their responses.

**Methods:** We targeted Japanese (N=100), Australian (N=100) and Korean (N=27) adults affecting children's cognitive development. We designed a paper-based theory of mind questionnaire that consisted of standard mental state understanding questions and follow-up questions that asked participants for the reasoning for their responses.

**Results:** We found that Australian participants used significantly more subjects than Japanese. On the other hand, there is no difference in the use of subject between Korean and Japanese participants. We found hardly any significant differences in responses between the Japanese, Australian and Korean participants on items that contained a large amount or limited amount of mental state descriptions. **Conclusions:** It has been pointed out that cultural differences existed in the performance of false belief tasks among Japanese, Korean and Australians' young children. It is possible that Japanese children delay in the development of theory of mind, because it is common to omit the subject from sentences. However, we could not predict the reason why Korean children developed theory of mind early.

## **Development of social cognition**

### **pos301.6 Variability in moral judgments: The role of social exclusion**

Buse Gonul

*Middle East Technical University, Turkey*

The distress caused by exclusion may manifest itself through physical, emotional, cognitive and behavioural mechanisms (Eisenberg, Lieberman, & Williams, 2003; MacDonald & Leary, 2005). Thus, individuals react to exclusion in many ways. Building upon the previous research revealing the strong influence of social exclusion on mentioned domains, in this research whether experiencing exclusion leads to changes on moral judgments was examined. The context-dependent nature of moral judgments contributes to our understanding to what extent experiencing social exclusion would create a variability in personal moral values. To examine this issue, 60 students were invited to our lab (27 females, 33 males, Mage = 20.87, SD = 1.44) and each participant attended to the study within a group of three. Study method included playing the Cyberball paradigm twice, a virtual ball tossing game with two other virtual players (Williams, Cheung and Choi, 2000); one for inclusion manipulation and one for exclusion manipulation. After each trial, participants were presented two standard trolley dilemmas (one personal and one impersonal), and asked how they would solve them. Personal dilemmas included scenarios in which participants have an active role on deciding who and how many people would die, whereas for impersonal ones a certain amount of people would die regardless participants' choice. Results showed that compared to their judgments after inclusion manipulation, participants suggested sacrificing a person for the sake of group benefit as a possible solution more frequently, after they performed in the exclusion manipulation for personal dilemmas only,  $t(59) = 2.70, p = .009$ . These findings might be evaluated as individuals' tendency to compensate the feelings of 'left behind' out of choice by prioritizing the benefit of group when they have actual control on the course of events. Results will be discussed by focusing on the effects of short-term social cues on moral judgments.

### **pos301.7 Helping and Hurting Others: Exploring Children's Interpersonal Narratives**

Isabella Schwyzer, Ju-Hyun Song, Tina Malti

*Utrecht University, Netherlands*

**Aim:** While previous studies have investigated the development of dispositional prosocial and aggressive behavior, much less work has focused on children's own experiences of helping and hurting others. Here we explore children's interpersonal narratives of prosocial and aggressive behaviors. Ultimately, knowledge about these experiences can inform theorizing about the processes underlying the development of prosocial and antisocial behaviors.

**Methods:** The sample consisted of 153 Swiss children (52% girls) aged 7 years ( $M=7.1; SD=0.2$ ). The children were asked to tell narratives in the contexts of proactive aggression, retaliatory aggression, and prosocial behavior. In addition, they were asked for their behaviors ("what did you do"), judgment ("was it right to do what you did"), and reasons for judgments ("why/why not").

**Results:** In total, the children generated 283 stories. Of these stories, 37 (13%) contained proactive aggression, 127 (45%) focused on retaliation, and 119 (42%) referred to prosocial experiences. As shown in Table 1, different subtypes of behaviors were mentioned when recalling these experiences. As expected, the majority of children reported that their behavior was wrong in the proactive and reactive aggression contexts (79% and 59%, respectively), whereas all children said it was right to behave prosocially. As can be seen in Table 2, children referred to fairness and empathy for the victim in the proactive aggression and prosocial behavior contexts when justifying their own behavior. While fairness was also the most prevalent reason in the retaliatory aggression context, one third of the children reported that their behavior was justified.

**Conclusion:** Our findings reveal that the majority of children recall prosocial experiences and retaliatory aggression when reflecting on own experiences of helping and hurting others. In addition, the majority of the children report that proactive aggression is not right and prosocial behavior is right for reasons of fairness and other-oriented concerns.

Types of Behaviors	Proactive Aggression Narrative	Retaliatory Aggression Narrative	Prosocial Behavior Narrative	Types of Behaviors
Physical aggression	12 (29%)	68 (54%)	92 (67%)	Provision of physical help
Relational aggression	17 (40%)	47 (37%)	30 (22%)	Expression of empathy
Other types of aggression	13 (31%)	11 (9%)	-	
	-	-	15 (11%)	Comforting needy child
Total	42 (100%)	126 (100%)	137(100%)	Total

*Note.* Less than 10% of the children reported more than one action for each story. Children who did not provide an answer were not included in the total count.

Table 2  
*Reasoning for Judgment by Narrative Context ("Why was this right/not right?")*

	Proactive Aggression Narrative	Retaliatory Aggression Narrative	Prosocial Behavior Narrative
Fairness	9 (53%)	34 (52%)	27 (51%)
Empathy	8 (47%)	7 (11%)	26 (49%)
Justified	-	24 (37%)	
Total	17 (100%)	65 (100%)	53 (100%)

*Note.* Less than 4% of the children reported more than one reason for each story. Children who did not provide an answer were not included in the total count.

Table 1: *Types of Behaviors and Reasons for Judgment Children Reported in Narratives*

### pos301.8 Is Young Children's Helping for Benefit Other or for Normative Reasons?

Muhammed Sukru Aydin, Ezgi Acun  
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Many studies have been carried out for the emergence, development, and underlying reasons of helping behavior. It is clear that helping behavior emerge very early in children's life. Some researchers explain why humans are born with altruistic motivations to help others in need (Warneken & Tomasello, 2009), on the other hand, some researchers examine helping behavior with a more practical and teleological approach (Roessler & Perner, 2015). However, in young children (2 years of age), it is not clear whether these behaviors are performed in order to benefit other(s) or for normative reasons. To study this problematic, an instrumental helping task was used and four different experimental conditions were designed depending on the actor's need for the falling object and if the actor is an agent of the falling object or not. In the within-subject design study, different conditions were combined in a scenario and counter-balanced. Sixty children aging between 24-36 months, are planned to participate in this study. Data collecting process still continues.

### pos301.9 Moral evaluation development; the role of emotional and cognitive processes

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**Aim:** While the source of moral evaluation during the development is under question, some studies claim that moral reasoning is based on complex relations between emotional and cognitive processes, which ace with subtle changes during the lifespan. Therefore, in this study we aim to investigate the role of emotional and cognitive components in moral sensitivity in children and adults.

**Method:** sixty-five preschoolers (N4 y-olds= 30 (N Girls= 15), N6 y-olds= 28 (N Girls= 12)) and 35 adults (Mean Age= 31.4, Female= 27) viewed scenarios depicting intentional versus accidental actions that caused

harm/damage to people. They rated Personal Distress (PD), Empathic Concern (EC), Perpetrator's Mental State (MS) and Moral Evaluation (ME) in response to each scenario. The data were transformed into Z-scores to in order to consider between group changes.

Results: Using multivariate analysis of variance (MANOVA) with within-participant factors (PD, EC, MS and ME) and scenario type (intentional, accidental) and between-participants factor age group (4 year-old, 6 year-old and adult) revealed that there is a significant difference between intentionality  $F(1, 59) = 38.123, P < 0.05$  and mental state  $F(1, 59) = 49.03, P < 0.05$ , in different types of scenario between groups. Also, linear regression, adult rating for deserve punishment is a predictor of moral evaluation ( $\beta = 0.74, p = 0.06$ ).

Conclusion: Our study confirming previous findings, provides evidence that moral evaluation affects from moral emotional component especially during childhood, while later in life reasoning processes would engage more, but still inducing discomfort feeling of harm could be seen across children and adult.

## **Developmental psychopathology and disabilities**

### **pos301.10 Behavioural inhibition, shyness and social withdrawal: Differential risk for adolescent internalizing disorders.**

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Introduction: Internalizing disorders such as social phobia, generalized anxiety (GAD) and depression are among the most common and persistent disorders affecting adolescents. Behavioural inhibition (BI), shyness and social withdrawal (SW) are well-established risk factors for internalizing disorders. However, few studies differentiate between these temperament traits which are often used interchangeably. We prospectively examined the development of BI, shyness and SW in childhood in order to clarify links to adolescent psychopathology, specifically social phobia, GAD and depression, in addition to modelling childhood trajectories of shyness and SW.

Methods: 1596 singletons born in 1997-1998 were followed over 15 years. BI, defined as a difficulty to adapt to novel situations, was rated by fathers when children were 5 months old. Yearly mother-rated shyness and SW, between 3½ and 8 years, was used to identify group-based developmental trajectories. Adolescents self-reported their social phobia, GAD and depression symptoms at 15 years-old.

Results: Three distinct stable trajectories (low, moderate and high) were identified for both shyness and social withdrawal. Preliminary analysis linked birth weight and smoking during pregnancy to GAD and depression, whereas child sex, BI and maternal stress were associated with all three types of adolescent internalizing disorders. Hierarchical regressions revealed that being a girl and a high shyness trajectory predicted adolescent social phobia. Being a girl, higher BI and maternal stress contributed to GAD symptoms. Similarly, being a girl, smoking during pregnancy and maternal stress predicted depression symptoms. Beyond these risk factors, higher shyness trajectories were a protective factor for both GAD and depression symptoms in adolescence. Conclusions: Early BI had enduring effects on GAD in adolescence. Shyness was a risk factor for social phobia but a protective factor for GAD and depression. SW did not significantly impact later psychopathology. Our results underline the long lasting effect of early childhood and maternal factors.

### **pos301.11 Temperamental trajectories as predictors of anxiety in adolescents: the effect of gender**

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*University of the Balearic Islands, Spain*

Current perspectives point to adolescence as a period of major changes in temperament. Moreover, some authors have also stressed the role of gender in the depiction of temperamental development. In turn, the interplay of (high) sensitivity to punishment (SP) and (low) attentional control (AC) may critically be involved in the course of anxiety over adolescence. However, most evidence supporting such influence comes from cross-sectional studies, and temperamental changes across adolescence have scarcely been considered. The present study aimed: (a) to examine the developmental trajectories of SP and AC in adolescent boys and girls; (b) to explore if a temperamental vulnerability trajectory predicted anxiety at age 15; and (c) to examine a moderating effect of gender on the predictive role of this trajectory. A sample of 397 adolescents (61.70% girls;  $M = 12.93$  years at the first assessment point,  $SD = 0.48$ ) was recruited. SP and AC monitored each six months along a 1.5-year period and a vulnerability ratio ( $SP/AC$ ) was calculated for each assessment point. Moreover, anxiety symptomatology was measured at the final assessment point. Girls scored higher in SP than boys across the assessment points ( $p < .05$ ), but not in AC. Using latent growth modelling, the vulnerability trajectory was proved to be predictive for the anxiety symptomatology. Finally, analyses based on measurement invariance revealed a lack of a moderating role of gender on explaining anxiety. To sum up, temperamental changes from 13 to 15 years seem to play a relevant role on explaining the subsequent anxiety symptomatology, regardless the role of gender, which may play a significant influence on the development of reactive temperament.

**pos301.12 Developmental substance use trajectories as marker for internalising problems in young adulthood**

Annette van Delden, Inge van der Valk, Wim Meeus, Susan Branje  
 Utrecht University, Netherlands

Substance use in adolescence and young adulthood is common and has been related to increased psychosocial problems. However, most individuals develop without significant psychosocial problems. Therefore, there is a need to examine more specifically for whom and in what context substance use is harmful. The aim of this longitudinal study is to test whether substance use trajectories (consisting of cannabis and hard drug use) from early adolescence into young adulthood are a marker for internalising problems during the transition from adolescence into young adulthood. In addition, friendship quality will be added as a moderator to analyse if the environment influences the relationship (Figure 1). Seven yearly measurement waves were used from the RADAR (Research on Adolescent Development And Relationships) project. Every wave, adolescents reported on their use of cannabis and several hard drugs. The participants (N=497) in the sample had a mean age of 13.04 at the start of the first wave. Substance use trajectories will be analysed with a Growth Mixture Model in Mplus. Six trajectories are expected to be found. The effect of substance use trajectories on internalising problems will be analysed with the R3-step procedure. Internalising problems are expected to be heightened during the transition into young adulthood for non-normative substance use trajectories. In addition, we will examine interactions between class probabilities and friendship quality, to test whether friendship quality moderates the association of substance use with later internalising problems. It is expected that non-normative substance use will lead to more internalising problems later in life when the quality of friendships is low during adolescence. The results of this study will provide an in-depth exploration of different subgroups of substance use and the potential harmful consequences that are associated with these trajectories. In this way, prevention and intervention programs are able to specifically target high-risk adolescents.

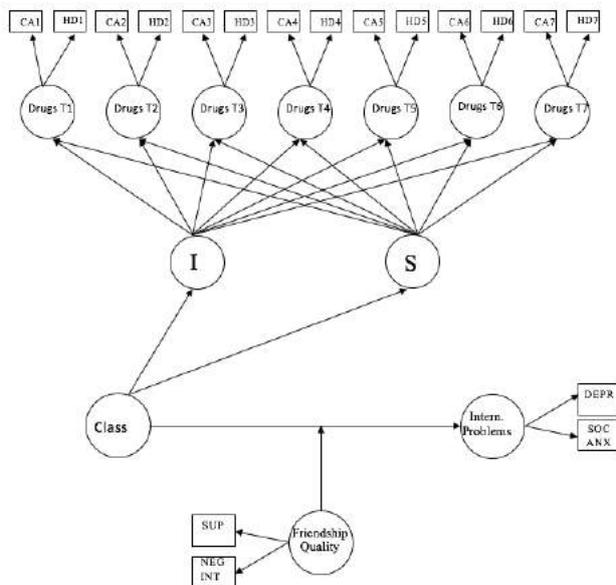


Figure 1. Conceptual model of the influence of friendship quality during adolescence on the relationship between substance use trajectories and internalising problems in early adulthood. Note. CA= Cannabis, HD = Hard drugs, DEPR = Depression, SOC ANX = So

## **Education, Schooling, Child care**

### **pos301.13 The difficulties of help-seeking by bystanders from teachers for bullying**

Ayafumi Goto

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Help-seeking from a teacher is one of the effective methods to resolve bullying; however, it is said to be difficult for children. This study focused on bystanders who are cognizant of bullying but hesitate to seek help and aimed to examine the pattern and process of bystanders' hesitation in help-seeking. A total of 193 students (75.1% female and 24.9% male) from two universities were surveyed for the difficulty of help-seeking from teachers for bullying in retrospect. According to the analysis of free descriptive answers, the factors of hesitation in help-seeking by bystanders were divided into five categories: "negative effects for oneself," "risk and worthlessness of help-seeking from a teacher," "relation with victims and bullies," "other ideas to stop bullying," and "unconcerned." It was suggested that "unconcerned" was the main factor for hesitation in help-seeking from teachers for bullying and was related to "negative effects for oneself," "risk and worthlessness of help-seeking from a teacher," and "relation with victims and bullies." The background of bystanders played an important role in not helping victims and hesitating to seek help from teachers for bullying. This study supports the notion that bullying proceeds in phases. Before children become unconcerned with the fact of bullying, promising targets of intervention include increasing children's perception of the availability and capability of teachers to help them, and make children's relationships with each other stronger and more supportive.

### **pos301.14 An Examination of Teachers' Attitudes towards Bullying**

Zeynep Şen, Aysun Dogan

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Research indicates that bullying is a prevalent problem in schools all over the world. Studies showed that teachers are the ones students mostly ask for help when they faced with bullying. Thus, teachers play a major role in the prevention of bullying; in fact, it has been found that teachers' interests and knowledge is the most important indicator of the success of prevention program. Teachers usually serve as role models to students because they actively take a part in bullying incidents with their attitudes, behaviors, and strategies used for dealing with bullying. In sum, it is important to study the attitudes of teachers to better understand and prevent bullying cases at schools.

The purpose of this research was to examine teachers' attitudes towards bullying and to identify the coping strategies they might use when they faced with any kind of bullying incidents. In addition, gender differences were of interest. A total of 389 teachers (Mage=39.2 SD=8.0) (71% women) from 12 different middle schools participated in this study. Participants completed a questionnaire packet including demographics, Scale for Teacher Attitudes toward School Bullying (Yeşilyaprak & Balanuye, 2012) and Handling Bullying Questionnaire (Bauman, Rigby & Hoppa, 2008). Results showed that there are gender differences in teachers' attitudes and coping strategies towards bullying; however, there were not age and length of teaching differences. Findings indicated that female teachers reported humanistic attitudes more frequently than males ( $t= 3.98, p<.001$ ); however, male teachers reported authoritarian attitudes more frequently than females ( $t= 3.41, p<.001$ ). In terms of coping strategies, female teachers used working with the bully and enlisting others strategies more frequently than males ( $t= 2.74, p<.05$ ;  $t= 2.47, p<.05$ ) and males used working with the victim strategy more frequently than females ( $t= 3.89, p<.05$ ). These findings have implications for designing bullying prevention programs.

### **pos301.15 How do German teachers cope with bullying and cyberbullying?**

Sarah Körtge, Udo Käser

*University of Bonn, Department of Psychology, Germany*

Bullying and Cyberbullying have great impact on the life of pupils. Victims often experience hopelessness. Therefore, they often show fear and helplessness, have a low self-esteem, suffer psychosomatic problems and

sleep disturbances. Also, there is a higher risk of suicide among victims of bullying and cyberbullying (Alsaker, 2006; Baumann, 2010; Boulton et al., 2010; Patchin & Hinduja, 2010; Spears et al., 2009). In the long term, the psychosocial health of bullies is reduced, too (Richter et al., 2007). Furthermore, bullying and cyberbullying are also negative factors regarding the atmosphere in the school class (Jannan, 2010). Additionally, the roles in the process of bullying tend to be stable without intervention (Klein & Käser, 2016). Therefore, it is indispensable that teachers counteract bullying and cyberbullying effectively (Amado et al., 2010). Even if there are some successfully evaluated preventive respectively interventive measures by now (e. g. Atria & Spiel, 2003, Robinson & Maines, 2008, Salmivalli et al., 2011), a systematic implementation as a part of school culture and teacher training is still missing in Germany.

Against this background, the question is analysed how German teachers respond to Bullying and Cyberbullying and to what extent their reaction is related to their age, gender, professional experience, specific responsibilities as well as the location of the school.

Therefore, a questionnaire-based survey was realised on a sample of 334 teachers of secondary schools. After personal data were recorded, a bullying and a cyberbullying scenario were presented. In each case the participants were asked for their (anticipated) behaviour. The possible reactions were measured by an adapted form of the Handling Bullying Questionnaire (HBQ) (Bauman et al., 2008).

It becomes evident that especially inexperienced teachers tend to authoritarian solutions. Experienced teachers look for cooperative solutions with their pupils more often. Consequences regarding teacher training are discussed.

### pos301.16 Strengths and future goals of youths: a positive approach to prevent dropout

Nick Snell, Mandy van der Gaag, Saskia Kunnen  
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Leaving school without a degree can have adverse consequences for both youths and society. Youths who drop out are less financially secure, experience more emotional problems, pay less taxes, and depend more on social services than youths who finish school (e.g., Van der Steeg & Webbink, 2006). In the Netherlands, dropping out of school before attaining a minimum degree of education occurs particularly frequent among late adolescents in a specific type of education: vocational education. This drop out may be prevented if youths have a clear view on their own strengths and future goals (e.g., Romano, 2015). However, it is unclear to what extent youths spend time and energy to explore their own strengths or future goals, and how clear and strong their views on these topics are. The present study investigates this by interviewing youths from vocational education (ages 16 - 25) on the themes strengths, future goals and the relationship between these. After each interview, a questionnaire measures how much they have explored the theme and how strongly committed they are to their views. We use two samples: youth under additional supervision because of a high dropout risk, and low-risk youth without supervision. The results show that both samples of youths show comparable comparably strong commitments across the three themes. However, both groups explore their own strengths only little compared to their future goals (table 1). The amount of exploration of strengths differs between the two samples: youths under supervision explore their strengths more than youths without supervision. Thus, youths spend little time exploring their own strengths, but with additional supervision this can be improved. As having a clear view on own strengths can protect against dropout, it seems profitable for educational institutions to invest in supporting youth to explore their own strengths.

Contrasts	M	SD	DF	F-value	P-value
Exploration strengths vs. Exploration future goals	10.50 13.21	4.43 4.14	46	9.268	<.001
Exploration relation vs. Exploration future goals	9.75 13.21	4.87 4.14	46	19.179	<.001
Exploration relation vs. Exploration strengths	9.75 10.50	4.87 4.43	46	0.992	.324

Table 1: Exploration differences between theme's

## **Family, parenting, parent-child relationships**

### **pos301.17 Effects of psychological skills training on family stigma in mental illnesses**

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Introduction: Stigmatization of individuals diagnosed as having serious mental illnesses has been observed across the world, and the family members who help care for them report feeling stigmatized due to their association with the loved one with mental illness. The present study investigated the effect of psychological skills training on stigma of families caring for relatives with mental illnesses.

Methods: This study was a one group per-posttest experimental research. The participants were 45 family caregivers and selected with simple random sampling. The study was carried out at Farshchian psychiatric hospital in Hamadan, Iran, from 15 August to 30 September 2016. Data was gathered with Stigma questionnaire. Measures were taken before and after the Intervention and at a one month follow-up. The psychological skills training program was composed of six sessions and each session would last for one hour. A paired-samples t-test was conducted to compare mean stigma scores between pre-test, post-test and one month after implementation of a mental skills training program.

Results: Significant differences were found between mean score of stigma before ( $82.47 \pm 12.23$ ) and after ( $29.28 \pm 7.52$ ) psychological skills training program in family caregivers ( $p < .001$ ).

Conclusion: the 6 week psychological skills training program used in this study appears to be beneficial. Participants seemed to enjoy the intervention and felt the intervention improved beliefs and attitudes about stigma.

### **pos301.18 Towards evidence-based family preservation programmes. An economic evaluation approach**

Lucia Jimenez, Victoria Hidalgo, Lucia Antolin-Suarez, Isabel Lopez, Barbara Lorence

*Seville University, Spain*

In the last few years, the emphasis on implementing evidence-based practices has permeated family support initiatives (e.g., Boddy et al., 2011; Daly et al., 2015). As a consequence, effectiveness evaluations have increased, focusing on what programme should be developed, for whom and under what circumstances (Flay et al., 2005). However, just a few programmes in child welfare system have performed economic evaluations (Goldhaber-Fiebert et al., 2011). In this poster, three programmes implemented in family preservation services in Spain are compared from an economic perspective: a child-, a parent- and a family-focused programme for families at psychosocial risk. A comparative cost-consequences approach was followed, with an effectiveness external evaluation of the first application of one dosage. Individual interviews were performed with practitioners and managers responsible for family preservation services, who informed about direct and differential costs, as well as service's outputs. Moreover, child-per-dosage and child-per-year analyses were performed in comparison to residential care. The results showed that most of the budget was addressed to personnel costs, although for the child-focused program activity costs were also remarkable. The family-focused intervention required high-skilled practitioners in an individual format, although covered a high number of families. Moreover, the child-focused program meant high time-costs for the beneficiaries. In comparison to residential care, the three preservation resources evaluated showed high economic efficiency. These results are discussed from available evidence on this topic.

### **pos301.19 Because I need them, because I don't: Regulation of family relations**

Stephanie Barros Coimbra

*University of Luxembourg, Luxembourg*

The world's demography has evolved requiring policy makers and practitioners all over the world to face in the next years important issues specifically related to the steadily increasing migration. Only few studies have, however, focused on the regulation of relations between adult children and their ageing parents in host

national compared to immigrant families. Migrant families might be confronted with specific tasks. While the acculturation situation might give rise to an increased need for intergenerational support, an acculturation gap between both generations can potentially lead to different expectations. Adult children from immigrant families might, for instance, be subject to the experience of ambivalent or conflictual feelings regarding the desire to become independent from their parents; at the same time, they may feel the urge to conform to parental expectations or to support their parents in accordance to the values of their parents' culture of origin. However, older parents may also undergo changes in their perception of intergenerational support and lower their expectations in the process of acculturation.

A qualitative cross-cultural comparison is conducted of  $n = 10$  Portuguese and  $n = 10$  Luxembourgish dyadic interviews of older parents and their adult children, both living in the Grand-Duchy of Luxembourg. We will focus on different key issues regarding the regulation of intergenerational family relations between first and second generations of host nationals and immigrants focussing on processes such as interdependent and independent self-construal comparing both cultural groups and both generations.

First analyses show a heightened importance of geographical proximity in Portuguese migrant families compared to Luxembourgish native families for family relations. Likewise, regular interactions appear to be more required, needed and expected in Portuguese migrant families, especially from the parents while this is only to some extent, supported by their children.

### **pos301.20 Comparing mothers' and fathers' parenting and correlations with familial variables**

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*Universitat de Barcelona, Spain*

Parenting interactions are relevant for child's development. Most part of research has been conducted with mothers (for a review, see Roggman et al., 2013), but the role of fathers has been increasingly considered in the last years (Kochanska, Aksan, Prisco, & Adams, 2008; Ramchandani et al., 2012).

Some studies have been found that mothers' and fathers' mental health, family functioning, and conjugality may affect parenting (Krishnakumar & Buehler, 2000; Waylen & Stewart-Brown, 2010).

Our aims are to compare mothers' and fathers' parenting, and to study the relations between parenting and other parental and familial variables (parental anxiety and depression, parental stress, conjugality and familial functioning).

We assessed parenting interactions, using the PICCOLO checklist (Roggman et al., 2003), for 64 mothers and 64 fathers with a normally developing child between 10 and 47 months of age. Children were recruited from pediatric centers, nurseries and Community Family Centers. Mothers and fathers, separately, auto-recorded 10-minute play sessions at home. Two independent observers coded the interactions. Intra-class Correlation Coefficients (ICCs) reflected inter-rater agreement (from .75 to .92).

Parents fulfilled the Spanish versions of the Anxiety and Depression Scales (Zigmond & Snaith, 1983; Caro & Ibáñez, 1992), the Parental Stress Scale (Berry & Jones, 1995; Oronoz, Alonso & Ballcerka, 2007), the Family Environment Scale (Moos & Moos, 1981; Fernández-Ballesteros & Sierra, 1984) and the Basic Family Relations Inventory (Ibáñez et al., 2012).

Mothers and fathers scored similarly in affection, but mothers scored higher in the other PICCOLO domains (responsiveness, encouragement and teaching).

We found positive correlations between parenting, and familial and parental variables. For mothers, there were correlations between affection and familial functioning, and responsiveness and fathers' conjugality. For fathers, the correlations were between teaching, and fathers' conjugality and familial functioning. Familial functioning also correlated with the total score in PICCOLO.

### **pos301.21 Using PICCOLO to promote positive parenting with families with children with disabilities.**

Rosa M. Vilaseca, Fina Ferrer, Magda Rivero, Rosa M. Bersabé, Aroa Gómez, Carolina Pastor, Esperanza Navarro-Pardo

*Universitat de Barcelona, Spain*

Positive parenting interactions support development in both normal development children (Love et al., 2005) and in children with disabilities (Innocenti, Roggman, & Cook, 2013). Interventions for families with infants and young children at risk for developmental problems or also with established disabilities that work with fathers and mothers in a family centered approach focusing on positive parenting have established scientific evidence of better parenting behavior that contributes to improve early child development (Avellar & Suplee, 2013; Roggman & Cardia, 2016). Parent-child interaction needs to be included in interventions programs with children. For that reason, the characteristics of parent-child interaction related to optimal development need to be measured in order to be able to intervene in the natural context of families (Fuligni & Brooks-Gunn, 2013).

This paper presents observational studies of mothers' and fathers' parenting interactions with children from one to three years old with developmental delays from early interventions centers in Spain, assessed using the standardized observation measure of parenting interactions, PICCOLO (Roggman et al., 2013), considering the dimensions of affect, responsiveness, encouragement and teaching. Most of the early intervention centers use various assessment tools to test children's developmental outcomes, but none of them were using observation tools to measure parenting outcomes. Preliminary analyses show minor differences between mothers and fathers, although mothers score a little higher on PICCOLO. The highest average score was in the Responsiveness domain and the lowest in the Teaching domain, similar to PICCOLO measurement sample of typically developing children at age 1 year (Roggman et al., 2013). Parental expectations of development and mindfulness in the parenting role should be considered (MacDonald & Hastings, 2010). Implications on practical clinical applications and future research directions are discussed.

### **pos301.22 Mothers' parenting interactions with infants: Cultural variations in three countries.**

Chamarrita Farkas, Mark S. Innocenti, Lori Roggman, Magda Rivero, Rosa M. Vilaseca, Katherine Strasser, María P. Santelices

*Universitat de Barcelona, Spain*

Global and cultural changes influence parents' beliefs as well as social values related to the expectations to be "good parents", and the socialization's process of children. These cultural differences have been described as cultural variations in their emphases on autonomy and relatedness dimensions (e.g. Keller & Otto, 2011), where mothers from more autonomous contexts as Western, urban and highly educated families, value autonomy, independency, and self-reflections in their children, while mothers from more relational contexts as non-Western, rural and lower educated families, value an interdependent, socially embedded self-concept in which their children adapt to the social hierarchy. Thus, mothers' roles are dynamically responsive to environmental, social and cultural conditions, so it is critical to examine parenting interactions in varying cultural contexts to expand our understanding of mothers' parenting. Research conducted on maternal competences suggests some aspects are consistent across cultures while other research highlights cultural variations.

This paper presents observational studies of mothers' parenting interactions with children from Chile and Spain, assessed using the same standardized observation measure of parenting interactions, PICCOLO (Roggman et al., 2013), and compare them with data reported in US. Cross-cultural similarities and differences are examined, considering the dimensions of affect, responsiveness, encouragement and teaching. Preliminary analyses show similar scores in Affect and Encouragement between Chilean and Spanish mothers, and related with US sample. In responsiveness dimension, Spanish mothers are similar with US sample while Chilean mothers show higher scores, but Spanish mothers exhibit higher scores in teaching compared with Chilean and US mothers. All Chilean and Spanish mothers have higher scores in the dimension of responsiveness, but the second higher dimension varies, being encouragement for Chilean mothers and teaching for Spanish mothers. Implications on practical clinical applications and future research directions are discussed.

### pos301.23 Mother-adolescent conflict interaction patterns: The role of maternal emotional problems

Debbie van Bommel, Wim Meeus, Susan Branje  
*Universiteit Utrecht, Netherlands*

Although parent-child conflicts temporarily increase in frequency and intensity during adolescence, these conflicts are also thought to be a means to negotiate relational changes. To understand how conflicts during adolescence can be promotive of relationship change and psychosocial adjustment, better insights in how conflict interactions unfold over time are needed. According to Dynamic Systems Theory, adaptive conflict interactions are characterized by emotional variability and the ability to make transitions to various emotional states (Lichtwarck-Aschoff, Kunnen & van Geert, 2009). This study will examine how mother-adolescent dyads successfully make transitions during conflict interactions.

Mothers are expected to be important initiators of transitions towards positivity, since on average they have better emotion regulation strategies than adolescents (Morris, Silk, Steinberg, Myers & Robinson, 2007). Mothers with emotion regulation difficulties, a neurotic personality or elevated levels of depression experience more difficulties in regulating negative emotions and are therefore expected to have more rigid conflict interaction patterns with adolescents.

We will use 3 annual waves of conflict interaction observations between 102 mothers and adolescent (age 13-15) as part of the RADAR-project in the Netherlands. Five emotional states (Positive, Interest, Neutral, Internalizing- and Externalizing Negative) of mother and adolescent are coded based on verbal and nonverbal behaviour. We will conduct lag-sequential analyses in GSEQ5 (Bakeman & Quera, 2011). First-order transition-probabilities will be analysed, to test whether adolescents' negativity is more likely followed by mothers' positivity than mothers' negativity followed by adolescents' positivity. We will examine differences in transitions between mothers high and low in emotional problems (Figure 1).

This study is the first to examine how mothers and adolescents successfully transition to various emotional states, by taking both positive and negative emotions of the mother and adolescent into account. The results of our micro-observational study will allow us to distinguish functional and dysfunctional conflict interaction patterns.

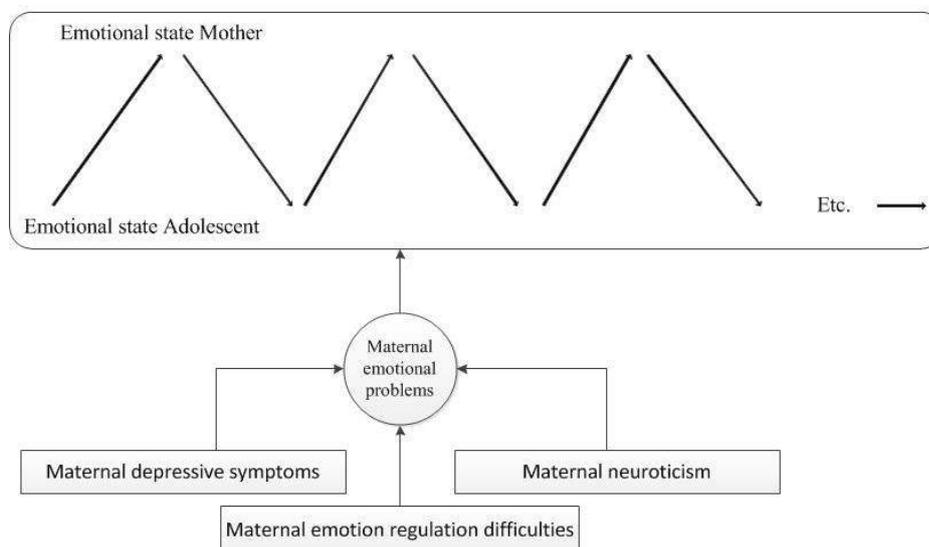


Figure 1. Conceptual model

### pos301.24 Maternal behavior and children's externalizing/internalizing problems: Mediating role of the child's mental representations

Parisa Sadat Seyed Mousavi, Hanieh Moghaddamkia  
*Assistant professor, Family Research Institute, Shahid Beheshti University, Iran*

Numerous studies indicated the significant role of infant-mother attachment in child development. According to Bowlby and Ainsworth (1991), maternal behavior is one of the most important factors determining

individual differences in child attachment. Considering the importance of this, the present study aims at investigating the relationship between maternal behavior and externalizing/internalizing problems in pre-school children by examining the mediating role of the child's mental representations of the self and the mother.

In this study, 125 mothers with their pre-school children, aged 3 to 5, were selected using convenience sampling. The externalizing/internalizing problems in children were assessed by "the Child Behavior Checklist (CBCL)" completed by mothers. A self-report questionnaire ("The Quality of Maternal Care-giving scale") together with an observation method ("Maternal Behavior Q-sort") was used to evaluate maternal behavior. Finally, "MacArthur Story Stem Battery" was used to assess children's mental representations. The data thereby collected were then analyzed using correlation and regression analysis.

The results indicated that both maternal sensitivity/responsiveness and maternal availability are negatively correlated with externalizing/internalizing problems and negative representations of the self and the mother. Additionally, maternal confusion and negative representations of the self and the mother both have positive correlation with externalizing/internalizing problems. More specifically, whereas there is a higher correlation between negative representation of the self and emotional problems, negative representation of the mother are more correlated with behavioral problems. The results also suggest that children's negative representations of the self and the mother mediate the relationship between maternal behavior and externalizing/internalizing problems.

It is concluded from the study that maternal behavior plays a critical role in the child's emotional and behavioral problems through mediating role of mental representations. Negative representation of the self leads to more anxiety and depression whereas negative representation of the mother results in behavioral problems such as aggressiveness and defiance.

### **pos301.25 Systematic approach to daily stress and coping in families with a patient.**

Nadezhda Mikhailova

*Saint-Petersburg State University, Russia*

Members of the families with deaf and blind children and families with a parent suffering from neurosis are similar in their "life conditions" – they have to adapt their life to some limitations, caused by the disease or disability of a family member. In both cases disorder provokes changes in family system, mobilizing all the family resources to fight the disease. One of the aims was to compare destructive effect of child's or parent's disorder on the family system.

Participants were 100 families with teenagers (269 people). In 25 families mothers suffered from neurosis, 16 families with deaf and 15 – with blind teenagers, 44 families with no disorders.

Using 6961 event sampling, we examined their stress and coping experiences (Perrez, Schoebi, Wilhelm, 2000). Family members were instructed to daily report everyday stressful events, emotions, causal attribution, coping and coping outcomes.

In families with a patient we found specifics in the types of stressors, emotions, causal attributions and coping. They had higher scores on conflicts, the main source of criticism and negative evaluation more often were family members. Predictors of inadequate mother's coping were her social family stress and non-social family stress, her frustration and anger, inadequate child's coping and father's intervention into stressful situation. Comparative analysis of the level of adequate and inadequate coping within family system showed that in control group there were more families with triadic adequate coping (when all three families members used adequate coping in the stressful situation).

In families with a patient or a teenager with disability specifics of father's causal attributions was in ignorance that neurotic wife or a child with disability can be a source or subject able to control stressor or solve the problem.

Among mothers most "unsuccessful" in problem solving were mothers, suffering from neurosis.

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## Language development and communication

### **pos301.27 Analysis of the Effects of Working Memory Capacity on L2 Speech Recall**

Michael Kelland

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Working memory can be expressed as the human cognitive system responsible for the storage and simultaneous and temporary processing of information in the performance of cognitive tasks (Baddeley & Hitch, 1974; Daneman & Carpenter, 1980, 1983; Miyake & Shah, 1999), and stores highly limited capacity intermediate representations of messages making them then available for further processing. It has been acknowledged ((Daneman & Green, 1986; Daneman, 1991; Fortkamp, 1999; 2004;) that the acquisition and use of both ones first and subsequent languages can be inhibited by limitations in individuals' working memory capacity, and has been shown in studies that individuals currently possessing higher WMC tend to perform better than those with lower levels in a number of language related tasks.

The pilot research outlined in this investigation tested (1) a number of students' working memory capacities, and was followed by (2) pre-testing and analysis, (3) the administering of a treatment, followed by (4) post-testing and (5) delayed testing. The aim of the research was to confirm whether students with higher WM capacity would score more highly on the post-treatment variables tests, due to their ability to better retain and use new vocabulary. Analysis also indicated the extent to which having high or low WMC effects the difference between pre-test and post-treatment test, and made suggestions as to whether having higher WMC indicates connections between WMC and the ability to store information for longer term recall.

## Peer relationships

### pos301.29 An Examination of Mother-Child, Father-Child and Peer Attachment

Sol Park, [Chiaki Konishi](#)  
 McGill University, Canada

There is limited research that focuses on the roles of either the mother-child or the father-child attachment and the child's future relationships (Kochanska & Kim, 2013). This study investigated the relationship between an adolescents' attachment to their mother-figures and their father-figures and their consequent attachment to their peers. Emphasis was placed on the level of attachment anxiety and attachment avoidance that the adolescents developed toward their caregivers, and how it played a role in the adolescents' attachment to their peers.

A subset of data collected from 2007 was analyzed. 776 students (397 girls), grades 8-12 from secondary schools in British Columbia voluntarily participated in the study with parental consent. The Comprehensive Adolescent-Parent Attachment Inventory (CAPAI) was used to assess the adolescents' attachment (attachment anxiety and attachment avoidance) to their mother figures and father figures separately, and students' attachment and feelings to their peers.

The results (Table 1) of multiple linear regression analyses predicting avoidant attachment to peers from avoidant and anxious attachment to mother, and avoidant and anxious attachment to father, were significant for boys and girls, with greater avoidant peer attachment associated with lower avoidant attachment to father for both boys and girls. Boys and girls with high avoidant attachment to father reported high avoidant peer attachment. Boys and girls who had high avoidant attachment to father and anxious attachments to father and mother reported high anxious peer attachment. Avoidant attachment to mother was a significant predictor only for girls.

This study makes a crucial contribution to research on parent-child and peer-relationships, especially by exploring the role of the father-child attachment that is so limited in research today. It can be concluded that adolescents' attachment to their mothers and fathers separately, can effectively predict their attachment to peers, which can contribute to learning outcomes for future parents' supervision techniques.

**Table 1**  
*Summary of Regression Analysis for Variables Predicting Peer Attachment*

Variable	Avoidant Peer Attachment			Anxious Peer Attachment		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
<b>Boys</b>						
Avoidance to mother	0.14	0.06	0.14	0.01	0.06	0.01
Anxiety to mother	0.05	0.10	0.04	0.38	0.1	0.25***
Avoidance to father	0.13	0.05	0.16*	0.12	0.05	0.12*
Anxiety to father	0.09	0.09	0.08	0.51	0.08	0.39***
<b>Girls</b>						
Avoidance to mother	0.03	0.05	0.04	0.18	0.04	0.20***
Anxiety to mother	0.12	0.07	0.10	0.47	0.07	0.35***
Avoidance to father	0.08	0.04	0.11*	0.12	0.04	0.14**
Anxiety to father	0.01	0.07	0.01	0.25	0.06	0.20***

*Note.*  $R^2 = .10$ ,  $p < .001$  for boys: avoidant peer attachment;  $R^2 = .40$ ,  $p < .001$  for boys: anxious peer attachment;  $R^2 = .03$ ,  $p < .05$  for girls: avoidant peer attachment;  $R^2 = .39$ ,  $p < .001$  for girls: anxious peer attachment.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

*Table 1: Summary of Regression Analysis*

### pos301.30 Paternal and maternal attachment: A multifaceted perspective on friendship among adolescents

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One of the most salient figures in adolescence is friends; however, not all friendships are of quality. While the attachment literature has tried to explain these differences in relation to maternal attachment, few have focused on paternal attachment (Freeman, Newland, & Coyl, 2010). Additionally, these studies have often evaluated friendship with broad indices (e.g., positive) or by peer relationship in general, neglecting the array of qualities that underlie friendship (Seibert & Kerns, 2015; Bukowski, Simard, Dubois, & Lopez, 2011). Therefore, the present study examined the multifaceted nature of friendship by accounting for the contribution of paternal and maternal attachment. In accordance with previous literature, sex and age differences were also considered (Ruhl, Dolan, & Buhrmester, 2015). Participants included 776 adolescents (aged 13-19) from four secondary schools in Western Canada. Participants reported their attachment with parents and perceived relationship with a close friend across 13 qualities (e.g., companionship), respectively using the Comprehensive Adolescent-Parent Attachment Inventory and the Network of Relationships Inventory. A series of hierarchical multiple regressions was conducted to analyse the data. Findings indicated that there were significant sex and age differences in the observed relationships. Controlling for these differences, attachment avoidance with father negatively predicted companionship, instrumental aid, nurturance, admiration, and satisfaction; attachment avoidance with mother negatively predicted nurturance, affection, admiration, and satisfaction. On the other hand, attachment anxiety with father positively predicted conflict, antagonism, nurturance and criticism, while attachment anxiety with mother negatively predicted satisfaction. Additional analyses revealed that over and above sex, age, and attachment with mother, attachment avoidance with father negatively predicted nurturance; attachment anxiety with father also positively predicted nurturance, conflict, antagonism, and criticism. This study highlights the important associations between paternal attachment and different qualities of friendship. It also provides implications for interventions that aim to facilitate healthy parental attachment and friendships among adolescents.

Facets of friendship	R <sup>2</sup>	Attachment avoidance (father)		Attachment avoidance (mother)		Attachment anxiety (father)		Attachment anxiety (mother)	
		B	β	B	β	B	β	B	β
Companionship	.032***	-.049	-.083*	-.041	-.062	.005	.006	-.014	-.015
Conflict	.041***	.013	.021	.035	.049	.159	.177***	-.023	-.023
Instrumental aid	.055***	-.053	-.093*	-.016	-.025	-.009	-.011	.047	.052
Antagonism	.065***	.015	.022	.024	.032	.23	.246***	-.040	-.039
Intimacy	.114***	-.045	-.064	-.043	-.054	.012	.012	.037	.033
Nurturance	.085***	-.051	-.087*	-.053	-.08*	.089	.106*	-.002	-.002
Affection	.118***	-.028	-.047	-.06	-.089*	.008	.009	-.025	-.027
Admiration	.068***	-.047	-.094*	-.048	-.084*	-.016	-.022	-.018	-.022
Relative power	-.009	-.013	-.033	.004	.009	.027	.046	.002	.003
Reliable alliance	.042***	-.056	-.079*	-.049	-.062	-.041	-.041	-.088	-.080
Emotional support	.119***	-.052	-.072*	-.018	-.022	.062	.060	.008	.007
Criticism	.079***	.009	.013	.044	.058	.171	.181***	-.007	-.007
Satisfaction	.066***	-.046	-.081*	-.055	-.086*	-.021	-.026	-.094	-.106*

Note. After controlling for age and sex differences (first step), paternal and maternal attachment avoidance and anxiety were entered in the second step to predict each facet of friendship. <sup>†</sup>p < .075, \*p < .05, \*\*p < .01, \*\*\*p < .001. Table only shows results from the second step.

Table 1: Hierarchical Multiple Regression Analyses for the Relationship between Parental Attachment and Different Facets of Friendship among Adolescents

### pos301.31 Saudi children's reasoning about exclusion based on religious identity

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Children's peer exclusion or rejection based on group identity (Killen et al., 2002; Møller & Tenenbaum, 2011) is related to lower academic and psychological adjustment (Coei, Lochman, Terry, & Hyman, 1992; DeRosier, Kupersmidt, & Patterson, 1994). Previous research on exclusion has focused on children in the US and Europe with little work conducted in Arab nations (for an exception, see Brenick et al., 2010). To extend this line of research to different cultures, the current study focuses on exclusion amongst Saudi children based on religion and sect (Muslim and Non-Muslim; Sunni and Shia).

The participants consisted of 76 Saudi children; 17 second graders (M = 8.41 years, SD = .50), 35 fourth grader (M = 10.43 years, SD = .50) and 24 sixth grader (M = 12.50 years, SD = .50).

Children were interviewed individually. Eight vignettes about religious exclusion were read to the children, which asked their opinion about the acceptability of excluding a Shia or a Sunni, a Muslim or a non-Muslim by either a peer or a father. After each vignette the participants were asked whether or not it was ok to exclude a child.

Overall, mean scores for exclusion indicated that children did not accept the exclusion  $M_s < 2$ . Children judged the exclusion as less acceptable when the target was matched for their in-group than out-group,  $F(1,72) = 5.100, p = .03$ , partial  $\eta^2 = .10$ . Children were more likely to accept the exclusion of non-Muslim when ordered by father more than when ordered by peer,  $F(1,75) = 9.41, p = .003$ , partial  $\eta^2 = .11$ .

The findings support social identity theory in that children showed in-group bias (Tajfel et al, 1971) This will be interpreted in greater depth in relation to authority in this socio-cultural context.

### pos301.32 Long term relations between social inclusion and infectious diseases in middle childhood

Vidar Ulset

University of Oslo, Department of Psychology, Norway

The aim of this study was to examine long term relations between social inclusion and the frequency of infectious diseases. From an evolutionary perspective, lack of social contact or social rejection imposes a greater risk of being attacked and wounded by predators. At the same time, social rejection may reduce the risk of infection owing to reduced social contact. As such, the immune system reacts to social threats by down-regulating the anti-viral defense in favor of up-regulating inflammatory activity. This response has been termed the conserved transcriptional response to adversity (CTRA). However, in modern educational settings, children are confined to indoor settings where the risk of wounding is low and the risk of infection is high. Therefore, children who experience social rejection may be at higher risk of infection if their immune systems down-regulate the anti-viral defense. However, the opposite may also be true, that socially included children are at high risk of infection since they have more contact with peers. To investigate this question, we followed 562 Norwegian preschoolers (298 girls; mean age at first wave = 59.82 months, SD = 10.44) over a period of four years, covering the transition from preschool to formal school. The children were shown pictures and asked to point out 5 peers they would like to bring on a bus trip (social inclusion). Parents reported on the frequencies of infectious diseases. Results from cross lagged analyses showed that social inclusion at T1 and T3 was negatively associated with infectious diseases at T3 and T4, respectively. The results suggest that social inclusion protects against infectious diseases in preschool in children.

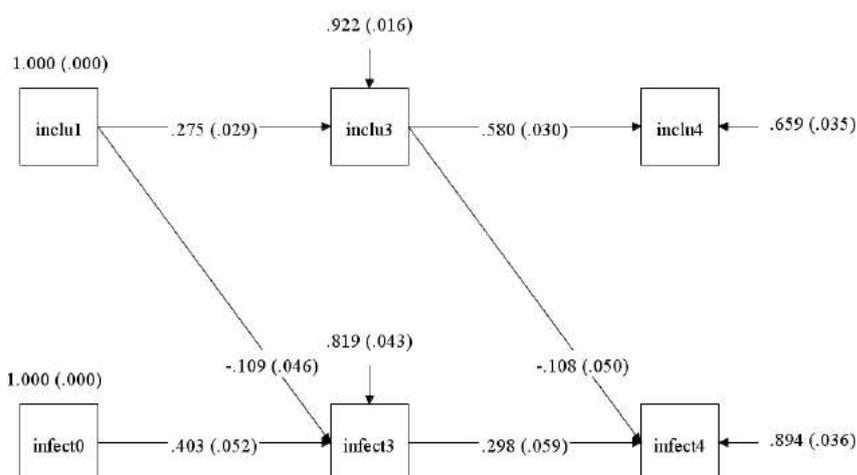


Figure 1: Results from cross-lagged analysis showing only significant standardized coefficients

## **Prevention and Intervention**

### **pos301.33 Social network as a protective factor for institutionalized children in Japan**

Takayo Mukaj, Chizuru Saito, Motoko Saeki  
*University of the Sacred Heart, Japan*

**Aim:** Studies have suggested that the ability to form relatively stable close relationships may function as a buffer against harsh circumstances. The objectives of this study were to understand the development of social network in at-risk children, and to explore its protective effect. Gender differences in magnitude of the effect will also be explored.

**Methods:** The present analyses are based on the data from 40 children (23 boys and 17 girls, aged 5-8 years) living in three institutions. 15 of these children (34.9%) had experienced some form of abuse. The children have been individually administered with PART (Picture Affective Relationship Test; Takahashi, 2002) and Picture Vocabulary Test. In PART, the respondent is expected to name any significant figures, by assigning figures selected functions, such as emotional support. Responses to 3 attachment related cards ("being sick," "sad," "getting injured") were used to determine whether the child has an attachment figure. Caretakers filled out the Child Behaviour Checklist (Achenbach, 1991).

**Results:** Based on PART, 17 (42.5%) children were classified as lacking an attachment figure in their social network. The three-way ANOVA for CBCL internalizing score revealed a main effect of attachment figure ( $F(1, 30) = 10.01, p < .01$ ), and an interaction of attachment figure and gender ( $F(1, 30) = 4.03, p < .05$ ). The girls who had no attachment figures showed significantly higher internalizing scores.

**Conclusions:** The results suggest that social network could be a protective factor for at-risk children. Further the effect of an attachment figure upon children's adjustment may differ by gender. The girls who had no identifiable figures for functions that are central to attachment seem to be at greater risk for developing internalizing problems than boys. The results suggest the need for intervention for children who show little interest in interpersonal relationships as well as the gender specific need for support.

### **pos301.34 Evaluation of development of preterm infants: corrected and chronological age subsidizing decisions**

Olga Maria Piazzentin Rolim Rodrigues, Taís Chiodelli, Barbara Camila de Campos, Veronica Aparecida Pereira  
*Universidade Estadual Paulista Julio de Mesquita Filho (UNESP), Brazil*

The study analyzed the effects of prematurity on the development of infants at four and six months of age, considering the corrected age of premature infants, compared to the performance of control groups. A total of 221 preterm infants were included: 125 infants (51 infants up to 32 weeks of gestation and 74 infants were born in between 33 to 36 weeks of gestation) and 96 six-month-old infants (40 were born up to 32 weeks of gestation) and 56 were born in between 33 to 36 weeks of gestation). Two control groups were established with infants born between 39 and 40 gestational weeks, four and six months old, with the respective number of participants from the preterm groups. With the matching of the groups, the study had a total of 442 participants. To evaluate development, the Operational Portage Inventory (OPI) was used in the areas of: Socialization, Cognition, Language, Self-care and Motor Development. The developmental data of the infants were analyzed from the chronological and corrected age of preterm infants. Considering the chronological ages at four months of age, significant differences were observed between preterm and control babies in four of the five areas evaluated, independent of gestational weeks and at six months in two areas, also independent of gestational weeks. Correcting the ages premature babies outperformed control babies in all areas analyzed. The data obtained point out the risk that, when correcting the age, conclude for the need of early intervention services, disregarding the specific needs of this population in the first months of life and future impacts on their development. The monitoring of the babies and orientation to the parents based on the identified needs, considering the chronological age, is effective for the planning of services essential to the development of children.

**pos301.35 ParentWorks: Preliminary effectiveness of a national, free, online, father-friendly parenting program**

Frances Doyle, Patrycja Piotrowska, Lucy Tully, David Hawes, Matthew Burn, Meryn Lechowicz, Daniel Collins, Mark Dadds

*The University of Sydney, Australia*

**Background:** Although childhood externalising problems are the most reliable precursors for antisocial behaviours, violence, and adult mental health issues, they can be effectively treated using evidence-based parenting interventions. Researchers have shown that enhanced child outcomes are achieved when fathers participate in these interventions. However, there are low rates of father participation in evidence-based parenting programs. It is therefore important to consider how to enhance the engagement of fathers in parenting programs. Online dissemination has been one way to improve reach of parenting programs. Yet no online parenting programs have been devised to consider the specific needs and preferences of fathers. To address this gap, we have developed an online parenting intervention to meet the needs and preferences of fathers as well as mothers. This intervention is currently being implemented as a universal intervention in Australia.

**Aim:** ParentWorks is Australia's first free, national, online, evidence-based, father-inclusive parenting intervention. It aims to decrease childhood externalising behaviours and promote positive parenting in mothers and fathers. It is part of several strategies being implemented as part of the The Like Father Like Son project, which aims to enhance the engagement of fathers in evidence-based interventions for childhood externalising problems at the national level.

**Methods:** ParentWorks was launched in August 2016 and targets parents/caregivers of children aged 2 to 16 years. ParentWorks is a self-directed intervention with five to eight video modules. Each participating parent completes questionnaires at three time points: pre-program, post-program, and three-month follow-up.

**Results:** This presentation will report on the preliminary findings of ParentWorks in regards to changes in child externalising behaviour and parenting practices from pre- to post-intervention.

**Conclusions:** The results of this study will be used to inform public policy about providing support to mothers and fathers in the community who have children exhibiting externalising behaviour problems.

## **Race, ethnicity, culture, context**

### **pos301.36 Fostering a bilingual/bicultural generation: A mixed-methods study within a complementary school context**

Virginia Lam, Farkhanda Rafique Chaudry, Martin Pinder, Tarlok Sura  
*University of East London, United Kingdom*

**Aim:** Research shows that ethnic minority individuals with strong and positive ‘multigroup’ identities exhibit better adjustment than their minority peers with ‘singular’ identities (Marks et al., 2011). Yet they face external pressure to behaviourally conform to peers from the dominant group, a challenge towards mastering the ethnic language and culture (Caldas & Caron-Caldas, 2002). The current study gauged ethnic language competencies and usage and identities of pupils in a complementary school, within an under-researched sector that has long supported ethnic language learning.

**Methods:** A mixed-methods approach comprised measures completed by 75 (45F) British-Sikhs aged 6-16 years on the strength of ethnic and British identification (Barrett, 2007), Panjabi proficiency and contextual use (Marin, 1986) and views on complementary schooling. Furthermore, focus groups (14 parents) and interviews (7 teachers) discussed children’s language and cultural learning across their home and school and key challenges.

**Results:** Over 75% children rated their oral skills, and over 60% literacy, as above average, where the former was related to home use and parental birthplace and latter to school attendance. Proficiency was related to use with friends while ‘best friendships’ language use to parental birthplace. The label ‘British Sikh’ was most endorsed; though ethnic identification was stronger, British identification and home use predicted ethnic identification. Children recognised both practical and cultural importance of their language and role as cultural brokers between communities. Parental expectations based on pride in Sikhism and respect for other religions, understanding of ‘Western’ versus ethnic values and adaptability between mainstream and complementary contexts were shared. Teachers related home use to technological and linguistic shifts as being both a challenge and an opportunity.

**Conclusions:** Complementary education is a highly useful resource that supports ethnic language and cultural learning. However, close partnerships between home and school present the best approach to fostering an adaptable bilingual/bicultural identity.

### **pos301.37 Exploring the way to culturally adequate assessment of adaptive behaviour**

Lucie Chadimova, Jakub Jelínek, Matěj Seifert  
*National Institute for Education, Masaryk University, Czech Republic*

Presentation introduces results of first pilot study of newly developed assessment scales of adaptive behaviour for children, constructed for Czech environment. The study targeted potential sources of culturally induced error. It aimed on content validity and comprehensiveness for users and respondents from majority and minority populations in Czech Republic, with special regard to Roma population. Adaptive abilities are crucial for daily-life independence. It’s a widely defined construct that contains social, practical and conceptual abilities (based on the AAIDD model applied to DSM-5). Comprehensive evaluation of adaptive abilities is not only an integral part of mental disorders diagnostic process, but also an important step to overview the impact of health and social challenges. We argue that such knowledge is crucial for being able to provide proper evaluation of child’s development and predict effectivity of different methods of support in his/her life context. We obtained 74 assessments of 65 children and adolescents (26 girls, 37 boys) aged 5 – 16. Belonging to minority-majority group was based on self-identification of the family. We applied teacher and parent form of scale, an interview form for parents or their combinations. Assessment scales were administered in face-to-face sessions or as an online survey. Respondents were addressed through counselling centres, schools, non-profit organisations and public advertising. They were financially rewarded for participation. Sample distribution is detailed in Figure 1.

Specificities in each group’s responding were uncovered, such as tendency of minority respondents to respond within extreme values of the scale (either yes/no). We identified hard-to-comprehend items and areas, in which adaptivity of certain behaviour is viewed differently in context of culture (e.g. towards food).

Changes of assessment scales implemented for following pilot studies will be discussed, such as suggested content overlap between parent and teacher form of the scale that could underpin culturally promoted differences in responses.

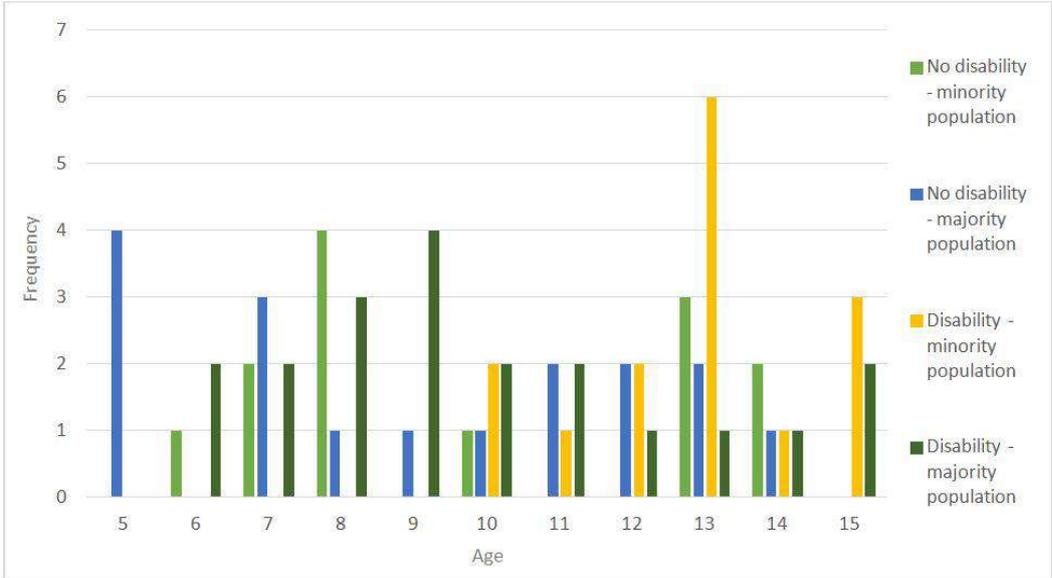


Figure 1: Numbers of assessed children and adolescents following age, population group and presence of health or mental challenges (e.g. ID, attention disorders, autism spectrum disorders, speech and learning disabilities).

## **Social, and personality development**

### **pos301.38 Global Self-Esteem and its Relations to Domain-specific Self-evaluations in Adolescence**

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**Aim:** Self-Esteem is a multidimensional construct (Harter, 2012; Marsh & Hattie, 1996). Domain-specific self-evaluations are more prone to change in adolescence than Global Self-Esteem (GSE), which can be regarded as a general and stable characteristic (Huang, 2010). First, we aimed to find the role of domain-specific evaluations for GSE in early and middle adolescence. Second, we asked if the role of these evaluations for GSE changes over time in both age groups.

**Method:** Using a cross-sectional and short-longitudinal design, 2 groups of adolescents (13-year-olds at T1, M=13.13, SD=3.77, N=109; 16-year-olds at T1, M=16.25, SD=4.26, N=141) were tested 3 times (T1: September 2014, T2: May 2015, T3: January 2016). Harter's Self-Perception Profile for Adolescence was used.

**Results:**

As regards GSE at T1, significant predictors of GSE in early adolescence were physical appearance, social acceptance, scholastic competence, and behavioural conduct ( $\Delta R^2 = .59$ ,  $F(4,87) = 30.44$ ,  $p < .001$ ), whereas in middle adolescence physical appearance, social acceptance, and athletic competences ( $\Delta R^2 = .55$ ,  $F(3,126) = 51.60$ ,  $p < .001$ ). Moreover, comparing the strength of correlations between GSE and domain evaluations between 3 time-points, short-time stability in both age groups was observed. Only in early adolescence did we find evidence for the significantly growing role of physical appearance (from .51 at T1 to .72 at T2/T3) and close friendship evaluations (from .05 at T2 to .37 at T3) for GSE.

**Conclusions:** We replicated previous findings (Harter, 2012) that physical appearance and social acceptance are the most important predictors for GSE in early and middle adolescence. Moreover, the role of physical appearance grows over two years in younger adolescents for whom school achievements were important for their GSE. Interestingly, for older adolescents, athletic competence started to play a role in GSE.

### **pos301.39 My Best Friend Matters: Best Friends' Peer Status and Shy Children's Adjustment**

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Shy children have difficulties initiating and maintaining social interactions, which put them at risk for internalizing problems, school adjustment, and peer relationship difficulties across cultures (Rubin et al., 2009). Shy children tend to experience peer exclusion (Arbeau et al., 2010) and befriend other shy/withdrawn children (Rubin et al., 2006). However, the effects of the peer status of shy children's best friends on their adjustment are understudied. Thus, we examined whether the peer status of shy children's best friends predicted their loneliness, social anxiety, and depressive symptoms.

Participants were 4th and 5th grade Turkish children (N=599; Mage=10.11 years, SD=.65; 48% girls) who reported on shyness, social anxiety, loneliness, and depressive symptoms. Peer nominations of children's classroom peer acceptance were obtained.

Moderated regression analyses showed that shy girls felt more lonely if their best friend had low peer acceptance,  $\beta = -.14$ ,  $p = .001$ . In contrast, shy boys reported more feelings of loneliness when their best friend had high peer acceptance,  $\beta = .07$ ,  $p = .04$ . Unexpectedly, peer status of shy children's same-sex best friends did not moderate the link between shyness and depressive symptoms or social anxiety.

The implications of shy children's best friendship differed for girls versus boys. Shy girls seemed to benefit from friendships with highly accepted same-sex best friends, but the opposite was true for boys. Females tend to use a communal style focusing on maintaining relationships in their social interactions (Hibbard & Buhrmester, 1998), whereas males are more likely to use an agentic style focusing on dominance. Thus, friendships with highly accepted peers may increase shy girls' peer participation, and create opportunities for them to receive emotional support. Shy boys may lack this opportunity. In addition, shy boys may make social comparisons with their highly accepted same-sex best friends, resulting in feelings of incompetence. Findings will be discussed within the Turkish socio-cultural context.

### pos301.40 The Role of Personality Traits and Values on Prosocial Behavior

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Identifying the factors that influence prosocial behavior has become a subject of studies in social and developmental psychology because it often carries a great importance for communities and the individual. The role of socialization processes, cultural factors, personality traits, and cognitive skills on prosocial behavior have been found in different studies. However, the number of studies in which various factors are considered together is limited. The aim of this study was to examine the effects of personality and values on university students' prosocial behavior. The sample consisted of 319 university students (217 female, 102 male; M age = 21.7 years) from 14 different cities of Turkey. Participants were administered Altruism Scale, Big Five Inventory Scale and Portrait Values Questionnaire. Results of multiple regression analysis indicated that openness characteristics of personality; self-transcendence (universalism and benevolence) values were the predictors of prosocial behavior in university students (Table 1). Results that supported the evidence of multidimensional nature of prosocial behaviors were discussed by focusing on the role of personality and socialization factors. Future research would plan in accordance with integrative approach which emphasize biology and environment interactions.

	Analiz Aşaması	$\Delta R^2$	B	SE	$\beta$	t	F
1	Self-Transcendence	.094**	1.24	.21	.31	5.85	34.18**
2	Self-Transcendence	.024*	1.08	.22	.27	5.02	21.88**
	Openness		.30	.10	.16	2.96	
3	Self-Transcendence	.010	.91	.23	.23	3.88	15.87**
	Openness		.30	.10	.16	2.93	
	Agreeableness		.027	.14	.11	1.87	

\* $p < .01$ ; \*\* $p \leq .001$

Table 1: Results of Multiple Regression Analyses

### pos301.41 Socio-emotional and temperamental functioning of social withdrawal subtypes in preschoolers

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AIM: Children's shyness and unsociability are two subtypes of social withdrawal characterized by different temperamental and motivational substrates. Shy children desire to interact with others but they experience feelings of social contact anxiety. In contrast, much less is known about preschoolers' unsociability, characterized by the preference for solitary play as well as not fearing social relationships (Coplan, Ooi, Rose-Krasnor, & Nocita, 2014; Kopala-Sibley & Klein, 2016). The present study was aimed to explore the differences between shyness and unsociability in terms of socio-emotional functioning and temperamental characteristics in young children.

METHODS: Participants were 167 (84 boys) Italian children (M = 4.42 years, SD = 1.13). Parents evaluated children's shyness and unsociability by using the CSPS ( $\alpha = .76, .73$ , respectively) and children's temperament (e.g., activity level, negativity) by completing the CBQ-SF ( $\alpha$ s from .62 to .84). Teachers assessed the quality of their relationships with each child by using the STRS ( $\alpha$ s from .68 to .82) and children's social behaviors by completing the SCBE-30 ( $\alpha$ s from .87 to .91). Finally, children were interviewed to measure their preference for solitary play ( $\alpha = .81$ ).

RESULTS: Pearson correlations revealed that shyness and unsociability were positively related to social withdrawal ( $r = .21^*$ ,  $20^*$ ). Shyness was positively related to anxiety ( $r = .24^*$ ) and guilt ( $r = .26^{**}$ ) while unsociability was associated with the preference for solitary play ( $r = .20^*$ ) and negativity ( $r = .20^*$ ). Shyness was also negatively correlated with positive affect ( $r = -.41^{**}$ ), activity level ( $r = -.21^*$ ), and closeness ( $r = -.21^*$ ).

CONCLUSIONS: Our study revealed that shyness was related to more negative feelings (e.g., anxiety, guilt) and less closeness to teachers whereas unsociability was more associated with solitary play. The study provided preliminary evidence for the differentiation of shyness and unsociability during preschool years.

### pos301.42 Effects of resilience on adolescent self-esteem development: a longitudinal study

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**Aim:** This study was conducted to investigate the effects of resilience on adolescent self-esteem development. In Japan, resilience tends to be regarded as a psychological trait and the effects of resilience is focused on daily stress.

Does the resilience developed in Japan forecast adaptation in the future as is expected? Although the majority of previous studies have proved the covariance between resilience and self-esteem, cross-sectional data can not offer a clear answer.

**Methods:** This study integrated data from a longitudinal study of 264 children from a unified elementary through junior high school. Of these children 54 were fourth grade students, 70 were fifth grade students, 62 were sixth grade students and 78 were in the seventh grade. The data was collected semiannually from July 2014 to July 2016 with collection taking place a total of 5 times. From the collected results a latent growth curving model was developed and verified.

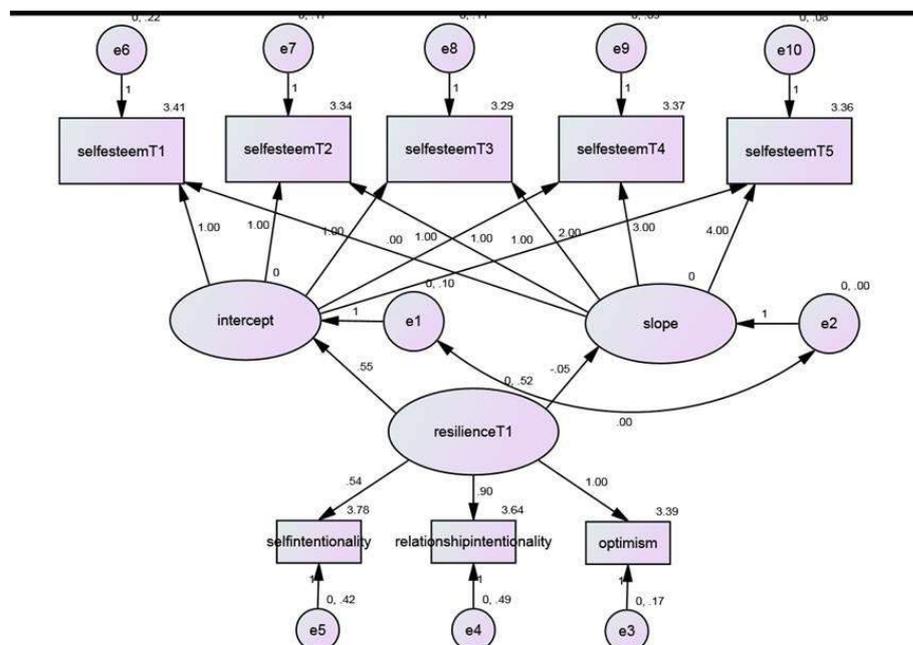
**Measures of resilience:** 12 items from a 5-point resilience scale (Ishige&Muto,2005) were used. 3 factors were contained which are self intentionality, relationship intentionality and optimism.

**Measures of self-esteem:** The 10-item Rosenberg Self-esteem Scale (Rosenberg,1965)was used.

**Results:** Results are shown in the graph.

**Conclusions:**

1. Except 6th grade cohort, all cohorts showed that children with higher resilience than others usually have higher self-esteem level. This is consistent with previous studies. And the effect at 4th grade was stronger than 6th grade. If grade influences the effects of resilience still need further study.
2. Different from assumptions, resilience showed a weak negative influence on the development of self-esteem instead of promotion. Since the self-esteem in adolescence usually goes down, the growth of resilience may be one cause of that. There is one possibility that trait resilience works in an uncommon way in adolescence.



CFI=.98, RMSEA=.03.

estimates	4 <sup>th</sup> grade cohort 4→6	5 <sup>th</sup> grade cohort 5→7	6 <sup>th</sup> grade cohort 6→8	7 <sup>th</sup> grade cohort 7→9	significance test
resilience → intercept	.89, <i>p</i> <.001	.56, <i>p</i> <.001	.34, <i>n.s.</i>	.55, <i>p</i> <.001	4 <sup>th</sup> grade cohort > 6 <sup>th</sup> grade cohort, <i>p</i> <.05
resilience → slope	-.14, <i>p</i> <.05	-.13, <i>p</i> <.001	-.05, <i>n.s.</i>	-.05, <i>n.s.</i>	5 <sup>th</sup> grade cohort > 7 <sup>th</sup> cohort, <i>p</i> <.10

Figure 1: The latent growth curve model

### pos301.43 Effects Of Mimicry On Helping Behaviour In Adults And Children.

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The aim of this research is to investigate effects of mimicry on adults' and children's helping behavior. The study was arranged with total of 57 children aging between 60-72 months and 16 adults between 27-52 age. Helping behavior was measured with an instrumental helping task. In this task, five cartoon or animasyon film fragman (approximately 1,5 min.) was shown to the participants. After the presentation, the task of the participant was to verbally describe his or her opinion about the fragman. During the task, the experimenter mimicked the facial expressions and posture of half the participants, copying their body orientation, the position of their arms, and the position of their legs. The experimenter did not mimic the other half of the participants. After participants completed the first task, the experimenter informed them that they would perform another, unrelated task after she retrieved material from an adjacent room. The experimenter left the room and reentered after 30 s. Upon passing the participant, she "accidentally" dropped five pens that were on top of several books. If the participant did not pick up the pens within 10 s, the experimenter picked up the pens herself. To test whether participants would increase their helping behavior both toward the person who mimicked them and toward someone else who was not involved in the mimicry situation, for half the participants, the same experimenter who had accompanied during the un-related task later needed help and for the other half a different experimenter later needed help. Results of the study demonstrate that the mimicry have a significant impact on both children's and adults' helping behavior. The participants whose behaviors and facial expressions are imitated have more helping rate than the others who are not imitated.

		Mean square	F	Sig.
CHILD GROUP	Corrected Model	1,237	6,440	,001
	Inter group	9,488	49,383	,000*
	Mimicry condition	2,866	14,918	,000
	Familiar Condition	,550	2,865	,096
	Mimicry * Familiar experimenter condition	,264	1,376	,246
ADULT GROUP	Corrected Model	1,688	3,000	,073
	Inter group	5,063	27,000	,000
	Mimicry condion	1,563	8,333	,014**
	Familiar condition	0,63	,333	,574
	Mimicry * Familiar experimenter condition	0,63	,333	,574

Table 1: The outcome table of the two-way ANOVA analysis of intergroup assistance behavior in child and adult participants

## **Cognitive Development**

### **pos302.1 Mechanisms of personification used in everyday life in preschool children**

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Small children often talk about non-living thing as if it has a life. Piaget (1929) proposed the concept as the children's animism. Inagaki (1987) on the other hand, described it as a personification. Although many experimental studies had been promoted to understand these concepts, a little is known about the mechanisms of personification especially in non- experimental situations. The aim of this study is to describe mechanisms of personification that were spontaneously produced by Japanese children in their everyday life, based on the representations of intentional relations proposed by Barresi & Moore (1996).

Data of children's speech were acquired from a Newspaper's Colum (2000 to 2015). Only one tenth of over 2000 of children's speech were used for this analysis. A researcher and 2 other collaborators identified children's personification speech separately. Only those that had 100% agreement among 3 are chosen as the personification data. Data was qualitatively analyzed in each of the 3 age groups, (2~3, 4~5, and 6 years old). Results of analysis (still in progress) will be described based on representations of intentional relations; (1) first person information (e.g., implicit emotions) of self, (2)3rd person information (e.g., explicit behaviors) of self, (3)1st person information of other, and (4)3rd person information of other. They are also identified whether it is a current information which the child is just experiencing or an imagined information which the child is imagining in his/her mind. Personification by 2 year old children tends to describe the current information of object (non-living things) as the 3rd person information of other (movement or state as behavior) and infer its' emotional states (imagined 1st person information of other) based on their own experiences. Concrete examples with visual representations of the personification and the results of older children will be also described.

### **pos302.2 The video's variable pace and content affect children's attention and executive function.**

Katarzyna Kostyrka-Allchorne, Nicholas Cooper, Andrew Simpson

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AIM: The hypothesis that fast television pace is detrimental to children's cognition and behaviour has been tested in several experimental studies; the results have been inconclusive. Moreover, recent evidence provided by Lillard et al. (2015), which suggested that watching fantasy temporary weakened children's executive function, points to the crucial role of television content. To address the inconsistencies from the previous literature, we examined the influence of film pacing (slow vs. fast) and content (realistic vs. unrealistic) on children's attention and executive function.

METHOD: Four and 5-year-old children's sustained attention was measured with a continuous performance test; executive function was assessed with an inhibitory control task. Experiment 1 (n=74) used real-life television programmes to investigate the effects of variable pacing but did not control for content and other programme features. Experiment 2 (n=187) used novel films developed for this study, which allowed the manipulation of content and pacing while keeping other programme features constant.

RESULTS: Experiment 1 showed that watching the slow-paced story-like film improved 4-year-olds' executive function and attentiveness of all children. Experiment 2 demonstrated that watching the fast-paced realistic film led to faster reaction times. However, the fast pace also interacted with realistic content to have negative effects on children's attention (more commission errors). Moreover, watching the slow-paced films resulted in greater reaction times variability. Finally, fantasy embedded in the content had positive effects on children's executive function.

CONCLUSIONS: The results of both experiments suggest that children's attention and executive function is affected by both the editing pace and the film's content. Although fast pace may lead to increased alertness, it also impairs impulse control. Moreover, slow pace decreases consistency of responding. Conversely, watching story-like programmes with low-degree of animation and embedded fantasy results in greater attentional and cognitive control.

### **pos302.3 Connecting play and coping in child development**

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Coping and play are widely recognized as being crucial to child development. In different ways, they both support mental, physical, social, and emotional well-being and the ability to adapt. However, their relationship has seldom been investigated.

The aim of this presentation is to maintain that children's play and coping strategies are connected and to show how and why such connection has often been overlooked in the literature.

Method: a review analyzing the assessment of children's coping skills in general and the specific use of play as a coping skill in studies involving children aged 5–12 years has been conducted.

Results: Forty studies were analyzed. The review shows that play is not incorporated in 40% of the children's coping skills instruments. Even when a coping instrument recognized play, it was classified as either an avoidant or distracting activity.

Discussion: The neglect of children's play in coping measurement is probably due to the persistence of many analytical tools that are either directly or indirectly derived from adult-driven instruments and pre-existing theories; instead, coping tools for children should align with their emotional and cognitive developmental stage, as defined by current theories in the field.

Conclusions: Methods to measure coping in children should be improved and a more analogical approach should be adopted toward play to enable its accurate recognition in coping. More research investigating children's play as a coping strategy for managing difficult and stressful situations should be conducted using these original methods.

### **pos302.4 The Associations Among Executive Functioning, Private Speech and Emotion Regulation in Preschoolers**

Gizem Öztemür

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Aim: Regulation of both cognitive processes and emotions play a crucial role in many future outcomes of children (e.g. Blair, 2002; Blair et al., 2004). Language acquisition is closely related to the regulation of cognitive processes (Azmitia, 1992) and of emotions (Cole, Armstrong, & Pemberton, 2010). The development of language takes the form of external private speech in regulation of the action of the self and becomes internal gradually (Berk, 1986; Vygotsky, 1986). The purpose of this study is to investigate the relations among private speech, executive functioning (i.e., abilities including representation of the problem on mind, planning, keep the plan in mind, intending and carrying out the plan with using rules and evaluate the actions of the self), and emotionality (i.e. temperament based individual differences in display of emotions) in preschoolers aged from 4- to 5 years in a cross-sectional design. Method: The sample will include 60 children, their parents and teachers, whom will be recruited through convenience sampling method. Private speech will be measured by direct observation during a categorization task and then coded according to Berk's (1986) three level coding scheme. Executive function will be measured by parent reports on Childhood Executive Function Inventory (Thorell & Nyberg, 2008). Emotionality will be measured by parent and teacher reports on the Child Behaviour Scale Short Form (Putnam & Rothbart, 2006) respectively. To control for the impact of the child's language skills on the associations of interest, the Turkish Expressive Language Test (Berument & Güven, 2013) will be assessed, and teacher and parent reports regarding children's talkativeness will be obtained. Data analysis: Preliminary findings regarding the potential moderation and mediation models will be presented.

### **pos302.5 Do young children understand pretense as action of mental representation?**

Honami Otsuka

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Many research discusses whether young children understand pretense or not, and some researchers claim that there are two levels of understanding of pretense (e.g. Lillard, 1993, Nakamichi, 2001). The current study examined young children's understanding of these levels. Subjects were 27 younger children (mean age = 4;3, range = 3;2-5;1) and 30 older children (mean age = 5;8, range = 5;2-6;2). At the beginning of the experiment, the experimenter introduced a stuffed monkey, and asked the children whether (1) it moves, (2) it eats something, (3) it feels 'like' or 'dislike'. Then, children were presented two objects and the female experimenter and the monkey (moved by her) showed their tastes for them. For example, the experimenter took one object and expressed pleasure, saying "Wow!" Next, she took the other object and said "Umm..." with a bored expression. The monkey also took two objects in the same way as the experimenter, except that, its taste was opposite to hers. In experimental task, the experimenter (reality condition) or the monkey (pretend condition) said "I want to play more! Give me it!" and children were required to give one of the two objects to them. Results show that most of children gave objects to the experimenter in reality condition, and to the monkey in pretend condition, that is, they understood whether she was pretending or not. However, only older children distinguished both the experimenter's favorite object and the monkey's favorite one. In contrast, younger children better understood the monkey's desire than the experimenter's. And younger children tended to attribute mental states to the stuffed monkey. These results suggest that 4-year-olds understand pretense in first (action) level, and children appear to show second (mental representation) level understanding after the age of 5.

## **Development of social cognition**

### **pos302.6 Self-understanding in Adolescence: Dimensions, Development, and Stability**

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**Aim:** Building on Damon and Hart's model of self-understanding development (1982, 1988) we investigated self-understanding (SU) and its three dimensions (continuity, distinctiveness, agency) in adolescence. More specifically, we explored age-related differences and short-term stability in the psychological complexity of SU. Finally, we aimed to find associations between SU and advanced theory of mind (aToM) abilities.

**Method:** In this cross-sectional, longitudinal study we tested a group of 220 13- and 16-year-old adolescents twice (T2 was over a year). We administered two tasks: the Self-understanding Interview (Damon & Hart, 1988) and the Modified Social Ambiguous Story Task (Bosacki, Białecka-Pikul, & Szpak, 2015).

**Results:** The results from a mixed model ANOVA for Dimension x Time x Age (3 x 2 x 2) provided significant interaction effects ( $F(2, 406) = 3.36, p = .036, \eta^2 = .02$ ). In older adolescents, self-understanding was more psychologically complex than in younger ones at both time points (T1, T2), but exclusively for the self-agency dimension. In younger adolescents only, over the course of one year, there was an increase in psychological complexity of self-agency and self-distinctiveness. Correlational analysis showed weak to moderate coherence among dimensions and stability within each self-understanding dimension. Global SU (sum of 3 SU dimension scores) was related to psychological explanations of the ToM index moderately at T1, T2 and between T1 and T2 ( $r$ 's about .30, on  $p < .001$ ).

**Conclusions:** Overall, the results supported Damon & Hart's theory that SU in adolescence is a complex and multidimensional construct. We found that age differences depended on different dimensions. Self-agency was the least developed dimension in younger adolescents, although it changed rapidly, over the course of one year. The pattern of relations within each dimension also indicated short-term stability. The findings are discussed within the context of developmental changes in personal and social knowledge during adolescence.

### **pos302.7 Children help a humanoid robot**

Dorothea Ulrike Martin, Jordy Kaufman, Conrad Perry  
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Children as young as 14 months of age help adults achieve their goals, even in the absence of rewards and without being asked for help. Notably, they refrain from helping when confronted with similar situations in which no help is needed. While the development of instrumental helping towards humans has been investigated extensively, research on children's helpfulness towards non-human agents is sparse. Would children help an inanimate recipient, such as a robot? Investigating this question may help us understand the underlying factors that motivate children's helpfulness, such as the role of animism. Additionally, a robot's behaviour can be kept consistent across participants and thus, minimize experimenter bias.

The ongoing study explored 3-year-old children's instrumental helping towards a humanoid robot. Following a warm-up phase, each child observed the robot playing a xylophone and dropping the mallet. The robot either appeared to drop the mallet unintentionally and unsuccessfully reach for it (experimental condition) or it appeared to drop it intentionally, while not reaching for it (control condition). Children had the opportunity to obtain the mallet within a 30-second interval.

We hypothesized that children would help more often in the experimental condition. To date, 12 3-year-old children ( $n = 6$  in the experimental condition) participated in the study. We are finding that children in the experimental condition are considerably more likely to help the robot than children in the control condition (66.7 % vs 0%).

This result is comparable to research on children's instrumental helping towards human recipients, suggesting that both are based on the same underlying mechanisms. Follow-up studies will explore which of the robot's characteristics drive children's helpfulness.

### **pos302.8 The relationship between aggression and hostile intent attribution; A meta-analysis**

Rogier Verhoef, Sophie Alsem, Esmée Verhulp, Bram Orobio de Castro  
*University Utrecht, Netherlands*

**Aim:** Social-cognitive models propose that a hostile attributional bias (HIA) plays an important role in childhood aggression. More specifically, social-cognitive models state that in ambiguous social situations, aggressive children tend to appraise peer behavior as hostile and from thereupon an aggressive behavioral response is triggered. Previous studies have resulted in inconsistent findings with regard to the relationship between aggression and HIA. A meta-analysis has demonstrated that the strength of the relationship between HIA and aggression is dependent on aggression severity, age, rejection by peers as selection criterium, the absence of control for intelligence and the type of stimulus presentation (Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). However, this meta-analysis has been conducted 15 years ago and many studies into the relationship between childhood aggression and HIA have been carried out since then. Therefore it is important to update this meta-analysis and examine multiple additional moderators of effect.

**Methods:** Literature search was performed in the following databases: PsycInfo, Web of Science, PubMed and Google Scholar between January 1974 and April 2017. Although the meta-analysis is still in progress and the analyses have not been conducted, the literature search resulted in 4664 papers that were screened based on title and abstract. Subsequently, 286 papers were judged based on full text. Since the original meta-analysis of Orobio de Castro et al. (2002) included 41 studies and this literature search retrieved 80 new eligible studies, 121 studies in total were included in the current meta-analysis. Since random variability and systematic variability will be expected, a mixed-effect model will be used to estimate effect sizes. Additional moderators that will be examined are protagonist's status, form of aggression and participant's perspective (first vs third person).

**Results/Conclusion:** Since this meta-analysis is still in progress, preliminary findings will be discussed on this poster presentation.

### **pos302.9 The Effect Of Collaboration To Inequity Aversion In 4-6 Year Old Children**

Ezgi Acun, Sema Karakelle  
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The aim of this study is to investigate the effect of collaboration on inequity aversion in resource distribution with preschool children in line with interdependence opinion (Tomasello and Vaish, 2013). With this aim, 80 children (39 boy, 41 girl) between 50 to 72 months old, were included to the study. Two experimental groups and one control group were formed for the study. The manipulation in experimental groups was that in one group there was full collaboration and in the other one there was half collaboration. In the control group, there is no collaboration. In order to measure inequity aversion, forced choice game (Sheskin, Bloom and Wynn, 2014) was played and their choices were listed in terms of equal or unequal distributions were chosen more in resource distribution between children and their partners. Inconsistent with the literature, the results show that there is no statistical effect of collaboration on inequity aversion and children show advantageous aversion statistically more than disadvantageous aversion. These results indicate cultural differences in inequity aversion and that there is a need to think again about a general inequity aversion principle in all children with same developmental pattern.

## **Developmental psychopathology and disabilities**

### **pos302.10 Deliberate self-harm and life events in high school and vocational school students**

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Background: The prevalence of deliberate self-harm (DSH) is 17-46% among adolescents. According to our previous studies (Horváth et al, 2015), lifetime prevalence of DSH is higher among vocational school (VS) than in high school (HS) students, which raises the question if this difference is related to differences in life events experienced in these groups. Our aim was to explore the role of stressful life events in the occurrence of DSH among HS and VS students, which school types are associated with different quality of education and with students having different socioeconomic backgrounds.

Methods: The Saving and Empowering Young Lives in Europe (SEYLE, Wasserman et al, 2010) project's sample of Hungarian HS students (N=1011) was completed with a sample of students from randomly selected vocational schools (N=140). Self-administered questionnaires from the SEYLE project were used to measure DSH (Deliberate Self-Harm Inventory, (Gratz, 2001)) and stressful life events (items developed for SEYLE). Life events were sorted into nine mutually exclusive categories. Data was analyzed with SPSS Statistics 20.0.

Results: HS and VS students reported significantly different amount of experienced events in the „difficulties with friends” ( $X^2(1)=18.95$ ;  $p<0.001$ ), „schoolwork difficulties” ( $U=21978.5$ ,  $p<0.001$ ), „romantic/sexual relationship difficulties” ( $U=25045$ ;  $p=0.004$ ) and „death of someone close” ( $U=25498.5$ ,  $p=0.002$ ) categories. Regarding life events in these categories, DSH was positively correlated with serious argument with close friend ( $R=0.81$ ;  $p=0.024$ ) and romantic breakup ( $R=0.118$ ;  $p<0.001$ ) in the HS group, and with death of a close friend ( $R=0.21$ ,  $p=0.021$ ) and failing important course/exam ( $R=0.297$ ;  $p<0.001$ ) in the VS group.

Conclusions: VS students might experience increased number and severity of stressful life events compared to HS students. Furthermore, correlations of these life events with DSH might result in different patterns in the two groups. Being sensitive to these differences when developing prevention/intervention might contribute to the effectiveness of these programs.

### **pos302.11 Impact of the time of diagnosis on dyslexic adolescents' self-efficacy beliefs**

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Aim: Most of the research on self-efficacy in children with specific learning disorders has focused on inter-group comparisons, showing that these children hold lower self-efficacy scores than their normally developing peers. As these lower scores might be due to a reduced access to self-efficacy sources (Hampton & Mason, 2003), this small-scale study (N=18) aimed to investigate whether the time of diagnosis might modulate the access to these sources within a group of dyslexic adolescents, either diagnosed in primary or secondary school but paired on chronological age and duration of remedial training.

Methods: Mixed methods were employed by using general as well as academic and social self-efficacy scales, complemented by semi-structured interviews investigating students' understanding and acceptance of their dyslexia.

Results: The findings showed that early-diagnosed students hold higher general and academic scores. Further analyses regarding students' personal statements revealed a statistically significant association between time of diagnosis and understanding as well as tolerance of dyslexia, indicating that early-diagnosed adolescents, compared to their late-diagnosed peers, have a more cohesive understanding and more adequate representations of their reading disorder as specific and non-stigmatizing, all the while being more tolerant and open about announcing their dyslexia to others.

Conclusions: An early diagnosis of dyslexia is thus associated with a better understanding and acceptance of the disorder, possibly serving as a protective factor which can consequently contribute to higher general and academic self-efficacy scores. Hence, these findings not only extend the literature on self-efficacy beliefs in dyslexia by investigating the time of diagnosis, but also have important practical implications, highlighting the

significance of an early diagnosis beyond the benefits of early rehabilitation as well as the potentially negative psychological consequences of a late diagnosis.

### **pos302.12 The role of coping strategies in adolescents' identity formation process**

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This paper deals with adolescents' identity formation and how this process relates to their coping strategies in stressful situations. Participants were 420 high school students (14.5-15.5 years old, 56.5% females), who came from middle class, mostly intact, families of average SES in the wider Athens metropolitan area. Measures included: (a) The Coping Across Situations Questionnaire (CASQ; Seiffge-Krenke, 1995), which evaluates the frequency whereby individuals use various coping strategies, i.e., Social Support, Active Negotiation, Enactment of Emotion, Denial/Avoidance, and Compromise and (b) the Dimensions of Identity Development Scale (DIDS; Luyckx et al., 2008), which consists of three forms of exploration (Exploration in Breadth, Ruminative Exploration, and Exploration in Depth), and two forms of commitment (Commitment Making, and Identification with Commitment). Social Support and Active Negotiation were the most frequent coping strategies, while Enactment of Emotion was the least frequent. Identity exploration processes were more frequent than commitment ones. Active Negotiation gave the strongest positive correlation with Identification with Commitment, a moderate to small correlation with Commitment Making, and a negative correlation with Ruminative Exploration. On the other hand, Enactment of Emotion was negatively related to Commitment Making, Identification with Commitment, and Exploration in Depth, but positively with Ruminative Exploration. These results are discussed in terms of adaptive or maladaptive coping ways of dealing with identity formation, which, as an age-appropriate developmental task, is considered to be a stressful situation for adolescents.

### **pos302.13 Adolescent stress: Prevalence, sources of stress and the role of cognitive processes**

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**Aim:** The aim of this study was to examine the prevalence of psychological stress among adolescents in the 7th through 9th grade and to investigate important sources of subjective stressor load during these years. We also aimed to investigate what may contribute to the development of stress symptoms in the face of stressors by examining whether cognitive processes such as rumination and worry are mechanisms between subjective stressor load and stress symptoms.

**Methods:** The study used a prospective design with three measurement points over a two year period. Participants (N=1453, 47.4 % girls, mean age 13.19) were in the 7th grade at the outset of the study. Subjective stressor load in different life domains (school, home, peers, romantic relationships and future uncertainty) was measured via self-report together with perceived stress, anxiety, depressive symptoms, somatic complaints, worry and rumination.

**Results:** In the 7th grade 15.7 % reported high levels of perceived stress which increased to 26.3 % in the 9th grade. Stress was related to more emotional and somatic symptoms. School was the most common source of subjective stressor load, with 14 % and 25.7 % of the sample reporting high stressor load due to school performance in the 7th and 9th grade respectively. School stressors in the 7th grade predicted perceived stress in the 9th grade ( $\beta = .07$ ,  $p = .031$ ). There was further an indirect effect on perceived stress through worry ( $\beta = .04$ ; 95% CI [.01, .06]) but not rumination ( $\beta = .01$ ; 95% CI [-.00, .02]).

**Conclusions:** Stress is common and tend to increase in early- to mid-adolescence. Although school stress is a common source of stress, it does not uniquely explain the development of psychological stress. Instead cognitive processes such as worry seem to be an important mechanism between subjective stressor load and reported stress.

## **Education, Schooling, Child care**

### **pos302.14 Infants' negative emotions at entering child care affect attachments towards care provider**

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Doubtless, child care entry is stressful for infants. Although mothers must accompany their infants during the first days, when the mother-infant separations begin, infants may display negative emotions. Infants who are securely attached to their mothers are observed with higher levels of negative emotions than insecurely attached infants. Consequently, care providers need to support the infants to regulate their negative emotions during the transition to child care. Because emotion regulation is one of the central function in infants' attachment relationships, the present paper assumes that care provider-child attachments might also serve this function. We thus will examine if and how infants' negative emotions are related to infants' attachments to their care providers.

The present study examines N=70 infants at the 1st, 5th and 9th days as well as five months after infants' child care entry when their mothers had already turned back to work. The first 30 minutes after dropping the infant to the child care center were videotaped and emotions were coded. Mother-child attachment was assessed prior to child care entry and care provider-child attachments five months later, using Ainsworth's Strange Situation Procedure. Mothers reported on infant temperament and served as control variable in analyses. Based on the combination of four regression analyses, results indicated that the amount of infant's negative emotions decreased over time. Infants who displayed high levels of negative emotions until the 9th days became securely attached to their care providers five months later and addressed significantly less negative emotions to their care providers than insecure attached infants at month 5.

### **pos302.15 Care provider-child attachments in different types of out-of-home care**

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In the last three decades, various types of public childcare arose in Europe's German speaking countries, where the topic on care quality in these provisions is currently being debated. Whereas care qualities in center-based facilities are well explored, care qualities of childminders remain still opaque, especially since two different forms exist: (1) home-based care by regular childminders and (2) care by pooled childminders, which combines structural characteristics of center-based with home-based childcare. Given that less is known about how infant's attachment needs are met in these diverse settings, the present paper examines differences and similarities of caregiver-child attachments in these types of out-of-home care.

Water's Attachment-Q-Sort was applied to rate children's attachment security to their caregivers. Altogether N = 300 children aged 6 to 40 months were observed in groups of 15 children (n = 100, center-based childcare), in groups of 8 to 10 children (n = 100, pooled childminders) and in groups of 5 children (n = 100, regular childminders).

Results showed that children's attachment security to their caregivers largely differed in the three mentioned settings. Children cared for in home-based care were rather securely attached than children cared for by pooled childminders or in center-based care. The group sizes moderated these effects. Children cared for in larger groups were less likely to have secure attachments than children cared for in smaller groups, independently of how old they were.

Children under the age of three seem to need out-of-home care in smaller groups in order to effectively establish secure attachments to their caregivers.

### **pos302.16 Caregivers of Brazilian foster care reflections about bond and development**

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One of the characteristics present in Brazilian's foster care institutions is the high shift of its employees. This fact must be analyzed carefully, because in this context are children who have experienced situations of significant affective disruption and frequent exchanges of employees can impair the creation of affective bonds. This study aims to identify the conceptions of foster care employees about the establishment of bonds and the development of this children. This is a qualitative survey conducted at a foster care institution that receives children and teenagers. A semi-structured interview with six questions was conducted to five caregivers of this institution located in the state of São Paulo. The issues addressed the views and opinions of employees regarding the development of children, the bonds between them and their opinion regarding the child's feelings when an employee is disconnected from the institution. The analysis of the collected data took place through the content analysis of the interviews and their division in thematic axes. In general, all participants reported believing that the foster care influences the development of those children and that the construction of an effective bond between caregivers and children is fundamental, serving as a shield to minimize the effects of family separation. Caregivers pointed out that the feeling they identified in foster children when there is staff shift is loss, followed by feelings of non-acceptance. For them, it is noticed that the child revives the situation of loss, abandonment and helplessness of the family with the exchange of employees of the shelter. The study evidenced the importance of not having high levels of shift of employees in the foster care and the possibility of repair and affective restructuring is directly linked to the work developed by the employees through their relationships and bonding with the children.

### **pos302.17 The Qualitative Analysis Of The Content Of Imaginative Play Of Pre-School Children**

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Results from scientific research that punctuate the developmental benefits of play assert that imaginative play is crucial in early childhood development. This study was aimed at investigating the content and the characteristics of behaviour in child play; it is thought that such thorough analysis will provide important insight on recognising and developmentally supporting children. To this end, the attendance, role, reflections of daily anecdotes, materials, plot themes, types of play, symbolic interpretations, preferred roles in play were investigated.

The study is based on the qualitative action research design. Research conducted with 8 female and 6 male children, of ages 5-6, attending a pre-school class in Famagusta, Northern Cyprus. The children were observed naturalistically in class during their free play time. A total of 20 observations were conducted with an average of 40 minutes per day. The data obtained were content analyzed. It was observed that children mostly preferred to play by themselves. The discussions of real life anecdotes such as mothers' housework, patient care, preparations for birthday celebrations, coffee and chat with a neighbour, the child going to school, protection of animals, car accidents, preparations for guests, were frequently observed post-play. Materials such as legos, toy cars, play house materials, dolls, wooden blocks, toy animals, plastic containers, puppet corner, cardboard boxes and jigsaws were observed to be preferred in play. Within the themes of play; war, law enforcement, racing, a farm day, story of the tooth, playing at families were observed prominently. The children were observed to prefer to symbolically interpret concrete things more than the imaginary. The most played roles were that of; a mother, cop, pizza delivery man, animal, hero, warrior or stepchild. The results of this investigation have called attention to the necessity of providing children appropriate opportunity and equipment to experience imaginative play in pre-school environments.

## **Family, parenting, parent-child relationships**

### **pos302.18 Content of mother-twin infant communicative speech in early infancy**

Maria Markodimitraki

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New research findings on mother-infant communicative speech underline its importance for child language development. Mothers of twins spend less time speaking to each of their infants because of the increased daycare needs as they have to nurture two infants at the same time. These increased needs lead to the unequal sharing of maternal attention and interest which may affect the quality and the quantity of maternal communicative speech. Comparative studies on mother-firstborn twin infant and mother-non twin infant communicative speech have shown that mothers of twins use less interrogatives and declaratives but they do not differ from the mothers of non-twins in the use of negatives and imperatives. However, there is a lack of studies on maternal speech towards first- and second-born twin infants the first semester of life. The mother-infant communicative speech in a group of four mothers with their firstborn twin infants was compared to the speech in a group of the same four mothers with their second-born twin infants (4 mothers, 1 pair of twin boys, 1 pair of twin girls and 2 pairs of different-sex twins, N=12). Five 7-minute video-recordings, in 30 days intervals, took place during the free dyadic interactions for each mother-twin infant dyad in a home setting from the 2nd to the 6th month of life. Maternal speech was divided into units and coded for content (declarative, interrogative, exclamatory and imperative). Preliminary results confirm differences between mother-firstborn and mother-secondborn twin infant communicative speech maybe due to the different brain structure of first- and secondborn twin infants. They may also reflect mothers' special bond with each of their twin infants and their preferences and highlight the complexity of the dynamics in modern Greek families with twins.

### **pos302.19 Expecting A Baby in The Middle of Uncertainty:Semi-structured Interviews with Thematic Analysis**

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Mothering experiences of women, and their self-beliefs about mothering, differ across cultures as well as on individual bases. In this study, researchers aimed to find out how women describe their problems, fears and anxieties and how they cope with these in the process of transition to motherhood, in other words pregnancy period.

The answers to semi-structured interviews were collected from participants via online questionnaire. These answers were analyzed by using thematic analysis method. Theme analysis was conducted with a data of 67 Turkish first time pregnant women who were aged between 24 and 37 (M= 29.39, SD = 3.04). All participants were naturally conceived. Data collection process coincided with a critical period for Turkey when possible traumas were socially frequently experienced (July 2015-September 2016, 16 terrorist bomb attack, 293 dead and hundreds of injured people in Turkey), in addition to economic and social uncertainties that were affecting daily life of people.

According to analyses, most participants (% 38.8) mentioned that during pregnancy, they were anxious about childlessness (f = 40) and %28.4 of women stated that the most effective way for coping with these problems was spousal support (f = 26). For the questions about post pregnancy period (what will be the possible problem that you will face while raising your kid?), the most frequently mentioned theme was national pessimism (f= 55) by the participants (%49.2). When participants' coping strategy was inquired, they (%17.9) mostly mentioned there would be no solution, which is labeled as hopelessness (f= 14). Participants' concerns about taking new responsibilities, being a mother and raising children were found to be mainly related with societal reasons that might not have created much anxiety in another cultural context or zeitgeist.

### **pos302.20 Factors related to parenting in Japan, China, and Korea (2): Verbal Aspect**

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Background: There are rarely the parents who have never worried about the developmental achievement of their children. However, it has been pointed out that the parents' anxiety about their kids causes negative effect for their children.

Aim: The purpose of this research was to explore parents' anxiety of their children's present development that may impact implementation of educational treatment and to examine the tendency of them in Japan, China and Korea.

Methods: 1179 Japanese, 1304 Chinese, and 1349 Korean parents who have three- to six-year-old children participated in this study. They completed questionnaires about the development of their children and asked either they worry about them or not, and either they did some treatment to them or not. Parents responded by using a two-point response scale.

Results: This study shows that the anxiety about the developmental degree of their children has no differences among three countries: Almost 90% of parents in any country didn't have anxiety about their children's development even if some developmental topics has not been achieved. However there were differences between tendencies for the treatment of children. Japanese and Chinese parents tend to "not worry about the development of their children and not take any treatment". Meanwhile Korean parents tend to "not worry about the development of their children but take several treatments".

Conclusions: Our findings indicated that the treatment for kids by their parents not merely depends on their anxiety but on the culture they belong.

### **pos302.21 Comparing maternal directives in dyadic twin infant- and singleton infant-mother interactions**

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Aim: It has been suggested that mothers of twin infants are more likely to engage in mother-focused and controlling communicative interactions with their infants through the greater use of directives compared to mothers of singletons. To our knowledge, the comparison of maternal speech style to twin and singleton infants is restricted at 4 months of infant's life. Towards this direction, the aim of this longitudinal and naturalistic study was to compare systematically the types (explicit and implicit directives) and the developmental trajectory of maternal directives addressed to twin and singleton infants in spontaneous dyadic mother-infant interactions in the course of early infancy. Method: Nine twin infant-mother and nine singleton-mother dyads were video-recorded at home in interactions from the 2nd to the 6th month in families in Crete, Greece. Maternal directives were grouped in two categories: Explicit directives were imperatives; implicit directives were interrogative requests. Micro-analysis of maternal directives was carried out within well-defined units and subunits of analysis according to the classification of maternal infant-directed speech into content, focus categories, and speech acts. Results: Preliminary results provided evidence of similarities in the hierarchy of the two types of directives and differences in the developmental course of maternal directives addressed to twin and singleton infants across the age range of this study. Conclusion: The evidence of this study will be discussed in reference to the early interactional experiences of twin and singleton infants in the frame of the theory of innate intersubjectivity. The implications of these results for theory and practice will be noted.

### **pos302.22 Relationship between Parent's Behaviour and Infant's Language Development.**

Hyun Su Cho, Keumjoo Kwak, Yeonsoo Kim  
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The increasing literatures about parent-infant interaction on language development have emphasized aspects like positivity, responsiveness and didactic behaviours in mothers (Kim & Kwak, 2010; Stevens, Blake, Vitale, & McDonald, 1998) and fathers' task-oriented characteristics such as use of challenging phrases and questions

(Rowe, Coker & Pan, 2004) on infant's language development. It is thus, important to examine what particular behaviours of mothers and fathers influence infants' early language development.

The present study examined the impact of maternal and paternal behaviour in two different conditions; free-play and teaching-task on infants' early language development. 36 infants and their parents visited the laboratory when infants were 9-months-old and MCDI-K was used in order to assess the infants' language skills at 9 and 12 months. Mothers and fathers interacted with their infants in two situations independently. Parents and infants played freely with provided toys in the free-play condition whereas parents had to teach infants how to perform certain tasks successfully in teaching-task condition. The interactions were videotaped, and behaviors of parents were coded with Caregiver-Child Affect, Responsiveness, and Engagement Scale (C-CARES; Tamis-LeMonda, Rodriquez, Ahuja, Shannon, & Hannibal, 2001). Parent's behaviors were divided into three dimensions: affect, sensitivity, and didactic.

The results revealed different correlation patterns with mothers and fathers' behaviours. In free-play situation, mothers' positive affect, verbal responsiveness, emotional attunement, and amount of language spoken were correlated with infants' word comprehension and production at 9 and 12 months whereas fathers' teasing and verbal responsiveness were correlated. In the teaching-task situation, mothers' structuring and stimulating behaviors and fathers' teasing and simulating behaviours were correlated with language development in 12 months. These comprehensive results demonstrate that parents can attempt different parenting styles in order to support infant's early language development.

### **pos302.23 Maternal mental health and child development**

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*Universidade Paulista, Brazil*

The aim of this research was to study the association between anxiety symptoms, stress and depression, from the third trimester until fourteen months after birth and the child development. 320 pregnant women in their last trimester, users of SUS (Brazilian National Health Program) took part in this study. They answered an initial interview and questionnaires to evaluate anxiety (STAI), stress (ISSL) and depression (BDI). Six months after birth, the researcher would schedule an interview in the mother's residence to reevaluate. During the second phase, 200 mother-baby dyads participated. Mothers responded to the same materials applied in the previous phase and child development was evaluated through a screening test (Denver Scale II). At 14 months, the development of 149 children was reassessed, and the mothers once more answered the questionnaires to evaluation of mental health. First, statistics logistic regression models were built to identify risk factors and protection to mental symptoms and to child development. The significance level adopted was of  $p < 0.05$ . A development risk was identified at six months in 40% of children and 31% at 14 months. The percentage of women with anxiety, stress and depression symptoms were significantly higher during gestation. Amongst all variables studied, a delay in the language area at fourteen months was associated with maternal postpartum stress in the fourteenth month afterbirth. The association between stress and language delay at fourteen months, probably indicates that these mothers communicate little with the baby, offering less stimulation in this area. The lack of association between maternal mental issues and development may have occurred because it is a very complex relationship with many variables including mother, child and the interaction between them, which should be looked at in future research.

### **pos302.24 Prenatal attachment, depression and dyadic adjustment in couples expecting a baby**

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Pregnancy is a period that entails many changes in the woman's life, man and consequently in the couple's life. Previous studies have shown that parents' attachment to the baby develops in gestational period and correlates with prenatal depression and quality of marital adjustment. They also proved to have an impact on transition to parenthood and overall emotional involvement between the triad. With this study, we aim compare pre-natal attachment and marital adjustment perception between future mothers and fathers in the 27-40 weeks of pregnancy, and the effect of the marital relationship on attachment. We also address mothers'

gestational depression to control its effect. After allowing informed consent, 220 Portuguese couples aged between 18 and 50 years, completed the Portuguese versions of DAS-Dyadic Adjustment Scale (Spanier, 1976), EPDS-Edinburgh Depression Scale (Cox, et al., 1987), MAAS-Maternal Antenatal Attachment Scale and PAAS-Paternal Antenatal Attachment Scale (Condon, 1993). Results shown that woman, compared to men, present a higher level of prenatal attachment to their baby, still in the womb. For both, dyadic adjustment, namely cohesion, correlates significantly to prenatal attachment. Linear regressions conducted per gender, reinforced the impact of the couples' cohesion on the emotional bond developed with the unborn baby. Woman didn't present significant depression symptoms. Although prenatal depression scores have no relation to prenatal attachment, they correlate with the Dyadic Adjustment (cohesion and satisfaction). These results follow previous findings and highlight the importance of including both men and woman, expecting parents in studying the transition to parenthood. Also, we argue that marital family subsystem has a close impact on the future parental subsystem, and on the adaptation and transition to the next challenging milestone on the family life cycle - parenthood.

### **pos302.25 Earthquake exposure in disadvantaged Nepalese families and caregiver`s post-traumatic stress symptoms.**

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**Aim:** Nepal suffered from major earthquakes in April 2015 resulting in great damage to the society. The aim of the current study is to describe the impact of the earthquakes on the daily life of disadvantaged Nepalese families, measure the level of long term maternal psychological distress and how these are related to markers of early child developmental in their offspring at 6-11 months.

**Methods:** We have included 600 children in a randomized controlled trial and measured early child development by the Bayley scales of infant and toddler's development 3rd. edition (Bayley-III) at 6 to 11 months old, and assessed the caregivers by an earthquake exposure inventory and the Impact of Event Scale - Revised (IES-R).

**Results:** Overall, the caregivers report that the earthquakes had negative impact on their families' daily life in general (61%), and specifically on food security (33%), employment (45%), transportation (18%), health related issues (15%) and schooling (25%). Of the women, 49.5% reports to have seen someone who died and 56.6% saw someone who were seriously injured. A total of 76.1% reports that they strongly believed that their own life, or the life of someone close to them was threatened or in danger during the earthquakes. Furthermore, 30.6% had close family or relatives who died, and 27.2% had close family or relatives who were injured. On IES-R, 17.2% had scores indicating that PTSD is a clinical concern, while 7.2 % has scores above the cutoff for a probable PTSD diagnosis. We will assess how the maternal IES-R scores are related to scores on the Bayley III in the children.

**Conclusion:** Our results underscore the importance of awareness of mental health care issues following major natural catastrophes for disadvantaged families in low-income countries, this may also be a measure to maximize developmental potential in disadvantaged children.

### **pos302.26 Pregnant women's experiences with the third trimester routine ultrasound**

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**Aim:** Studies focusing on routine ultrasounds in the first trimesters of pregnancy showed that pregnant women in general value routine ultrasounds because they give them reassurance and a chance to see the baby. This might decrease maternal anxiety levels and help to develop a bond with the unborn baby, which can contribute positively to the development of the child. However, it is unclear whether pregnant women hold the same positive views about the third trimester routine ultrasound, which is increasingly being used as a screening tool to monitor foetal growth. The aim of this study is to explore pregnant women's experiences with the third trimester routine ultrasound.

**Methods:** This study is part of the IUGR Risk Selection (IRIS) study, a Dutch nationwide study looking into the effectiveness of the third trimester routine ultrasound among low risk pregnant women. Interviews were held with fifteen pregnant women who received a third trimester routine ultrasound. Participants were purposively selected based on parity, age, ethnicity, and educational level. Content analysis was applied to the interview data.

**Results:** Preliminary results show that most pregnant women felt they needed the third trimester routine ultrasound to get confirmation that their baby was fine. At the same time they expressed that they already felt confident about the health of their baby and perceived the third trimester routine ultrasound as an extra allowance to see their baby rather than a screening tool. Some women explained this paradox by indicating that getting used to routine ultrasounds increases the urge for another one.

**Conclusions:** This study highlights the importance of looking critically at offering a third trimester routine ultrasound in terms of psychological benefits. The need for this ultrasound might reflect a 'normalisation' process rather than an actual need for another routine ultrasound.

### **pos302.27 Correlates of early parenting stress and relations to later behavior problems**

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**Aim.** Various studies have shown that parental, child, and contextual factors are associated with parenting stress. Little is known about how these factors combine to relate to parenting stress. The present study examined the direct and interactive associations between parental (i.e., ego-resiliency and attachment style), child (i.e., temperamental negative emotionality), and contextual (i.e., network and partner support) factors and parenting stress in the first year postpartum. In addition, it was examined how parenting stress predicts internalizing and externalizing behavior in toddlerhood.

**Methods.** Participants were 124 children (52% boys) and their primary caregivers from the Nijmegen Longitudinal Study on Infant and Child Development. At age 1, parents completed questionnaires assessing his or her ego-resiliency and attachment style, network and partner support, and child temperament. At age 2½, parents reported on children's internalizing and externalizing behavior problems.

**Results.** Hierarchical regression analysis (only variables individually explaining at least 1% of variance were entered) showed that lower parental ego-resiliency and lower partner support directly predicted more parenting stress. Regarding interactive effects, higher child negative emotionality predicted more parenting stress only in the context of low parental ego-resiliency. Furthermore, low parental ego-resiliency predicted more parenting stress particularly for parents with low support from the partner. Finally, parenting stress significantly correlated with internalizing but not with externalizing behavior in toddlerhood.

**Conclusion.** This study showed that parental and contextual (but not child) factors directly contributed to parenting stress. Child negative emotionality contributed to parenting stress only when parents' personal resources to adapt to challenging circumstances are low. Furthermore, when parents' personal resources are low, contextual resources (i.e., high partner support) become crucial to cope with the often-stressful task of parenting. Finally, parenting stress in the first years of life seems to be particularly relevant to understand the development of internalizing behavior in children.

### **pos302.28 Patterns of communications mothers use when their attention is divided**

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**Aim:** Maternal sensitivity is defined as a mother's ability to see things from their child's point of view, to notice their child's signals, interpret them, and respond to them promptly and appropriately (Ainsworth et al., 1974). A special opportunity to assess maternal sensitivity lies in situations where the mother needs to attend to other competing events and her attention is divided. The purpose of the study is to describe the strategies mothers use in interaction with their toddlers in situations where they have to focus on another task.

**Methods:** Video recordings of home visits collected between September 2016 and July 2017 will be used for detailed description of strategies mothers choose in interaction with a toddler while they are supposed to

focus on another task. A subgroup of mothers who participated in a longitudinal online survey was recruited for home visits and observation. Each home visit scenario consisted of 8 different situations. The presentation focuses on a situation where mothers are asked to fill in a questionnaire while their child is left alone with them in the same room (the researchers leave the room). The video recordings will be analysed with the aim to describe and define patterns of communication and strategies mothers use to create a space for themselves and the questionnaire they have to fill in.

Results: Preliminary findings based on c.30 mother-toddler dyads will be presented. The behaviour of both the child and the mother will be described in terms of verbal and non verbal interactions, maternal sensitivity and patterns of communication (such as strategies mothers use to keep the child occupied or to set the boundaries and their effectiveness, as well as the frequency of interaction) will be described in details.

Conclusions: The strategies will be discussed in the context of maternal characteristics obtained from self-reports.

## Language development and communication

### **pos302.30 Visual perception is necessary for the acquisition of a Japanese reading skill.**

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**Aim:** It has been suggested that the dyslexia-related factors among the Japanese are different from English language users. The ultimate goal of this study is to construct a new test for dyslexia on the basis of investigation of the effect of visual perception on reading accuracy.

**Method:** We conducted four tasks; accuracy of reading (reading hiragana task; Inagaki et al., 2010), visual information processes (pattern recognition task and plane figure-construction task in Wide-range Assessment of Vision-related Essential Skills (WAVES) ; Okumura et al., 2014), and verbal development (syntactic task in S-S Test; Agarie et al., 1998).

**Result:** The result of covariance structure analysis whose independent variable was score of pattern recognition task, plain figure-construction task, and syntactic task, and dependent variable was an accuracy of reading hiragana task showed scores of syntactic task and figure-construction task affected the number of correct answer of reading hiragana task directly, and score of pattern recognition task affected score of plane figure-construction task, which suggested pattern recognition task affected the number of correct answer of reading hiragana task indirectly (GFI = .999, AGFI = .992, RMSEA = .000,  $\chi^2(1) = .186$ , n.s.) . We also analyzed this data from the viewpoint of sex differences.

**Conclusions:** Those results supported that acquisition of the reading hiragana skills in Japanese needs not only phonological process but also visual processes. Especially visual processes may take a certain role in alphabetic stage of reading development (Frith, 1985).

## **Peer relationships**

### **pos302.31 Bullying among high-school and vocational school students with learning difficulties**

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Students with learning difficulties (LD) are involved in school bullying more often than their normally developing peers (Rose, Monda-Amaya, & Espelage, 2011). They are victimized more frequently than their peers (i.e. Luciano & Savage, 2007), and also seem to display more bullying (i.e. Kaukiainen et al., 2002). However, the majority of the studies have been conducted among elementary or middle school students. When older adolescents have been included in the sample, their results have seldom been reported separately (Rose, Espelage, & Monda-Amaya, 2009), and high-school and vocational school students have never been compared before. The aim of this study is to evaluate whether LD increase the risk of victimization and/or bullying perpetration in secondary education, and whether the risk is different in high-schools and vocational schools.

In fall 2016, approximately one month after the beginning of the first year of secondary education, data were collected from 981 high-school (55.5 % girls) and 744 vocational school (43.4 % girls) students. Prevalence of LD was 4.2 % in high-schools and 16.9 % in vocational schools. Students with LD were more likely than students without LD to be victimized, but not bully others. Bullying others was more common in vocational schools than in high-schools, but there were no differences in victimization. The interaction between LDs and school type was not statistically significant indicating that the risk LD pose for victimization and bullying was similar in high-schools and vocational schools. However, after only one month of studying in secondary school, students were extremely rarely victimized or bullied others. Therefore, in the presentation we update the results to include data from May 2017, the end of the first year of secondary education. It is expected that victimization and bullying are more prevalent in the end of a school year, and thus results are more reliable.

### **pos302.32 Discrimination in Austrian schools: Discrimination experiences and prevention efforts**

Petra Gradinger, Dagmar Strohmeier  
*University of Applied Science Upper Austria, Austria*

On average, 17% of Europeans over 15 years report discrimination experiences and Austria belongs to the countries with the highest rates in Europe. Discrimination experiences are associated with various negative consequences, depending also on the form of discrimination. Nevertheless, European anti-discrimination legislation is strong for the workplace, but not so in schools and educational settings.

Therefore, the aims of the present paper are (1) to examine the prevalence of different forms discrimination among students, and (2) to investigate prevention efforts and consequences from students' perspective. In the present study 371 grade 7 and 8 students aged 12 to 16 years ( $M=13.67$ ,  $SD=0.84$ ) participated. The students were enrolled in 10 schools (20 classes) and were asked about their involvement in eight different forms of discrimination, based on gender, ethnic origin, religion, disability, sexual orientation, appearance, age, and family income and prevention efforts at school.

Results show that 64% of students were involved as victims in at least one form of discrimination, at least once during the last school year.

Regarding prevention, only 30% of students had already participated in a program to prevent discrimination at school. Nevertheless, students reported that they have learnt something at school about discrimination, mostly within the school subject 'social learning' (48%). 77% of students learnt what discrimination is, 82% learnt about different forms of discrimination, 58% learnt how to deal with discrimination, and 63% learnt where to search for help. Nevertheless, about 40% of students consider eventually not reacting to a discrimination experience of a class mate while only 17% would definitely react immediately. This might be due to the fact that 46% of perpetrators report that their discrimination behaviour was without consequences.

To conclude, prevention of discrimination needs to change not only students' knowledge and attitudes but also adults' behaviours in the school system.

**pos302.33 The more – the better? Friendships as seen by adolescents with LD**

Monika Skeryte-Kazlauskiene, Rasa Barkauskiene

The aim of the paper is to evaluate, whether and how friendships in adolescence are related with emotional problems in four years period in adolescence with normal development and with diagnosed learning disabilities.

Method. The paper is based on longitudinal Vilnius study of adolescents with and without learning disabilities. Totally 136 adolescents took part in the study from first data wave (T1, mean age 13.5), to second data wave (T2; mean age 15.5), 56 adolescents had LD diagnosis, other 80 were peers with typical development. At T1 the participants filled Friendship Net and Friendship Quality Questionnaire (Parker, Asher, 1989; Lithuanian version), at T2 they filled the Lithuanian version of Youth Self-Report form (ASEBA, Achenbach, Rescorla, 2001) for affective problems (DSM oriented scale).

Results showed relation of friendship measures with emotional problems: the bigger number of the best friends reported at T1 prognosed less emotional problems four years later, especially for the boys with LD.

Though the quality of the friendship with the best friend did not prognose more emotional problems.

There is an importance of friendship with peers on emotional problems in adolescence even after four years period. Friendship is a multifaceted construct and it is valuable to measure different aspects of friendship, especially evaluating different developmental groups.

## Prevention and Intervention

### pos302.34 Child and adolescent maltreatment and externalizing behavior: the mediating role of self-representations

Carla Sofia Silva, Maria Manuela Calheiros

Instituto Universitário de Lisboa (ISCTE-IUL), Centro de Investigação e Intervenção Social (CIS-IUL), Portugal

**Aim:** Research on associations between child/adolescent maltreatment and externalizing behavior has not yet analyzed self-representations as mediators. Also, research has suggested that self-representations may develop unevenly across domains. This may account for differences between self-representation domains in their associations with psychosocial functioning. This study aimed to analyze the mediating role of domain-specific self-representations in associations between maltreatment experiences and children's and adolescents' externalizing behavior.

**Method:** Participants were 204 children/adolescents (52.5% boys), 8-16 years old ( $M=12.6$ ), referred to children/youth protection committees, their parents and committees' case workers. Case workers reported on youth maltreatment, children/adolescents reported on self-representations, and parents reported on externalizing behavior.

**Results:** A multiple mediation analysis was conducted to test the hypothesized mediation pathways. Children's and adolescents' age and sex were tested as moderators of those pathways through a moderated mediation analysis. As expected, higher levels of maltreatment experiences significantly predicted worse SR in all domains. Worse instrumental and opposition self-representations consecutively predicted more externalizing behavior. However, worse social and physical appearance self-representations in turn predicted less externalizing behavior. No moderation effects of age and sex were found.

**Conclusion:** Findings support the mediating role of children's and adolescents' self-representations in the relation between maltreating experiences and externalizing behavior. While the negative association between instrumental and opposition self-representations and externalizing behavior seems more straightforward, the positive association between social and physical appearance self-representations and externalizing behavior suggest that these self-representations may be more likely to overestimation in adolescence due to the high salience of the attributes that influence one's social appeal. Results point not only to the need to reduce child/adolescent maltreatment as a primary target in preventing negative self-representations and externalizing behavior in children and adolescents, but also to the need to promote the construction of positive as well as realistic and adaptive self-representations as protection against maladjustment.

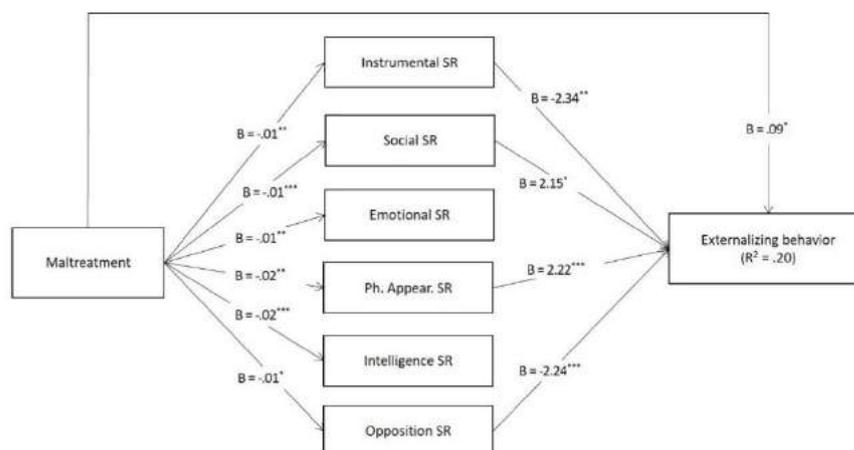


Figure 1. Unstandardized estimates (B) of the model examining the mediation role of children' and adolescents' domain-specific self-representations in the relation between maltreatment experiences and externalizing behavior. For ease of interpretation, only significant effects are represented. SR = Self-representations. \* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$

**pos302.35 Asegúrate: an educational program to reduce sexting, cyberbullying and Social Networks dependence**

Rosario Del Rey, Mónica Ojeda, Marta Estévez, Paz Elipe, Joaquín A. Mora-Merchán, Lydia Nacimiento, Virginia Sánchez, José A. Casas

*Department of Developmental and Educational Psychology. University of Seville, Spain*

The importance of ICTs in the social environment is further complicating school coexistence by transforming it into cyber-coexistence. "Asegúrate" (make sure and be save) is a program that aims to help teachers in their work to promote cyber-coexistence and prevent cyber-violence, encouraging the thought before action on virtual social networks. The program is based on the analysis of everyday situations. The objective of the present study was to evaluate this program. Concretely, was analyzed the impact of the program on dependence from social networks, sexting and cybergossip, three risks linked to cyberbullying. A quasi-experimental design using pre- and post- test was used. Participants were 440 students of Secondary Education, with ages ranging from 12 to 16 years-old ( $M= 13,74$ ;  $SD= 1,26$ ), being 55.9% girls. The instruments used were the following self-report questionnaires: European Cyberbullying Questionnaire (Del Rey.et al. 2015), Normalization Sexting Questionnaire (Del Rey, Elipe-Muñoz, & Casas, under review), Cybergossip Questionnaire (Romera et al. under review) and the Internet and Social Networking Experiences Questionnaire (Casas, Ruiz-Olivares, & Ortega, 2013). The results showed a decrease in the experimental group, compared to the control one, in: cyberbullying, sexting and dependence. To conclude, Asegúrate has shown a positive impact diminishing not just cyberbullying but also some risk factors related to it. Specifically, the implementation of the program has decreased the level of cybervictimization and cyberaggression in cyberbullying, has decreased the three dimensions of sexting (implication, normalization and motivation) as well as the interpersonal dependence.

## Social, and personality development

### pos302.36 Social development of adolescents through their volunteer activities in the community events

Kazuyo Shintani

*Teikyo University, Japan*

In Japan where society has matured and diversity is guaranteed, adolescents enjoy their free life styles, but they also seem to be struggling over acquiring “their own identity”. From Japanese old researches that “the elders taught the youngsters about how to behave as an adult while acting together in the past year”, 4 students’ (male 2; female 2) behaviors were investigated through participant observations and interviews about their volunteer activities of a community’s events nearby their university, for example, summer community festival, autumn sports day, winter fire festival and so on. Three processes of adolescents’ social development were revealed. (1) Immediately, they started to interact with senior board members in the community positively and politely, but people that they involved with were limited. (2) Other elderly members and residents of the area spoke to them frequently and appreciated their helps while they were doing volunteer activities. Day by day, they became not only to have conversations but also share a joke with these people. (3) And finally, they made progress until they had a good time with the kids in this area that they had continued to avoid to be communicated with since their volunteer activities started. They had a talk and played with jump rope or ball game. The youth tends to hesitate about having conversations with children because it is relatively easy to play with them but it’s not to soothe them whose feelings are unstable like being angry or crying. But interactions with children bring people a sense of joyfulness, gentleness, self-confidence, and responsibility. Accordingly, the acquisition of ability to resolve difficult situations about children is a very important key to open the gate to the adulthood for young people. It seems the elderly people have a role to support for the young to do those worthwhile tasks smoothly.

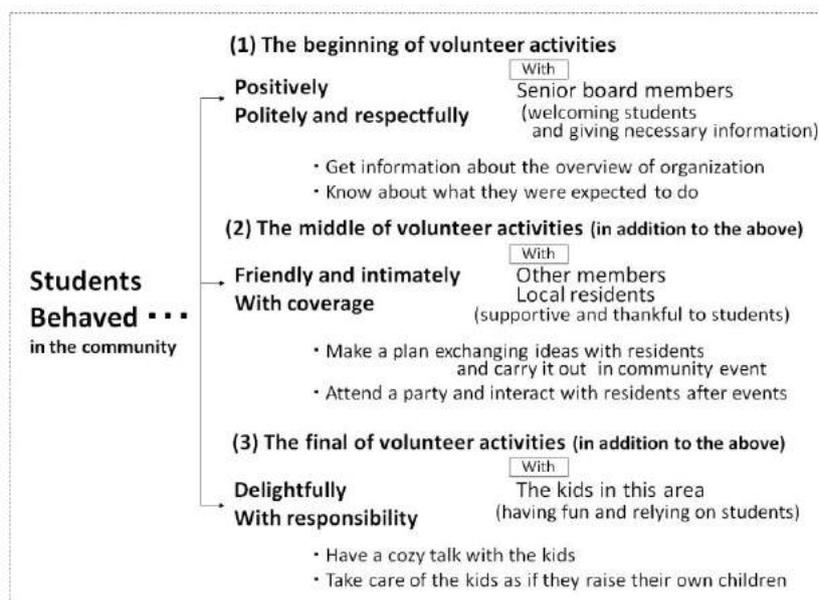


Figure 1: Social development of students through their one year volunteer activities in the community events

### pos302.37 Emotional Development of Young Children with ASD and ADHD Symptoms

Kazuo Hongo, Noriko Iijima, Kumiko Hirakawa

*Tohoku University, Japan*

The present study focused on the emotional development of young children with Autism Spectrum Disorders (ASD) symptoms and children with Attention Deficit/Hyperactivity Disorders (ADHD) symptoms. Subjects were 248 children with some difficulty in the life of the nursery school. Their age was from two years old to six years

old. Nursery teachers were asked to complete the “Emotional Development Checklist” and the “Behavior Checklist for Children with Special Care Needs”. The subjects were divided into four groups by the total score of ASD items and the total score of ADHD items: (1) high ASD symptoms and high ADHD symptoms [HH group], (2) high ASD symptoms and low ADHD symptoms [HL group], (3) low ASD symptoms and high ADHD symptoms [LH group], (4) low ASD symptoms and low ADHD symptoms [LL group]. The main results were as follows: (1) The emotional development scores increased with age. (2) Children with low ASD symptoms were higher in the emotional development scores than children with high ASD symptoms. (3) The difference of the total scores was not significant statistically between high ADHD symptoms group and low ADHD symptoms group. But children with low ADHD symptoms were higher in only the score of the item on the emotional regulation than children with high ADHD symptoms. It was suggested that children with ASD symptoms had a delay and specificity of the development in not only the emotion regulation but also the emotion expression.

### **pos302.38 The Development of a Coding Scheme of Children’s Immersion in Video Games**

Salim Hashmi, Dale Hay  
*Cardiff University, United Kingdom*

The degree of cognitive and emotional involvement individuals have with a video game is referred to as immersion (Cairns, Cox, Day, Martin, & Perryman, 2013). There has been a paucity of research investigating immersion in children due to a lack of an appropriate measure for use. The present study aimed (1) to develop a coding scheme of immersion for use on transcripts of children’s speech as they played a game and (2) assess the feasibility of its use. This was done in the context of a random sample (n=133) of 266 participants who had taken part in a prospective longitudinal study at a mean age of 7. The coding scheme was developed based on content analysis of the children’s speech as they played a bespoke first-person adventure game in addition to a review of existing measures. Four items in particular were considered to reflect best the experience of immersion: Speaking to game characters, referring to the mental states and characteristics of game characters, the creation of a narrative beyond what was present in the game, and emotional reactions to the game. There was no association found between any of the items on the measure and children’s previous history with video games. Verbal IQ was not associated with any of the items, or the children’s general levels of talkativeness. These findings suggest that the coding scheme developed is feasible to use on transcripts of children’s speech as they played a video game for measuring immersion. Future work using the measure can identify factors that lead to a child becoming more immersed in a virtual environment as well as the effects of being immersed on behaviour.

### **pos302.39 Participation in Group Activities of Young Children with ASD and ADHD Symptoms**

Kumiko Hirakawa, Kazuo Hongo, Noriko Iijima  
*Ishinomaki Senshu University, Japan*

The purpose of the present study was to investigate the characteristics of participation in group activities of young children with Autism Spectrum Disorders (ASD) symptoms and Attention Deficit / Hyperactivity Disorders (ADHD) symptoms.

The subjects were 248 children aged 2 to 6 years. They had difficulty in their life of nursery schools. Their teachers were asked to complete the “Checklist of Group Activities” and the “Behavior Checklist for Children with Special Care Needs”. Children were divided into four groups by the total score of ASD items and total score of ADHD items: (1) high ASD symptoms and high ADHD symptoms (HH group), (2) high ASD symptoms and low ADHD symptoms (HL group), (3) low ASD symptoms and high ADHD symptoms (LH group), (4) low ASD symptoms and low ADHD symptoms (LL group).

The main results were as follows: (1) The older children got the higher score of group activities than the younger children. (2) Children with low ASD symptoms got the higher score of group activities than children with high ASD symptoms. (3) Children with low ADHD symptoms got the higher score of group activities than children with high ADHD symptoms. It was suggested that children with ASD and ADHD symptoms had difficulty in the participation in group activities.

### pos302.40 Friendship among present-day Japanese adolescents

Tsutomu Okada

Kanazawa-University, Japan

**Aim:** This study aims to explore friendship among present-day Japanese adolescents. Researchers have argued that Japanese adolescents are concerned about being rejected by their friends and are eager to maintain the harmonious friendship. They bother about how their friends evaluate them and imagine a cherished relationship through caring and not hurting each other. Okada (2011) found that the tendency of “being careful not to be hurt by their friends” inhibited the “sense of rejection” through “being careful not to hurt their friends” and ultimately improved Japanese students’ self-esteem. In particular, adolescents who showed a hyperthymia-like tendency among their friends were more careful not to hurt their friends. This study investigated the relation between “being careful not to/to be hurt” and a hyperthymia-like tendency or keeping an emotional distance in the friendship.

**Methods:** We examined online questionnaires answered by 200 Japanese senior high school students to measure present-day adolescent friendship.

The scale included the following subscales: 1) tendency to be emotionally distant from their friends, 2) tendency of being careful not to be hurt by their friends, 3) tendency of being careful not to hurt their friends, and 4) a hyperthymia-like tendency among their friends.

**Results:** Results of structural equation modeling analysis suggested that the tendency of “being careful not to be hurt” inhibited the tendency of “being careful not to hurt” and enhanced the tendency of keeping emotional distance from their friends. The tendency of “being careful not to hurt” had a small effect on the “hyperthymia-like tendency,” although the tendency “being careful not to be hurt” only had a direct effect on “hyperthymia-like tendency.”

**Conclusions:** These results suggest that adolescents take hyperthymia-like friendship just for defending themselves, and “care not to hurt” improve emotional distance from their friends. These findings were against previous findings of Okada (2011).

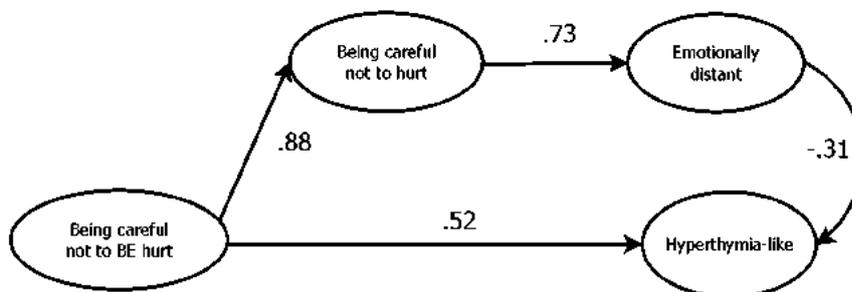


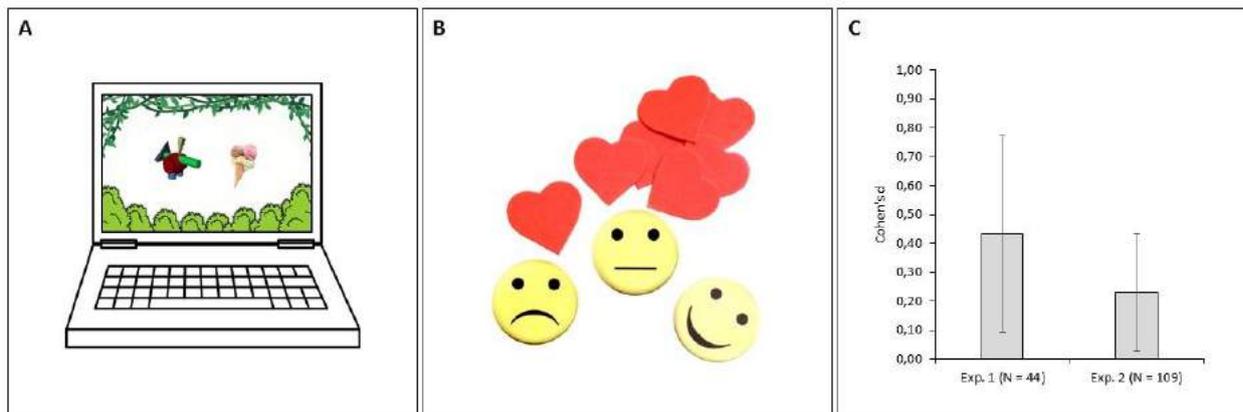
Figure 1: Results of structural equation modeling analysis

### pos302.41 Evaluative Conditioning and the Development of Attitudes in Early Childhood

Georg Halbeisen, Eva Walther, Michael Schneider

University of Trier, Germany

Many attitudes are acquired in early childhood. However, due to a lack of experimental research, little is known about the processes of how they are acquired. Two experiments were therefore conducted with 153 German kindergarten children aged 3 to 6 years that provide first evidence for childhood attitude formation in terms of evaluative conditioning. Specifically, it was found that children preferred novel stimuli previously paired with liked stimuli over novel stimuli previously paired with disliked stimuli (see Figure). This effect occurred independently of age, generalized towards similar novel stimuli, and did not depend on children’s recollection of how stimuli were paired. The findings are discussed in terms of the processes underlying childhood attitude formation, and implications for related research areas are highlighted.



A: The conditioning procedure. B: Children's evaluations were assessed using simple distribution and rating tasks. C: Effect sizes and CI for the expected changes in liking for both Experiments 1 and 2.

### pos302.42 Longitudinal observation of spontaneous and social smiling

Fumito Kawakami

Wildlife Research Center of Kyoto University, Japan

**Background and Aims:** It is believed that the development of smiling starts from spontaneous smiling which neonates show when they sleep (Wolff, 1963), and spontaneous smiling is replaced by social smiling in two to three months of age (Kagan & Fox, 2006). There is some problems in the previous studies. The major problem is that there are no detailed frequency data on the two kinds of smiling. In this study, the relation between spontaneous and social smiling is reexamined.

**Methods:** Participants were six infants (average birth weight: 2775.33 g; SD = 383.63). They were observed from the second week to the 24th week. The researcher asked mothers to take the video and present social stimuli to infants.

For spontaneous smiling, five-minute observations were conducted every week. The timing of observation was controlled that it must be started within ten minutes after falling asleep.

For social smiling, observations were conducted every two weeks. Three kinds of social stimuli, smiling face, nodding smiling face, and peek-a-boo with smiling, were presented by mothers when the participant awake. The order of stimuli was randomized by the researcher.

**Results:** Participants showed 120 spontaneous smiling instances and 122 social smiling instances in total. Forty three spontaneous smiles were showed after 13th week. The first social smiling was showed at the second week. There were no significant correlation between the frequency and duration of spontaneous smiling and social smiling (Table 1).

**Discussion:** This study demonstrates that spontaneous and social smiling coexist from two to at least 24th week. The data did not indicate that spontaneous smiling is a precursor of social smiling, because the correlation between these smiling could not be confirmed.

ID	Spontaneous smiling				Social smiling			
	Freq.	Ave. duration (sec)	SD	The first appearance (age in weeks)	Freq.	Ave. duration (sec)	SD	The first appearance (age in weeks)
1	18	2.43	1.25	2	30	5.94	4.43	8
2	26	2.13	1.14	3	5	2.37	1.15	8
3	17	2.53	1.27	2	5	3.74	2.45	12
4	9	2.48	1.14	2	24	4.27	1.76	2
5	8	2.03	0.99	3	25	3.63	3.83	4
6	42	2.36	1.48	3	33	2.36	3.16	12

Table 1. Frequency and duration of smiling for each participant.

## pos302.43 Collaborative Creativity: The role of Age, Psychosocial Maturity and Intrinsic Motivation

Pinar Oztop

*Plymouth University, United Kingdom*

Psychosocial maturity is the capacity to differentiate and coordinate social perspectives of self and others (Selman, Watts & Schultz, 1997). Yet, the role of psychosocial maturity for collaborative creativity in children has not been investigated. Likewise, despite the emphasis on intrinsic motivation in the adult creativity literature (Amabile, 1996), its role for collaborative creativity in younger ages is unexplored.

In this study we assessed whether collaborative creativity progresses from childhood to adolescence and whether psychosocial maturity and intrinsic motivation are predictors of collaborative creativity achievements in those ages. 48 students from year 5 and 6 (Mage = 10.42, SD = .68), 45 students from year 9 and 10 (Mage = 14.71, SD = .51) asked to write creative stories in three-person groups. Psychosocial maturity was assessed with the Relationship Questionnaire (RelQ; Schultz et al., 2003). Intrinsic motivation was assessed with an adaptation of Intrinsic Motivation Inventory (Ryan & Deci, 2003). Three English subject teachers evaluated the creativity of stories ( $\alpha = .70-.80$ ) with the consensual assessment technique (Amabile, 1982).

According to the results of independent t-tests analyses, group creativity and psychosocial level scores of secondary school students were significantly higher than scores of primary school students (see Table 1). However, primary school students displayed higher intrinsic motivation scores. Multiple regression analysis showed that while age and psychosocial maturity were significant positive predictors of group creativity, intrinsic motivation was not (see Table 2).

Thus, similar to research on the development of individual creativity (Mouchiroud & Lubart, 2002), collaborative creativity was found to develop with age. In addition, psychosocial maturity predicted collaborative creativity. This indicates that development of perspective coordination is an important contributor of collaborative creativity in younger ages. Finally, unlike the findings in adult literature (Amabile, 1979), intrinsic motivation was not found as a predictor of collaborative creativity in younger ages.

Table 1.

*Group Creativity, RelQ and Intrinsic motivation means for primary and secondary school*

	Primary		Secondary		Min-Max	t	df
	M	SD	M	SD			
Group Creativity	4.75	1.54	7.19	1.05	2.59-8.83	-5.20**	29
RelQ	5.38	.37	6	.35	4.67-6.50	-4.70**	29
Intrinsic Motivation	4.50	.63	3.87	.52	3.00-5.00	3.04*	29

Note. M=Mean, SD= Standard Deviation

\*\* $p < .001$ , \* $p < .01$ .

Table 2.

*Summary of Multiple Regression Analyses for variables predicting group creativity scores (N=31)*

Variable	B	SE B	$\beta$	t	p
Age	.42	.17	.50	2.44	.02
RelQ	1.33	.66	.35	2.03	.05
Motivation	.02	.43	.01	.05	.96

Note.  $R^2 = .60$

B = Unstandardized coefficient,  $\beta$  = Standardized coefficient.

Table 1: The results of T-tests and Multiple Regression analyses

**Cognitive Development**

**pos303.1 Predictive effect of maternal mind-mindedness on preschooler’s self regulation skills**

Ebru Yilmaz, Sema Karakelle  
 Istanbul University, Turkey

The aim of this study was to investigate whether maternal mind-mindedness predicted preschooler’s behavioral and emotional self regulation skills.

Forty Turkish mother–child dyads (17girls) participated in this study. Mothers were between 24 and 46 years old and children were between 60- 71 months old. Descriptive statistics are presented in Table 1.

Maternal mind-mindedness measured using Meins et al.’s (1998) brief interview method. Behavioral self regulation was measured with the Head-Toes-Knees-Shoulders (HTKS) and Stroop Like Night-Day tasks. Emotional self regulation assessed by Toy Wrap and Snack Delay tasks.

Correlation analysis revealed that there was no significant relation between mind-mindedness and self regulation in preschoolers. But some research shows that maternal mind-mindedness predicts self-regulation in infancy. Self-regulation have begun to be seen from birth, get complicated gradually and make the biggest growth in pre-school period. Infancy may be a sensitive period for the development of self-regulation skills, and to have a mind-minded mother during this time may affect the development of subsequent self-regulation skills.

On the other hand, the average proportion of mental attributes (0.38) of this study was relatively lower than some previous findings. For example, Meins et al. (2003) and Walker et al. (2011) reported rates of 0.44, and 0.47 respectively. May be culture was the reason for the difference between the rates. Namely Turkish mothers might need to be directed to answer an open-ended question such as "Do you describe your child?". In that case it may be useful to review the method used to measure mind-mindedness for the future research to be conducted in different cultures. For example, the number of questions could be increased or closed ended ones could be included.

This research was the first on maternal mind-mindedness in Turkey. Thus one may though it would contribute to making cross-cultural comparisons and enriching the related literature.

	Min.	Max.	Mean	SD
<i>Maternal Variables</i>				
Age	24	46	34.68	5.69
Mind Mindedness (proportion)	0	1	0.38	0.23
Number of mind related descriptions	0	19	5.31	4.16
<i>Child Variables</i>				
Age (month)	60	71	65.6	3.70
Behavioral Self Regulation				
HKTS	0	91	57,5	25,55
Stroop Like Day-Night	8	32	27,05	7,27
Emotional Self Regulation				
Toy Wrap (second)	13	60	48,85	12,29
Snack Delay	3,5	4	3,93	0,15

Table 1: Descriptive Statistics of Maternal and Infant Variables

### **pos303.2 Graphic cues of illness and health in children's human figure drawings**

Fotini Bonoti, Vasilias Christidou, Georgia Spyrou  
*University of Thessaly, Greece*

The study aimed to investigate the graphic cues that children employ to represent health and illness in their human figure drawings. Two hundred children aged 5-, 7-, 9- and 11-years were first asked to define the terms under investigation and then to draw a healthy and an ill person, as well as to produce a control drawing (a person neither healthy nor ill). Human figure drawings of health and illness were compared to their controls in an attempt to detect possible alterations in (a) the face (b) the body and (c) the overall context of the drawing. Data analysis showed that from the age of five years onwards children are able to use a combination of graphic cues to convey health and illness in their drawings. Moreover, it was found that children in all age groups more often (i) altered the facial features of the human figure by using similar cues to those found to be used for the depiction of happiness and sadness, (ii) introduced a variety of contextual cues in their drawings (e.g., food, medical symbols, words, cues of sports and play, natural environment) and (iii) used more graphic cues to depict illness than health. Finally, it was found that the drawings of the 9- and 11-year old children included significantly more contextual cues than those of the 5-year olds. The findings shed light on the way children perceive and represent graphically illness and health and are discussed in relation to their implications for health education.

### **pos303.3 Pediatric outcome after maternal cancer diagnosed during pregnancy**

Frédéric Amant, Tineke Vandenbroucke, Magali Verheecke, Monica Fumagalli, Michael Halaska, Ingrid Boere, Sileny Han, Mina Mhallem, Fedro Peccatori, Lukas Rob, Christianne Lok, Els Witteveen, Jens-Uwe Voigt, Gunnar Naulaers, Lore Vallaey, Frank Van den Heuvel, Lieven Lagae, Luc Mertens, Laurence Claes, Kristen van Calsteren  
*KU Leuven - University of Leuven; University Hospitals Leuven, Belgium*

**Aim:** We aimed to investigate the effect of prenatal exposure to maternal cancer with or without treatment during pregnancy on general health, cognitive and cardiac development in toddlerhood.

**Methods:** In this multicenter cohort study, we compared children whose mothers received a diagnosis of cancer during the pregnancy with matched children of women without a cancer diagnosis. We used a health questionnaire and medical files to collect data regarding neonatal and general health. All children were prospectively assessed (by means of a neurologic examination and the Bayley Scales of Infant Development) at 18 months, 36 months, or both. A cardiac assessment was performed at 36 months.

**Results:** A total of 129 children (median age, 22 months; range 12 to 42) were included in the group whose mother had cancer (study group) with a matching number in the control group. During pregnancy, 96 children (74.4%) were exposed to chemotherapy (alone or in combination with other treatments), 11 (8.5%) to radiotherapy (alone or in combination), 13 (10.1%) to surgery alone, 2 (1.6%) to other drug treatments, and 14 (10.9%) to no treatment. Birth weight was below the 10th percentile in 28 of 127 children (22.0%) in the study group and in 19 of 125 children (15.2%) in the control group ( $P=0.16$ ). There was no significant between-group difference in cognitive development on the basis of the Bayley score ( $P=0.08$ ) or in subgroup analyses per type of treatment. Gestational age at birth was correlated with the cognitive outcome in both study and control group. Cardiac evaluation among 47 children at 36 months showed normal cardiac findings.

**Conclusions:** Prenatal exposure to maternal cancer with or without treatment did not impair the cognitive, cardiac, or general development of children in toddlerhood. Prematurity was correlated with a worse cognitive outcome, but this effect was independent of cancer treatment.

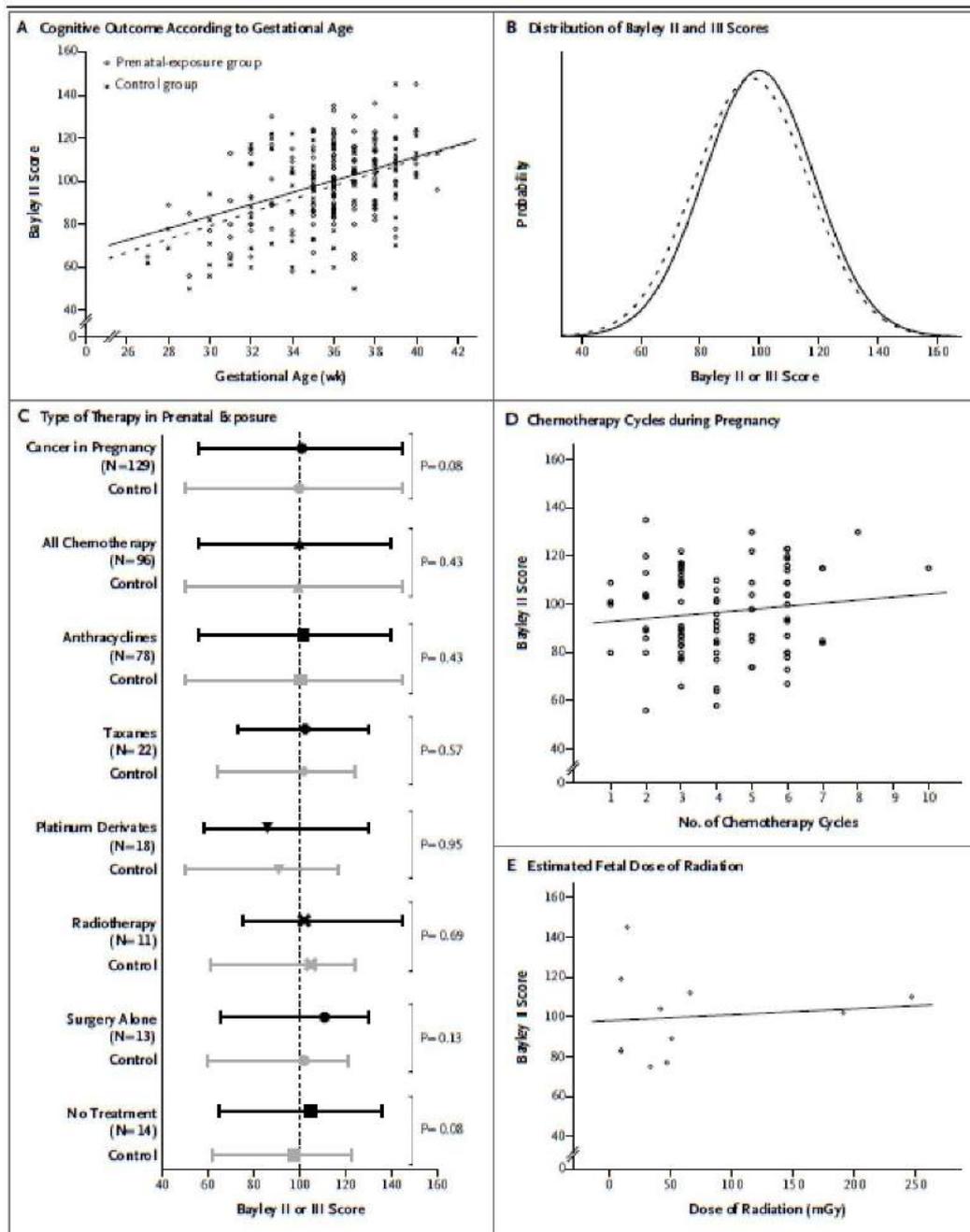


Figure 1: Cognitive outcome after prenatal exposure to cancer and cancer treatment

### pos303.4 The Development of Children's Understanding of Death: The Role of Parental Socialization

Rümeysa Öztürk, Fatıma Yaylacı, Reyhan Bilge  
 İstanbul Şehir University, Turkey

Young children are introduced to the concept of death in daily life either through first-hand experience or media coverage. Still, adults tend to avoid discussions of death in children's presence. When their first encounter with the concept is through a sudden death event, it can lead to stress, anger and depression (McGuire, McCarthy & Modrcin, 2013). The primary purpose of the current study was to investigate the development of death concept in children between ages 4-9. Secondly, we aimed at looking into the role of parental socialization in the concept of death. The measures included an interview with the child consisting of questions about cognitions (Slaughter, 2007; Panagiotiataki, Nobes, Ashraf & Aubby, 2014), and emotions about death (Gutierrez, Miller, Rosengren & Schein, 2014) and belief in afterlife (Gutierrez, Rosengren & Miller, 2014),

presented as stories of fictitious visual characters that children can easily relate to. Additionally, parents were administered a survey that measures their understanding of death and their ways of communicating the concept to their children.

The data was collected at the Cognitive Psychology Laboratory at Sehir University, three kindergartens and three primary schools in Istanbul, Turkey. Parents filled the survey in the lab or elsewhere via online.

Preliminary data showed that the development of Turkish children's cognitive understanding of death was consistent with the existing findings in the literature. Children's discussions of death were influenced by parental socialization. The findings are significant to foster better socialization practices in the family context, which can promote children's positive adaptation in response to death-related issues (e.g., loss, life circle etc.). The study can potentially provide insight to families and professionals who support children's psychological well-being. Further research can examine children's understanding of death in different populations, especially in those that experienced war and conflict.

### **pos303.5 Do children imitate the drawing process?**

Mayo Yamada, Atsushi Asakawa, Aya Igarashi  
*Fukuyama City University, Japan*

Children imitate others' drawings spontaneously in their daily lives (Oku, 2003; 2004a; 2004b). They could get a new idea and perspective through imitation. Imitation among humans is not merely a reproduction of action, but is accompanied by an understanding of a mental state (Tomasello, 1999). However, Yamada (2012) revealed that 3-, 4-, and 5-year-old children do not imitate others' drawings. There was no effect to present a picture that others already have drawn. It was suggested that a study of children's imitation requires showing them the finished drawing as well as presenting the drawing process.

Therefore, our research aims to clarify the effect of watching others' drawing process on children's drawing. In this study, 48 children (mean age = 73.50, SD=3.57) were included. They were divided into three conditions. The first condition was process imitation condition where children were exposed to an experimenter's process of drawing. The second condition was drawing imitation condition where children were presented with the finished drawing. The third condition was control condition where children were instructed to draw a picture. We asked the children to draw a cup with a floral pattern twice (trials 1 and 2). Then, we compared the accuracy of the drawing and process of drawing in the three conditions.

Results showed that the score of process imitation condition was higher than drawing imitation condition and control condition. At trial 1, children in process imitation condition drew it in the same stroke order as an experimenter.

The results suggested that not presenting the finished drawing, but showing children the process of drawing is effective. It is important for nursery school teachers to show children the process of the activity as a model, rather than giving them the finished product.

### **pos303.6 Visual Search in children: a review and new challenges**

Beatriz Gil-Gómez de Liaño, Olivia Castro, Elena Pérez-Hernández, Jeremy M Wolfe  
*Universidad Autónoma de Madrid, Spain*

Visual Search (VS) tasks are vital in everyday life, starting very early in development. An infant looking for her/his mother, a child looking for the right lego-type block, the shopper looking for lemons in the supermarket, or the radiologist looking for cancer in a CT scan are all performing VS tasks. However, while there is work on search in adults, there is much less work on the development of search in childhood. In the present review, we examine VS studies in childhood; analyzing the tasks and stimuli used, the variables that modulate VS in children, and the principal effects found both for feature and conjunction tasks. Although we have focused our study in typically developing children, we also pay attention to work with children having attentional disorders, such as AD/HD. Taking all data of those studies together, we will show a state of the art in need of revision. There are several methodological and theoretical concerns, such as the unclear validity of the methods and stimuli used (not always adapted to an appropriate work with children) or the variability of the ages of children within and between studies making comparisons difficult. Such problems decrease our confidence in the results especially for conjunction VS tasks, so we suggest several strategies to improve the

study of VS in children in order to better understand how cognition operates in such tasks. In addition, we propose a new foraging paradigm to study VS, recently used in adults (Wolfe, 2013). In foraging tasks, observers search for multiple exemplars of the target in a single display (similar to picking berries off a bush). Results complement those of typical VS tasks and may allow for a more comprehensive understanding of the cognitive processes involved in VS, both for typically developing children and for children with attentional disorders.

### **pos303.7 Path Integration in Namibian and Botswana Children: Orientation in less familiar Environments**

Eva Neidhardt, Sarah Monzel

*University of Koblenz-Landau, Campus Koblenz, Germany*

Preschool children are able to point to locations they cannot see, as for example to the starting point of the path they have just walked (e.g. Lehnung et al., 2003). Earlier studies have shown that pointing performance is influenced by one important factor: children who have at least one location in their familiar outdoor environment where they can go alone, have significantly better pointing results, hence African – Namibian – preschool children perform significantly better than German preschool children (Neidhardt & Popp, 2010). Performance differences could be explained by differences in information processing: Namibian children, being very familiar with their environment, showed no sign of error accumulation in the course of processing, hence their almost perfect pointing performance could be due to their use of (additional) survey knowledge. In this study, the (n=28) Botswana children were led along a path of one kilometer length, starting from the kindergarten. The (n=24) Kalahari children were transported across the road to a different starting point. At six pointing locations all children had to point with their outstretched hand and finger to the door of the kindergarten and to an object nearby. The deviation between correct pointing and children's actual pointing was scored as a measure for children's spatial orientation ability. Both groups were less familiar with the path environment: For the Botswana children the environment around the kindergarten building was too dangerous, for the Kalahari children, their familiar territory ended at the other side of the road crossed. The analyses show that lack of familiarity did not matter: pointing performance was almost perfect within measuring accuracy (20°) for both groups. There was a small and unexpected tendency ( $p < .10$ ,  $\eta^2 = .06$ ) for better pointing during the second half of the route.

We discuss if these results indicate survey knowledge for the Namibian and the Botswana children.

## Development and social cognition

### **pos303.8 Japanese children's knowledge of the facial components of basic emotions**

Megumi Masuda, Pierre Gosselin, Michio Nomura  
Kyoto University, Japan

**Aim:** Knowing which facial components signal emotions has important implications for the voluntary production of facial expressions and impression management. While numerous studies have investigated children's recognition of facial emotional expressions, little evidence has been gathered concerning their explicit knowledge of the components included in such expressions. Thus, we investigated young children's knowledge of the facial components of happiness, sadness, anger, and surprise by using a puzzle task.

**Method:** Fifty-four 4- and 5-year-old Japanese children participated in this study. They were presented with the blank face of a young character, and asked to select facial components for eye brows, eyes, and mouth in order to depict the emotions he felt. The facial components contained schematic representations of action units or action unit combinations distinguished in the Facial Action Coding System (FACS) and theoretically associated with happiness, anger, sadness, and surprise.

**Results:** Children's overall performance in the task increased as a function of age, and was above chance level for each emotion in both age groups (Figure 1). Children were likely to select the Cheek raiser and Lip corner puller to depict happiness, the Inner brow raiser, Brow lowerer, and Lid drop to depict sadness, the Brow lowerer and Upper lid raiser to depict anger, and the Upper lid raiser and Jaw drop to depict surprise.

**Conclusion:** Our results indicate that children as young as 4 years old have a good knowledge of the facial components of basic emotions and also allowed us to identify the specific changes taking place between the ages: 5 years old children demonstrated a better knowledge of the involvement of the Upper lid raiser in surprise expressions. Our study suggests the process of what facial component young children focus on and choosing a specific expression for each emotion.

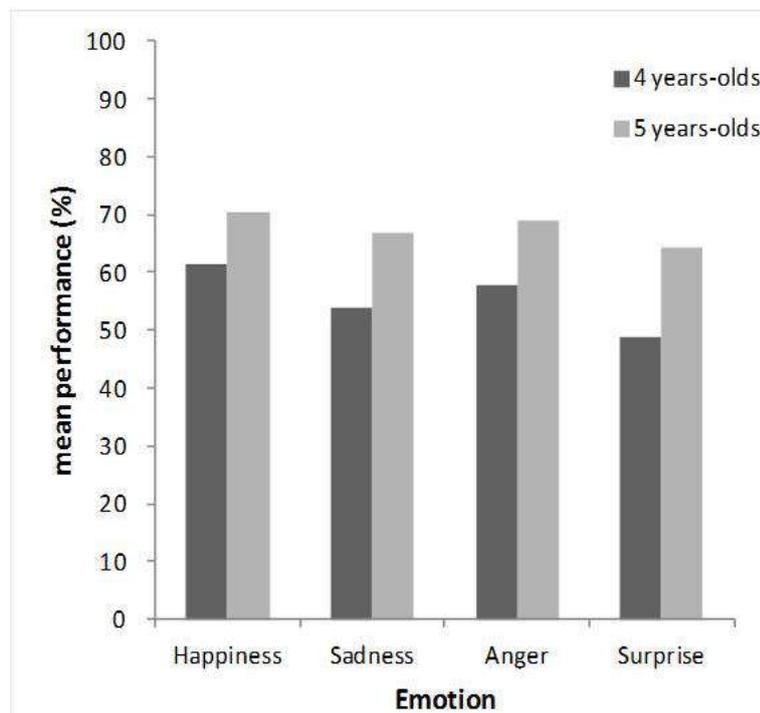


Figure 1. Mean accuracy scores as a function of emotion and age

### **pos303.9 The Relationship between Emotional Responses to Babies' Voices and Attachment**

Masahiro Yamaguchi, Shin Harada, Takahiro Yamane  
*Fukuyama City University, Japan*

**Aim:** The present study examined the relationship between emotional responses evoked by a baby's voice and emotional regulation strategies (attachment anxiety, which reflects hyper-activating strategies, and attachment avoidance, which reflects deactivating strategies) based on attachment. We hypothesized that deactivating strategies weakly relate to emotional responses when hearing babies' voices while hyper-activating strategies relate to emotional responses.

**Methods:** The participants were 118 university students (55 male, 63 female). Emotional regulation based on attachment strategies—attachment anxiety and attachment avoidance—were measured by the Experience in Close Relationships inventory, the generalized other version (ECR-GO) (Nakao & Kato, 2004) before participants heard 20 seconds of babies' voices. Emotional responses to hearing three kinds of babies' voices (crying, laughing, and babbling) were assessed using the General Affect Scales (Ogawa et al., 2000) before and after hearing each baby's voice. Each baby's voice was presented once a week.

**Results:** The results of a two-way Mixed ANOVA only showed sex differences in positive emotion after hearing crying. The results of partial correlation and hierarchical multiple regression analyses, which controlled for emotional responses before hearing babies' voices, showed that attachment avoidance was not related to emotional responses evoked by the babies' voices. On the other hand, attachment anxiety was related negatively to positive emotion after hearing crying and babbling, positively to calmness after hearing laughing and babbling, and positively to negative emotion after laughing.

**Findings:** These findings suggest that deactivating strategies may suppress subjective emotional experiences and emotional expressions whereas hyper-activating strategies showed somewhat contradictory emotional responses. Such hyper-activating strategies may reflect their hypersensitivity and proneness to be easily unsettled for attachment signals. For further research, we proposed identifying whether the babies' voices as attachment signals cause specific emotional responses in listeners.

### **pos303.10 Endorsement and sacralization of moral foundations in adolescents' involvement in transgressions**

Grazia De Angelis, Mirella Dragone, Dario Bacchini  
*University of Campania "Luigi Vanvitelli", Italy*

**Aim:** according to the Moral Foundations Theory (Haidt & Joseph, 2004) each culture builds its own morality upon five moral foundations: Harm, Fairness, Ingroup, Authority and Purity, that can explain cultural, subcultural and individual differences in morality. Moreover, individuals tend to sacralize foundations because of their natural tendency to invest people, things and ideas with importance beyond the utility they possess, and this is considered a key to understanding violence (Graham & Haidt, 2011).

There is just one study, and only involving adults, investigating the relation between behavior and sacralization of moral foundations (Vecina, 2014) while no study has focused on the association between endorsement of foundations and behaviour. We aimed to fill the gaps in the literature investigating how endorsement and sacralization of the five moral foundations affect involvement in transgressions in adolescence.

**Methods:** A sample of 876 Italian students (391 males and 485 females; mean age=15.36 s.d.=1.62), attending the 9th and the 12th grade, completed: the Moral Foundations Questionnaire (Graham et al., 2011); the Moral Foundations Sacredness Scale (Graham & Haidt, 2011) and a questionnaire investigating their involvement in different kinds of transgressions.

**Results:** two hierarchical linear regression, controlling for gender and age and using the stepwise procedure, evidenced that: a) endorsement of Fairness ( $\beta=-.19$   $p<.001$ ) and sacralization of Purity ( $\beta=-.37$   $p<.001$ ), Fairness ( $\beta=-.23$   $p<.001$ ) and Ingroup ( $\beta=-.12$   $p<.05$ ) are negatively associated with involvement in transgressions; b) there is a significant interaction between endorsement and sacralization of Fairness ( $\beta=-.08$   $p<.05$ ).

**Conclusions:** endorsement and sacralization of moral foundations play a role in adolescents' involvement in transgressions. More specifically, endorsement of Fairness and sacralization of Purity, Fairness and Ingroup can be considered protective factors from involvement in transgressions and the adolescents more likely to endorse Fairness foundation are less involved in transgressions when showing a higher tendency to sacralize Fairness.

## **Developmental psychopathology and disabilities**

### **pos303.11 “What about me?” Siblings of Children with Disabilities**

Avidan Milevsky

*Ariel University, Israel*

Having a child with a disability entails many challenges for a family. Beyond the disruption to parental life, having a child with a disability can profoundly affect the sibling relationship (Abrams, 2009; Giallo, Gavidia-Payne, Minett, & Kapoor, 2012). Siblings share many similar concerns that parents of children with special needs have. However, considering the amount of time they spend together and the fact that the sibling relationship is the most long-lasting relationship in a family, siblings of children with disabilities experience many demanding and unique issues (Hasting, 2003; Petalas, Hastings, Nash, Lloyd & Dowey, 2009; Rossiter & Sharpe, 2001; Verte, Roeyers, & Busse, 2003). Nevertheless, little research work has been devoted to the sibling dynamic in families with children with disabilities.

In order to highlight the unique issues faced by siblings of children with disabilities the current in-depth qualitative study of 36 children examined the impact on the well children and on the sibling relationship in families with children with a disability. Results were analyzed using the phenomenological method.

Themes emanating from the interviews included: well sibling adjustment difficulties, well sibling responsibility, well sibling neglect, well sibling lack of knowledge, well sibling mixed emotions, well sibling disassociation, and well sibling opportunity.

Results highlight the non-normative developmental sequence of well siblings of children with disabilities and points to the importance of focusing on this neglected aspect of child and family dynamics in future studies on disabilities. Results are analyzed in the context of previous work and its developmental and clinical ramifications.

### **pos303.12 Typical and atypical development of executive functions and self-regulating process**

Maria Thereza De Souza, Maria Isabel Leme, Fraulein De Paula, Sylvain Moutier, Marie H el ene Plumet, Jean Louis Adrien, Camilla Mazetto, Ana Paula Stefani, Maria Clara Nassif

*University of Sao Paulo/ Institute of Psychology, Brazil*

The purpose of this paper is to present some results from a research review concerning the most used tools to evaluate executive functions skills of typical children as children with different developmental trajectories, especially ASD. This study is part of a global research of a cooperation project between University of Sao Paulo and Universit  Paris Descartes. The aim of the research is to investigate the self-regulating process and the development of executive functions skills in typical and ASD preschool and school-age Brazilian and French children. It is also a goal to demonstrate that these executive skills of children with autism spectrum disorder improve when they have intervention focused on them.

These functions allow a person to guide and manage their cognitive, emotional and behavioral functioning in a more conscious, flexible and adaptive way regarding internal and external demands. They are activated in conditions where automatic processing is not sufficient to solve problems or learn something new. Three cognitive processes are reported more frequently as the major components of executive functions (inhibitory control, operational memory and flexibility), which has been corroborated by recent studies. There are adapted tests in several countries to evaluate independently different components of executive functions and other measures that evaluate the simultaneous use of some of these components, including the regulation mediated by affective processes. Another set of measures, called functional measures, consist in asking parents and educators, or even children and adolescents, about how they deal with everyday situations that require the deployment of executive functions. Thus, the study of executive functions allows us to overcome a quantitative approach, fixed in intellectual efficiency, to a qualitative analysis of the use of cognitive abilities in contexts that simulate daily situations, in order to understand how they can be identified and promoted early in different developmental conditions.

### **pos303.13 Self-regulation in family foster children**

Pablo Carrera, Maite Román, Esperanza León, Irene Viedma, Jesús Jiménez-Morago  
*University of Seville, Spain*

This poster presents research on foster children's capacities for self-regulation and its relation to adversity history. Children in family foster care are a vulnerable population due to their experiences of maltreatment and separation from primary caregivers. Research has shown high rates of behavioral problems and impulsivity in these children, as well as other difficulties such as poor academic adjustment.

Recent theory and research advances suggest some of these problems are due to deficits in self-regulatory capacities, such as executive functions or emotion regulation. Early adversity in key developmental stages, like that suffered by many foster children, can undermine the normative development of these capacities and, consequently, their psychosocial adjustment.

This study explores this topic in a sample of foster children between 4 and 8 years old who were living in non-relative foster families for at least six months in Southern Spain. We used the Behavior Rating Inventory of Executive Function (BRIEF; Gioia, Isquith, Guy, & Kenworthy, 2000), a widely used parent-reported questionnaire, to assess self-regulation in the foster children. The BRIEF was answered by the primary foster caregiver during a home visit. The information regarding adverse events and trajectory in the child protection services was obtained through case records in collaboration with caseworkers.

The results of this study show us information about the capacities of self-regulation of children in family foster care. Due to the centrality of self-regulation in development and the fact that it remains responsive to well-designed interventions beyond early childhood, interventions for foster children and their families should consider targeting this dimension to improve their outcomes.

## **Education, Schooling, Child care**

### **pos303.14 The value of adolescents' social networks in reducing risk-taking and psychological distress.**

Natasha Magson

*Macquarie University, Australia*

This study addressed the gap in the research for sound multidimensional assessment of social capital and its association with mental health outcomes and risk-taking behaviour among youth living in disadvantaged communities. Within the schooling context, the impact of social capital, social isolation and school belonging on adolescent risk behaviours and mental health outcomes were assessed in 1371 secondary students living in disadvantaged communities across Australia. Firstly, the psychometric properties of the multidimensional measures utilised were tested via confirmatory factor analysis and then the associations between the variables of interest were examined using structural equation modelling techniques. With few exceptions, higher levels of social capital and belonging within the school were associated with decreases in smoking, alcohol consumption, drug taking, and physical violence, and increases in safe sexual practices. Some risk-related outcomes were more strongly associated with family and peer social capital, while others associated more with neighbour and community social capital, indicating that attempts to build social capital need to be targeted across the whole community. For mental health outcomes, social capital within the family was the most important factor for protecting against mental disorders, whereas social isolation within the school environment was the most powerful predictor of depression, anxiety, and stress in teens experiencing disadvantage. Thus, intervention attempts aimed at increasing family social capital and decreasing feelings of isolation at school have the most potential for improving adolescent mental health outcomes. Overall, this study supports the notion that social capital is beneficial in alleviating many of the detrimental health outcomes commonly associated with risk-taking behaviours during adolescence. These findings can be used to inform alternative intervention models, as existing prevention strategies aimed at reducing adolescent risk-taking and mental health problems often neglect the importance of the social environment and are primarily based on individual demographic and socio-economic factors.

### **pos303.15 How are you Motivated**

Frank Assies

*University of Groningen, Developmental Psychology, Netherlands*

This study aims to increase our understanding of the motivation regulation of teacher trainers at a Teacher College for Primary Education and their students. And, how an intervention in increasing teacher trainers pedagogical-didactical instructional practice affects teacher training students' talent development and motivation regulation.

A classroom can be understood as a complex dynamic system. Many interacting factors influence each other and also determine the quality of education. From a complex dynamical systems point of view, we shall try to gain insight in individual teaching-learning processes and their effect on motivation regulation. For that reason, we will study trainer-training interaction processes in classrooms at a Teacher Training College for Primary Education.

This study follows two lines of investigation. Firstly, interaction dynamics between teacher trainers and students will be studied as well as ways to improve these dynamics. To this end, we will provide training to teacher trainers and introduce three pedagogical-didactical strategies, i.e., asking thought-provoking questions, inquiry based learning and scaffolding. In addition, we carry out a video feedback coaching for teacher trainers (VFC-TT) during their lessons.

Secondly, we will study the interrelationship between the interaction dynamics and the way this relationship affects the motivation regulation of both teacher trainers and teacher training students. We therefore administer pre- and posttest questionnaires to determine motivation regulation of teacher trainers and their students. We also observe the interaction between them, to get an insight into the possible relationship between the use of the aforementioned strategies and the motivation regulation of teacher trainers and their students.

In my poster presentation I will elaborate on the three pedagogical-didactical strategies, discuss the methodology, the preliminary results from pilot study and implications for practice.

### pos303.17 Profiles of autonomy support, structure and relatedness and links to students' engagement

Renata Garckija, [Ingrida Gabrielavičiūtė](#), Saulė Raižienė  
*Mykolas Romeris University, Lithuania*

With current study that is based on Self-determination theory, we aimed to verify how profiles of basic psychological needs' supportive behavior are related to students' behavior, emotional, cognitive, and agentic school engagement.

Participants and procedure. The data was drawn from the first available wave of ongoing longitudinal research "Towards effective teaching: Dynamic interaction between teachers' instructional behavior and students' basic psychological needs satisfaction (DoIT)". Participants were 680 students, 49% girls, age mean 16.16 years (SD = .91).

Measures. Autonomy supportive teachers' behavior was assessed with items by Assor et al. (2002) and 1 item from Learning Climate Questionnaire, (LCQ; Williams et al., 1996). Clear expectations (Vansteenkiste et al., 2012) were indicators of competence support. Teachers involvement subscale from TASCQ (Belmont, Skinner, Wellborn, & Connell, 1988) was an indicator of relatedness support. Four types of engagement were evaluated: behavior, emotional, cognitive, and agentic.

Results. Latent Profile Analysis showed that the three-class model was selected as the best fit to the data. First cluster (represented 53% of the sample) can be characterized by moderate levels of all three kinds of perceived need supportive behavior, and represented three kinds of perceived need supportive behavior. Second cluster showed high levels of all three kinds of perceived need supportive behavior and represented 39% of the sample. Third cluster showed low levels of all three kinds of perceived need supportive behavior and represented 5% of the sample. ANOVA was used to compare scores of four types of engagement among the three groups of constellations of teachers' behavior. A Tukey post hoc test revealed that levels of all kinds of engagement were lower in profile of low level of need supportive teachers' behavior.

## **Family, parenting, parent-child relationships**

### **pos303.18 Parental negative attributions of child behavior during the transition to parenthood**

Mi-lan Woudstra, Marjolein Branger, Rosanneke Emmen, Lenneke Alink, Judi Mesman  
*Leiden University, Netherlands*

Because parental negative attributions of child behavior are thought to predict abusive parenting (Milner, 1993, 2003), it is important to examine how these attributions develop in the child's early life. This study tested the stability and continuity of negative attributions of first-time parents from the third trimester of pregnancy to four months post-pregnancy and examined differences between fathers and mothers over time.

The sample consisted of 113 Dutch parent couples. Parental negative attributions were measured during home visits with the computerized Naughty or Clumsy Attribution Task. Parents were shown pictures of children in 10 ambiguous and 5 neutral situations and were asked to give yes/agree or no/disagree answers to 6 positive and 6 negative attribution questions. Positive questions were recoded and a mean was calculated over the ambiguous pictures so that higher scores represented more negative attributions.

A positive relation was found between prenatal and postnatal negative attributions for mothers ( $r(112) = .60$ ,  $p < .001$ ) and fathers ( $r(112) = .73$ ,  $p < .001$ ). Results of a two-way repeated measures ANOVA showed that postnatal attributions were less negative than prenatal attributions  $F(1, 112) = 11.55$ ,  $p < .01$ , partial  $\eta^2 = .09$ . There was no main effect of the gender of the parent,  $F(1, 112) = 0.28$ ,  $p = .60$ , partial  $\eta^2 = .00$ . The decrease was similar for mothers and fathers,  $F(1, 112) = 0.31$ ,  $p = .58$ , partial  $\eta^2 = .00$ .

These results show that there was stability but no continuity in negative attributions of first-time parents during the transition to parenthood. This study is one of the first that measured parental attributions with a computerized task and included both paternal and maternal attributions during the transition to parenthood. Future research should examine the mechanisms behind the pre- to postnatal decrease to get more insight in the development of negative attributions.

### **pos303.19 Factors distinguishing how actively adolescents seek help from their father and mother**

Trisha-Lee Halamay, Heather Sears  
*University of New Brunswick, Canada*

Seeking help from others is one strategy adolescents use to manage problems. According to Newman's model of adaptive help seeking (Newman, 2000), social-cognitive skills, affective-motivational resources, and environmental factors contribute to youths engaging in this behaviour. While parents are viewed as an important source of assistance for and by adolescents (Rickwood et al., 2005), few studies have assessed help seeking from fathers and mothers separately or considered how actively adolescents access specific helpers. This study examined whether markers of youths' skills, resources, and family environment distinguish how often they seek help from their father and their mother.

Participants were 500 predominately White Canadian adolescents (263 girls, 237 boys; Grades 9–11) who completed a survey at school. Youths reported how frequently they sought help from their father and mother in the past month (Ayers et al., 1996, 2002), and rated their skills (emotional competence, self-disclosure), resources (positive and negative relationship qualities with each parent), and family environment (parent encouragement to use help seeking) (Furman & Buhrmester, 1985; Miller et al., 1994; Schutte et al., 1998). Adolescents' average frequency of help seeking was used to determine their group assignment. Discriminant function analyses revealed two significant functions for help seeking from each parent (Table 1). Function 1 separated high, moderate, and low frequency groups and showed that youths' skills, resources, and family environment were related to their help seeking from each parent. Function 2 further separated the moderate frequency group, with moderate help seeking from fathers related to fewer positive relationship qualities and moderate help seeking from mothers related to less self-disclosure, more positive and fewer negative relationship qualities, and more coaching. These results suggest that adolescents' skills, resources, and family environment all contribute to how often they seek help from a parent and that factors shaping moderate help seeking differ by parent.

Variables	Help Seeking from Father								
	F1	F2	Never (n = 144)		Sometimes/Often (n = 272)		Most (n = 41)		F
	r	r	M	SD	M	SD	M	SD	
Gender	.06	.16	.46	.50	.47	.50	.56	.50	.72
Emot Comp	<b>.47</b>	.34	110.18 <sub>a</sub>	17.00	117.72 <sub>b</sub>	16.12	131.86 <sub>c</sub>	15.34	29.65*
Disclosure	<b>.84</b>	.32	1.25 <sub>a</sub>	.43	1.93 <sub>b</sub>	.80	2.93 <sub>c</sub>	1.11	92.47*
Pos Rel	<b>.79</b>	<b>-.53</b>	2.90 <sub>a</sub>	.94	3.81 <sub>b</sub>	.74	4.36 <sub>c</sub>	.49	84.77*
Neg Rel	-.24	.13	2.39 <sub>a</sub>	.89	2.13 <sub>b</sub>	.70	1.95 <sub>b</sub>	.53	7.92*
Coaching	<b>.53</b>	-.06	41.39 <sub>a</sub>	10.05	47.45 <sub>b</sub>	8.49	53.47 <sub>c</sub>	8.66	36.34*

Variables	Help Seeking from Mother								
	F1	F2	Never (n = 88)		Sometimes/Often (n = 293)		Most (n = 97)		F
	r	r	M	SD	M	SD	M	SD	
Gender	-.19	.27	.57 <sub>a</sub>	.50	.50 <sub>a</sub>	.50	.27 <sub>b</sub>	.44	10.63*
Emot Comp	<b>.36</b>	.12	106.30 <sub>a</sub>	18.78	116.84 <sub>b</sub>	15.29	125.64 <sub>c</sub>	16.74	32.62*
Disclosure	<b>.85</b>	<b>-.49</b>	1.22 <sub>a</sub>	.48	2.14 <sub>b</sub>	.91	3.64 <sub>c</sub>	1.08	181.34*
Pos Rel	<b>.70</b>	<b>.49</b>	2.74 <sub>a</sub>	.94	3.75 <sub>b</sub>	.70	4.39 <sub>c</sub>	.46	126.28*
Neg Rel	-.24	<b>-.36</b>	2.87 <sub>a</sub>	1.06	2.36 <sub>b</sub>	.80	2.19 <sub>b</sub>	.73	17.14*
Coaching	<b>.50</b>	<b>.56</b>	39.14 <sub>a</sub>	11.04	48.97 <sub>b</sub>	7.96	53.52 <sub>c</sub>	8.04	68.09*

Note: Structure coefficients greater than .35 are in bold. Means in the same row that do not share subscripts differ at  $p < .008$ .

\*  $p < .001$ .

Table 1 Summary of Discriminant Function Analyses by Frequency of Help Seeking Group

### pos303.20 Quality of life in adolescents with externalizing symptoms: self and parent report

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Background: There is a growing interest in the Quality of Life (QoL) studies about the differences of self-report and parent proxy report (Wallander & Koot, 2016). The aim of our study was to explore the differences in the evaluations of externalizing children's QoL.

Methods: Patients with externalizing symptoms in their history, aged 13-18 year old were selected from the Vadaskert Child and Adolescent Psychiatry Hospital and Outpatient Clinic. We used The Inventory of Life Quality in Children and Adolescents, (ILC, Matthejat & Remschmidt, 2006) parent and children version to measure the children's QoL. Data were analyzed with SPSS Statistics 20.0. Factor analysis (Principal Component Analysis and direct oblimin rotation).

Results: Altogether, 138 caregiver-child dyad filled the ILC. Mean age was 14 years ( $SD=1,40$ ). In our study 74 mothers, 37 fathers and 27 other caregivers were included. Children's QoL was evaluated most negatively by mothers, most positively by other caregivers. The caregivers' ratings were sorted into 3 factors: the first factor included the global QL, mental health and the problem/illness, the second one included peer relations, loneliness and school, while the third factor included also school and physical health. The children's ratings were sorted into two factors: the first one included global QL, mental health, the problem/illness and physical health, and the second one loneliness and hospitalization.

Conclusions: The caregivers and their children reported different domains of QoL as problematic. Therefore, it is important to gain information from several sources about the adolescent's QoL.

### pos303.21 Family & Sport, an online resource for parents and coaches

Arminda Suárez, Chloe García-Poole, María José Rodrigo

Universidad de La Laguna, Spain

To improve the offer of online parenting resources available in Spanish, a parent training platform has been created, where parents can complete activities that promote the reflection on their role as parents, and also

exposes them to new ways of raising their children. The “Positive Parent” program (Educar en Positivo, <http://educarenpositivo.es>) provides a set of training materials to help parents improve their parenting skills and their relationship with their children in a positive way. The program also provides news, multimedia information and activities for the family. A new module named 'Family and Sport' has been created within this program as a specific resource for coaches and parents with children that play sports. This module is composed of five sessions: 1) 'A sport for each child', 2) 'Sport: training for life', 3) 'Parent support for their children's sport practices', 4) 'Parents and coaches on the same team', and 5) 'Building a sport community'. Participants were 60 Spanish-speaking parents who were monitored while participating in this module. They completed the Online Parental Support Scale and a Module Satisfaction questionnaire. Results showed that parents changed their vision of online support and the benefits that it has to offer, as well as reporting a greater satisfaction with their perceived parental self-efficacy. In sum, this module offers a space for Spanish-speaking parents with children who play sport to learn and exchange experiences, promoting positive parenting and helping to build a sport culture of respect, solidarity and fair play values.

### **pos303.22 Mothers' active engagement, child's digitally-based activity, prosocial behavior and externalizing problems**

Anika Miltuze, Sandra Beatrice Sebre  
*University of Latvia, Latvia*

The aim of this research was to examine preschool children's prosocial behavior as well as internalizing and externalizing problems in relation to their parents' active engagement with their child in the use of various digital technologies (television, computer, telephone, play stations), time spent and content of the child's activities. Participating in the research were the mothers of 120 preschool children, aged 5 – 6 years old, 50 girls and 70 boys. Mothers completed the Child Behavior Checklist, prosocial behavior scale of the Strengths and Difficulties Questionnaire, and also answered questions regarding the child's time spent with digital technologies, the content of their activity (drawing, puzzles, games, etc.), and the mother's degree of active engagement with her child during these activities. Results showed child gender differences in the content of their digitally-based activity, but there were no gender differences in the amount of time spent with the technologies, not in the degree of mother's active engagement. Multiple regression analysis showed that mother's active engagement was predictive of higher child's prosocial behavior ratings, lower externalizing behavior problem ratings, and, for boys, lower attention problem ratings. Results are discussed in relation to practical implications for parent-child relationships.

### **pos303.23 Predictors of postnatal bonding: depression and anxiety, maternal self-esteem and mother-foetus relationship**

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Development of the relationship between a caregiver and an infant is an important process after childbirth (Brockington, 2004). Impact of depression and anxiety on mother-foetus relationship and postnatal bonding is well documented (e.g. Condon & Corkindale, 1997; Goecke et al., 2012). While few studies aimed on impact of mother-foetus relationship on postnatal bonding (Damato, 2004), there are limited studies on possible mediators of this relationship. Maternal self-esteem is an essential component of mothering and is viewed as mediator of many factors that influenced woman's adaptation to maternal role (Shea & Tronick, 1988). The aim of this study is to examine the relationship between prenatal mother-foetus relationship, depression and anxiety symptoms and postnatal bonding as mediated by maternal self-esteem.

Our sample consists of 268 Czech women (mean-age=31.83, SD=4.42) in their third trimester of pregnancy who were involved in our longitudinal survey study and who completed measures in Time 1 (pregnancy) and in Time 2 (3 month-age children). In Time 1 we assessed their relationship to unborn child (Masopustová, Kicková, & Korábová, 2014), depression (PHQ-9, Kroenke, Spitzer, & Williams, 2001) and anxiety symptoms (GAD-7, Löwe et al., 2008). In Time 2 we assessed their depression and anxiety symptoms, maternal self-esteem (MSRI-s, Shea & Tronick, 1988) and postnatal bonding (PPBQ, Brockington, Fraser, & Wilson, 2006).

Preliminary analysis showed that mother-foetus relationship is negatively associated with postnatal bonding ( $r=-0.296$ ,  $p<0.001$ ; the higher the score on PPBQ the more impaired bonding), and positively with maternal self-esteem ( $r=0.187$ ,  $p<0.001$ ). Postpartum bonding is negatively associated with maternal self-esteem ( $r=-0.525$ ,  $p<0.001$ ), that means the higher the mother's self-esteem the better her relationship with child. Postpartum bonding is also associated with depression and anxiety symptoms ( $r=0.456$ ,  $p<0.001$ ;  $r=0.330$ ,  $p<0.001$ , respectively). Structural equation modeling will be employed for further analysis. We will present the results of mediational analysis.

### **pos303.24 Working Vs. Non-Working Mothers: Comparison Of Selected Psychological Characteristics**

Veronika Hanáčková

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The work-family balance is an actual subject matter and considerable research is devoted to this topic. Research mainly focuses on work-family conflict (e.g. Mihelič & Tekavčič, 2014) and on the impact a mother's early return to work has on a child (e.g. Harrison & Ungerer, 2002). However, Marshall and Tracy (2009) point out that little attention is being paid to how working mothers feel.

The aim of this study is to compare selected psychological characteristics of working and non-working mothers of three-month old children.

Our sample consists of mothers from Czech Republic, who were involved in our longitudinal survey study (called "the DOMOV project"). Mothers completes measures from the third trimester of pregnancy until the child is 3 years old.

The relationship between the mother and the child (PPBQ, MABISC), depression (PHQ-9), anxiety (GAD-7), child-rearing attitudes (IRA) and selected childcare characteristics (e.g. breastfeeding, carrying, etc.) will be compared among working and non-working mothers.

Preliminary analyses indicate that there is a difference between working and non-working mothers in mother-infant relationship (measured by PPBQ questionnaire). It seems that the relationship between non-working mothers and their children is disrupted more ( $m=12.25$ ) than the relationship between working mothers and their children ( $m=10.11$ ),  $t(261) = 2.02$ ;  $p = 0,04$ . Preliminary results also indicates that non-working mothers of three-month old children registered a higher anxiety score ( $m=4.24$ ) than working mothers ( $m=3.22$ ),  $t(268) = 2.21$ ,  $p = 0.03$ .

Additional analysis of subsequent psychological characteristics will be employed.

### **pos303.26 Characterizing dyadic interactions in SA/LMIC and evaluating whether risks/outcomes mirror developing countries.**

Anita Prag, Susan Malcolm-Smith, Ella Weldon, Kirsty Donald, Sarah L. Halligan, Dan Stein

*University of Cape Town Psychology Department, South Africa*

**Aim** There are several established knowledge resources describing the mother child dyad from a high income developed world perspective. Caregiver's characteristics, in particular the ability to interact with sensitivity to young children is seen to contribute significantly to infants' socio-emotional development. Currently, most theorizing and empirical findings on maternal competence hails from North American and European samples. In a systematic review of the literature available, low to middle income countries are underrepresented in empirically sound research. In spite of maternal sensitivity or competence being vulnerable to socioeconomic factors thereby potentially influencing the child's adequate physical and emotional development, no studies have characterized, in detail, the nature of the dyad in LMICs, more especially with toddlers. This review summarizes the limited quantified empirical research of maternal style in relation to the dyadic interaction including risks and outcomes with toddlers highlighting potential knowledge gaps.

**Methods** The team searched Ebscohost Academic Premier, Google Scholar and Pubmed search engines using an exhaustive combination of various search terms eg. maternal sensitivity dyad South Africa; maternal mental health parenting South Africa; maternal trauma South Africa etc

**Results** The search yielded poor results within South African research with 4 articles being closely related but investigated infant development in relation to attachment style and postpartum depression. Currently no studies in South Africa or other LMICs characterizes the nature of the dyad with toddlers as its primary focus.

Some studies have examined the impact of depression, nutrition and HIV in relation to infant development within LMICs.

Conclusions A unique empirical gaze is lacking in LMICs where maternal style, risks and outcomes are interrogated. A critical evaluation of the assumptions made by western developmental psychology is imperative so as to ascertain its relevance as well as its stronghold on the developing country's thinking around how the South African child develops.

### **pos303.27 Longitudinal Associations Between Parenting Practices and Decision-Making Competence**

Linsie Michaels, Joshua Weller  
*Oregon State University, United States*

AIM: Developmental research has suggested that parenting practices may impact the development of health-risking behaviors later in life. However, little evidence exists regarding how parenting variables may impact actual decision processes that may lead to suboptimal choices. This study examined how parenting practices in early childhood influence the development of decision-making competence (DMC), a latent trait that reflects individual differences in rational responding, and has been linked with risk behaviors (e.g., drug use, sexual behavior). METHODS: Using an ethnically- and socio-economically diverse longitudinal dataset, we assessed children's reports of parenting behaviors at 10 -12 years (baseline; n=775) and a measure of rational decision-making approximately 9 years later (19 years; n=563). We used two well-established measures parenting practices: Loeber's (1989) parental supervision/monitoring scale, and Schludermann, and Schludermann's (1970) Child Report on Parenting Behavior Inventory, obtained at baseline, and correlated these with scores on the Youth Decision-Making Competence (Y-DMC) measure (Parker & Fischhoff, 2005), which was assessed at Visit 4. Y-DMC involves a battery of classical decision-making tasks that measure response deviance from what would be predicted by a normative rational model. RESULTS: We found significant correlations between parenting practices and DMC. Specifically, children whose parents engaged in greater supervision and parental monitoring demonstrated higher DMC scores, whereas children whose parents who used psychological control (i.e., instilling guilt and anxiety) demonstrated lower DMC scores. These variables parenting practices uniquely contributed to the variance in DMC scores, controlling for socioeconomic status, child's gender, child's self-control, and cognitive ability at age 10. CONCLUSIONS: The findings from this study can support future research related to the development of decision-making skills, highlighting environmental factors that might impact the development of advantageous decision-making. We discuss the potential for informing prevention and intervention programs designed to promote desistance of health-risking behaviors by means of teaching critical thinking skills.

### **pos303.28 Children's perceptions of older people: does contact with grandparents affect them?**

Carolina Sciplino  
*St Mary's University, United Kingdom*

Children's perceptions of ageing have been investigated through the analysis of drawings (Falchikov, 1990; Villar & Fabà, 2012). Previous research has found that children hold stereotyped views of old people (Falchikov, 1990); more positive representations of the older generation were identified by Villar and Fabà (2012), however, they were still more homogeneous and less complex than those of the younger generation. Contact with grandparents is a very important way to learn about aging and grandparenthood (Newman et al., 1997). The present study investigates children's views of ageing as expressed in drawings. It aims to find out whether contact with grandparents affects children's perceptions of ageing. Twenty-seven children (14 boys and 13 girls aged 5 to 7 years) were asked to draw a young man, a young woman, an old man and an old woman. Participants were also asked to fill in a questionnaire on the relationship with their grandparents. The children's drawings were content analysed. Result show that the depictions of younger and older people differed: the representations of older people, especially men, were more uniform and less complex than those of younger people. Children who had regular contact with their grandparents produced less stereotypical depictions of older men and women. Implications of these different representations are discussed.

## Language development and communication

### **pos303.30 Development of Phonological Awareness Test Available on the Web**

Noboru Takahashi

*Osaka Kyoiku University, Japan*

We have developed Adaptive Tests for Language Abilities (ATLAN) on the basis of an item response theory (Takahashi & Nakamura, 2009, 2015; Takahashi, Otomo, & Nakamura, 2012), which are available on the Web (see <http://psy2.osaka-kyoiku.ac.jp/atlan.html>). ATLAN consists of the four subtests: vocabulary, grammar, kanji reading, and kanji writing. In the present study, we newly developed a subtest of ATLAN, which assesses children's phonological awareness (PA). PA are known as a prerequisite for the acquisition of reading in various languages and dyslexic children have weakness of PA. In study 1, we made 83 problem items measuring PA; for example, segmenting a word into syllables, extracting a syllable in a word, and so on. Children from four- to seven-year-old (N=875) participated in determining the parameters of each items. In study 2, PA, vocabulary, and grammatical knowledge were assessed by using the subtests of ATLAN. While hiragana is one of the two major orthographic systems in Japanese, reading hiragana characters with regular character-sound correspondence (seidaku) and with irregular character-sound (tokushu) were also assessed. Totally 163 children from five- to seven-year-old participated in the study. There were significant partial correlations between PA and seidaku ( $r=.34$ ) and between PA and tokushu ( $r=.32$ ) after controlling for age, vocabulary, and grammatical knowledge. PA also had significant correlations with vocabulary ( $r=.25$ ) and grammatical knowledge ( $r=.31$ ) after controlling for age. Therefore, validity of ATLAN PA subtest was confirmed. The relationship between PA and other language abilities were discussed.

### **pos303.31 L2 Teachers' Verbal and Nonverbal Orchestration in Preschools: Implications for Educational Robots**

Vasfiye Geçkin, Ezgi, M. Mamus, Cansu Oranç, Junko Kanero, Aylin C. Küntay, Tilbe Göksun  
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Second language (L2) tutoring has several verbal and nonverbal means of interaction to facilitate learning. For instance, L2 teachers use nonverbal cues such as gestures to enhance learners' comprehension and verbal expressions (e.g., Taleghani-Nikazm, 2008; Tellier, 2008), to help learners self-correct their errors (Muramoto, 1999), and to create a positive learning environment (McCafferty, 2002). Despite the beneficial effects of gesture use on learners, the use of verbal cues in L2 classes offer diverse results (e.g., Noor, Aman, Mustafa & Seong, 2010). To support traditional language tutoring, technological tools such as educational robots are becoming the new trend in L2 tutoring. Thus, the use of (non)verbal cues by human tutors offers a baseline for gaining insight and developing interaction patterns in child-robot studies.

The aim of this paper is to explore verbal and nonverbal interaction patterns of preschool L2 teachers. In this exploratory study, we report a description of both interaction patterns; namely, (i) feedback use, (ii) language use, (iii) target word use (i.e. class theme related words), (iv) gesture use (e.g., pointing) and (v) (non)verbal attention grabbers use (e.g., "Look!", snapping fingers) across six sessions where English is taught as an L2 in two preschools in Turkey.

Preliminary results showed that the teachers devoted more than 70% of the class to L2 and used few mixed utterances. They repeated the target words at least 30% of the class ( $M= 39\%$ ). and used gestures accompanying these target words ( $M= 29\%$ ). Verbal and nonverbal attention grabbers were used equally frequently (around 8% each) to attract children's attention when they lost concentration. The most commonly used feedback patterns were praise and confirming. By examining all these (non)verbal interaction patterns of human L2 tutors, we aim to guide both human and robot tutors in L2 class settings.

## Peer relationships

### **pos303.32 Multilevel study of individual characteristics and classroom climate in explaining moral disengagement**

Yasuyo Nishino

*Hiroshima Shudo University, Japan*

A number of studies have investigated moral disengagement in the context of school bullying. Though previous studies have shown that moral disengagement is related to school bullying, most studies lack information about possible individual and class correlates of moral disengagement in the context of school bullying. The purpose of the present study was to investigate whether both individual and class characteristics were useful in explaining moral disengagement in bullying at two age levels. Therefore, this study examined pathways that linked peer conformity, low empathy and classroom climate to moral disengagement in bullying. In addition to examining the pathways to moral disengagement, we also tested the hypothesis that primary school students have different pathways from those of middle school students. Classroom climate was assessed using the measure of perceived teacher's autonomy support in the class. Two hundred and twenty-nine Japanese primary school students (14 classes, mean age=10.3 years, range: 9-12, 55.9% of them girls) and five hundred and six middle school students (21 classes, mean age=13.3 years, range: 12-15, 50.0% of them girls) participated in our questionnaire survey. Multilevel analysis was performed. The estimated class variance of perceived teacher's autonomy support was statistically significant and that of moral disengagement was statistically significant among only middle school students. Moreover, results showed that moral disengagement was positively predicted by peer conformity and low empathy, and that classroom climate might buffer the influence of those individual characteristics on moral disengagement, after controlling for gender and passive bystanding behaviors. Implications of these findings are discussed.

### **pos303.33 Mediation and moderation effects in the relations between social victimization and adjustment**

Daniela Freitas, Susana Coimbra, Anne Marie Fontaine

*University of Porto - Faculty of Psychology and Education Sciences, Portugal*

Studies reveal that peer victimization and discrimination have a negative effect on psychological functioning. Nevertheless, some studies suggest that this negative impact can be mediated by personal mechanisms and even moderated by some protection mechanism. Under the theoretical perspectives of resilience, the present study aims to explore the mediation and moderation effects of personal and familial mechanisms in the associations between social victimization and psychological adjustment. In a sample of 2959 high school students in Portugal, we used structural equations modelling to test mediation and moderation effects of the coping strategies, conflict with parents, admiration felt by parents, and familial optimism in the association between peer victimization, perception of discrimination and mental health, self-esteem and life satisfaction. The results show the influence of the perception of discrimination on the psychological adjustment (mental health, self-esteem and life satisfaction) is mediated by the use of negative coping strategies (self-blame and disinvestment). The results are discussed based of the literature regarding resilience, and implications for practice are presented.

### **pos303.34 Classroom norms, children's exposure to victimization and their risk-taking development**

Jacintha M. Tieskens, Marieke J. Buil, Pol A.C. van Lier

*Erasmus University Rotterdam, Netherlands*

Background: Youths risk-taking behavior has been associated with concurrent and future antisocial behavior (McGue et al., 2006). Previous research indicated that negative peer-experiences, such as social exclusion, can affect the development of risk-taking behavior in adolescence and adults (Peake et al., 2013). However, knowledge on the development of childhood risk-taking behavior, and the possible impact of negative peer experiences like relational bullying-victimization is lacking. Moreover, classroom norms about risk-taking may affect the impact of bully-victimization on risk-taking behavior (Brendgen et al., 2015). The aim of the present

study was a) to explore the development of risk-taking behavior among children attending mainstream elementary schools, across ages 7 to 11 years b) to understand how relational-victimization influences risk-taking given the classroom-specific norms about risk-taking.

Methods: We followed 1068 children attending mainstream Dutch elementary schools over first to fifth grade. Children's risk-taking propensity was assessed using the Balloon Analogue Risk Task (BART; Lejuez et al., 2002). Children's experiences of relational-victimization was assessed by teacher-reports using the Social Experience Questionnaire (range  $\alpha = .92-.93$ ; SEQ-T; Crick & Grotpeter, 1996). Classroom norms about risk-taking were based on the within-classroom correlation coefficient between children's peer likeability and their risk-taking score (range  $-.88 - .86$ ).

Results: Children's risk-taking propensity increased from age 7 till age 11 years. Results furthermore showed that children who were relationally victimized showed increased growth in risk-taking, but only if these victimized children were in classrooms where norms were unfavorable towards risk-taking. When children were in classroom where norms were favorable towards risk-taking, the link between bullying-victimization and risk-taking was non-significant (see Figure 1).

Conclusion: Our findings suggest that especially children's whose risk-taking behavior is poorly appreciated by their classroom peers are prone to the impact of poor experiences with peers, resulting in increases in risk-taking by these bullied children.

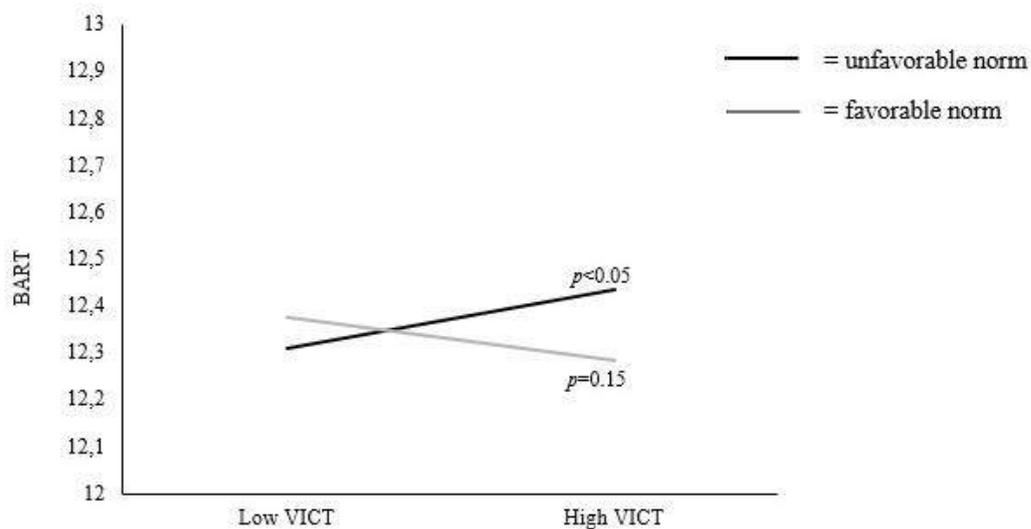


Figure 1. Risk-taking as a function of low versus high exposure to bullying-victimization for children attending classrooms with favorable versus unfavorable appreciation of risk-taking behavior.

## **Prevention and Intervention**

### **pos303.35 Cross-lagged associations between sleep and technology in adolescents**

Serena Bauducco

*Örebro University, Sweden*

Sleep duration decreases from puberty throughout adolescence. This decrease is normative and is due to both biological and psychosocial changes that push adolescents' bedtimes later. However, there are indications that a decrease in sleep duration in adolescents have worsened during the last 20 years (Maslowsky et al., 2014). So, biological changes do not explain the current decline in sleep duration fully. One mechanisms that has been hypothesized explaining this change is the development of new technologies and internet accessibility around the clock. However, the majority of studies investigating the relationship between poor sleep and technology use at bedtime are cross-sectional. Thus, it cannot be excluded that adolescents use technology because they cannot fall asleep. Therefore, the aim of this study was to test whether technology use at bedtime predicted longer sleep onset latency (= time to fall asleep), or vice versa using cross lagged analyses over a 3-year period. Participants were high school students in the 7th and 8th grade (N = 2552; age range: 12-15 years, at baseline) from 17 public schools in three communities in middle Sweden. Students filled out questionnaires in school during the spring, 2014 (T1), 2015 (T2) and 2016 (T3) (85% retention rate). Survey data included one question about technology use at bedtime and sleep onset latency (SOL).

Technology use at bedtime significantly predicted longer SOL and vice versa from T1 to T2. From T2 to T3 sleep predicted technology use but not vice versa.

This is the first study to investigate the reciprocal association between sleep and technology use in an adolescent population. It seems as technology use at bedtime and long sleep onset latency perpetuate each other in early adolescence, but later on adolescents who have a sleep problem seem to use technology as a way to cope with it.

### **pos303.36 Cooperation between Historians and Psychologists in Assessing Psychosocial Support in Disaster Areas**

Machiko Kamiyama, Masea Sato, Daisuke Sato, Reika Ichijyo, Kyoko Nakatani, John Morris

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Six years on from the tsunami and nuclear reactor disaster of 2011 in northeastern Japan, the affected areas are facing the problems of depopulation, and social and economic decay. Historians have conducted salvage operations where possible on the historical heritage of affected areas. The owners of collections of local heritage are typically elderly people. Data on elderly people after the disaster and how their experience can help their communities is lacking.

This study assesses how historians' salvage operations can provide valid psycho-social support for affected communities and individuals, struggling to rebuild after the disaster.

Method: We conducted a series of structured interviews with people owning collections of salvaged historical heritage. All the subjects interviewed were over 60 years old. The interviews used the Personal Attitude Construct (PAC) Analysis to analyze the subjects' attitudes towards their historical heritage and self-identity. The interviews use a stimulus sentence to elicit free word association from the subjects, and then ask the subject to pair their words on a distance matrix. These words are then grouped into clusters which the subject names. SPSS is used to perform an analysis of the clusters, and then the subject is asked to say what they feel on looking at the results of the analysis.

Results: Except for small number of subjects exhibiting extreme stress, most subjects answered that after the interview process, they were able to regain their ego integrity. Furthermore, our studies show that the work of historians can help restore social cohesion in damaged communities. Historians cannot objectively assess the psychosocial effects of their work and interdisciplinary cooperation with psychologists can help both improve their support for affected individuals and communities.

## **Social, and personality development**

### **pos303.37 Job crafting, study engagement, and well-being in tertiary students who work-while-studying**

Peter Creed, Michelle Hood  
*Griffith University, Australia*

**Aim:** In Australia, >80% of tertiary students work while studying (Bexley et al., 2013). One way to manage these competing roles is to reduce job demands, which can seriously affect other aspects of students' lives (Alarcon, 2011). Managing job demands is referred to as "job crafting" (i.e., modifying job aspects to improve person-job fit; Berg et al., 2008). Student employees can augment their resources (e.g., ask for advice), modify tasks (e.g., simplify the work), and modify interpersonal relationships (e.g., seek mentoring). In effect, they can reduce demands and enhance resources (cf. job demands-resources model; Bakker & Demerouti, 2007). We tested the relationship between job crafting and study engagement and well-being, and tested whether job crafting reduced work-study role conflict and enhanced work-study role facilitation (i.e., tested whether conflict and facilitation mediated between crafting and engagement and well-being).

**Method:** Participants were 184 tertiary students (60% female), who were working-while-studying (range 1-48 hours per week). They responded to an online survey, which contained the 15-item Job Crafting Scale ( $\alpha=.83$ ; Slemp & Vella-Brodrick, 2014), the 5-item Work-School Conflict Scale ( $\alpha=.88$ ) and 5-item Work-School Facilitation Scale ( $\alpha=.85$ ; Butler, 2007), the 10-item Utrecht Work Engagement Scale for Students ( $\alpha=.79$ ; Schaufeli et al., 2002), and the 5-item WHO Well-being Index ( $\alpha=.82$ ; Bech et al., 2003).

**Results:** We used latent variable analysis (AMOS) and found significant paths from job crafting to both engagement and well-being, and found that conflict partially mediated these relationship; that is, students higher on job crafting reported less role conflict and, in turn, better engagement and well-being (crafting was unrelated to facilitation).

**Conclusion:** This suggests that students who can modify their job demands benefit by having better university engagement and well-being. One mechanism to explain this relationship is that by managing work demands they reduce the role conflict between work and study.

### **pos303.38 Predicting internalizing and externalizing behaviours of adolescents**

Nika Sušac, Linda Rajhvajn Bulat, Marina Ajduković  
*Social Work Study Centre, Faculty of Law, University of Zagreb, Croatia*

Based on Bronfenbrenner's Ecological Systems Theory, when trying to explain the development of children, the context of the system of relationships in their environment should be taken into account. The aim of this study was to determine the contribution of some aspects of different microsystems to internalizing and externalizing behaviors of adolescents.

The study was conducted using a two-stage stratified cluster sample of 1st grade pupils from 29 secondary schools in Croatia. Data were collected within the project "Family economic hardship, psychosocial problems and educational outcomes of adolescents in the time of economic crisis", financed by the Croatian Science Foundation. The sample consisted of 1099 pupils. Results presented in this paper were obtained using the following instruments: NEO-FFI (Costa & McCrae, 1989), IPPA (Armsden & Greenberg, 1987), Parental Monitoring Scale (Silverberg & Small, 1991), Perceived peer pressure questionnaire (Sušac, Rajhvajn Bulat & Ajduković, 2016), School bonding questionnaire (Sušac, Rajhvajn Bulat & Ajduković, 2016), DASS21 (Lovibond & Lovibond, 1995) and Self-report questionnaire of risk and delinquent behaviours (Ajduković, Rajhvajn Bulat & Sušac, 2015).

Four hierarchical regression analyses were conducted, using peer violence, delinquent behavior, depression and anxiety as criterion variables. Sociodemographic variables (gender and family financial status) were entered in the first step, followed by personality traits, parental variables (attachment to both parents and parental monitoring), perceived peer pressure (to conform, to prosocial behaviors and to problem behaviors) and school bonding. All five predictor sets were significant in predicting all four criterions, with personality traits explaining the largest percentage of variance. However, depending on the criterion, different variables emerged as significant individual predictors. The most important specifics were the obtained differences between the individual variables predicting internalizing (depression and anxiety) and externalizing (peer violence and delinquent behavior) behaviors, which will be presented and discussed in detail.

### **pos303.39 Gratitude and Materialism in South Brazilian Children**

Cristina Coelho Borges Cheinquer, Fernanda Palhares, Letícia Schreiner, Lia Beatriz de Lucca Freitas, Jonathan Tudge

*Instituto de Psicologia da Universidade Federal do Rio Grande do Sul (IP/UFRGS), Brazil*

Excessive materialism is neither healthy (e.g., Kasser, 2005; Kasser et al., 2014) nor sustainable (Jackson, 2009). In consumerist societies it is difficult to raise youth immune from materialism, namely the desire to continually want more and better material things than others. Research with adults (Lambert et al., 2009; Polak & McCullough, 2006) and adolescents aged 14 to 19 (Froh et al., 2011) revealed a negative relation between materialism and gratitude. It makes sense to think that gratitude, a moral virtue (Tudge et al., 2015), may counterbalance materialism, given that it requires a positive valuation not only of the thing gained but also of the benefactor. However, relatively little research on this topic has been conducted with children (Kiang et al., 2016), especially in developing countries.

The aim of this study is to investigate the relation between the dual and potentially competing roles of materialism and gratitude in the broad understanding of Brazilian children's money spending preferences. The participants were 285 Brazilian children ages = 7-14 years ( $M = 10.87$ ;  $SD = 2.27$ ). We examined whether children's levels of gratitude were related to levels of materialism and the way they allocated resources from an imaginary windfall. Results suggest that an inverse correlation ( $p < 0,001$ ) between Materialism and prosocial tendencies such as generosity and sharing. In the case of Gratitude, the results showed an inverse correlation ( $p < 0,05$ ) with egocentric and hedonistic tendencies. These results confirm the existence of a negative relation between materialism and gratitude (Froh et al, 2011) and also contribute to a better understanding of this issue regarding children.

To examine relations among materialism, gratitude, and how children prefer to use their money has important implications for delineating character education that promotes both youth well-being and a sustainable economy.

This study was sponsored by John Templeton Foundation.

### **pos303.40 Protective effect of mindfulness on the aggressive behaviours resulting from interpersonal stressors.**

Taro Matsuki, Seiichi Saito, Satoshi Unzai

*Kobe University, Japan*

Participants were 107 undergraduate and graduate students (24 males and 83 females) ranging from ages 18 to 29 ( $M = 19.88$ ,  $SD = 1.70$ ). The participants completed the questionnaires on mindfulness (the Japanese version of the Mindful Attention Awareness Scale), aggressive behaviours (physical aggressive behaviour and verbal aggressive behaviour) and interpersonal stressors. The survey was conducted in January 2017. Multiple regression analysis showed that higher mindfulness significantly reduced the promotive effects of interpersonal stressors on verbal aggressive behaviour ( $\beta = .58$ ,  $p < .01$ ) (Figure 1). However, the protective effect of mindfulness was not evident in physical aggressive behaviour. These findings may have important implications for the prevention of aggressive behaviours.

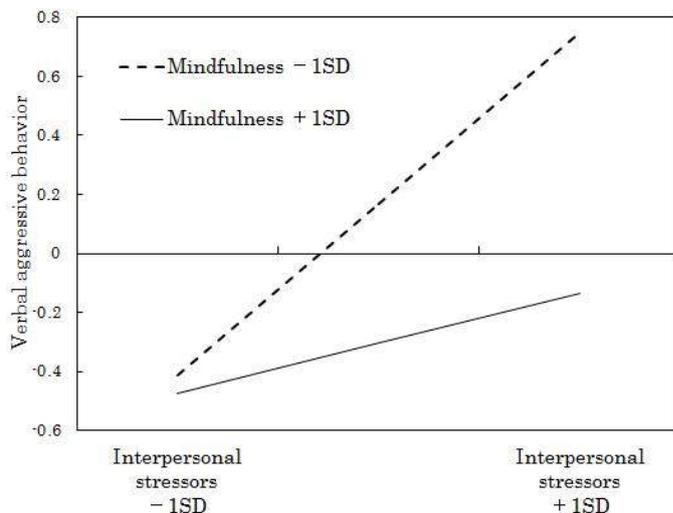


Figure 1: The interaction between mindfulness and interpersonal stressors predicting verbal aggressive behavior.

### pos303.41 NEET-TEEN and NEET in Campania: from statistics to stories

Ilaria Iorio, [Anna Parola](#), Lucia Donsì, Santa Parrello  
 University of Naples Federico II, Italy

**Aim.** The NEET (Not engaged in Education, Employment, or Training) phenomenon represents one of the most problematic issues with regard to young people in Italy (Neet-rate:31,6%, Eurostat, 2016). Specifically, Campania, region of Southern Italy, is heavily affected (Neet-rate:41,5%, Istat, 2016). The scientific literature highlights the need to provide distinctions between different “types” of Neet, as the category is ample and heterogeneous. Currently, the covered ages range from 15 to 34 years, thus including adolescents, young adults and adults. The aim of the present study is to explore the Neet phenomenon beyond the available official statistics, focusing on the qualitative analysis of individual stories.

**Methods.** The study is composed by an initial explorative phase based on analysis of data collected by Multipurpose Investigation Istat “Aspects of daily life” (2016), which investigated the characteristics of Neet in Campania respect to students and employed, and the characteristics of 3 Neet categories (ages:15-19/20-24/25-34). In the second phase, narrative interviews (n=6) were used to investigate their life paths.

**Results.** Multiple Correspondence Analysis was carried out using SPAD. The results show that the Neet condition negatively affects aspects of daily life: respect to students and employed, the Neets do not participate in social and cultural activities and report lower levels of well-being; within Neet category, the 20-24 group is maximally at risk for a higher level of inactivity and lower well-being. Qualitative analysis was performed using Alceste software. The results refer to specific thematic macro-areas: problematic relational contexts (family, school) and personal perspective on the future (projects, desires).

**Conclusions.** The research is a first attempt to find differences within such a heterogeneous group, whose boundaries are not well defined. Integrating quantitative data and narrations allows the identification of critical areas for intervention and the design of projects based on age and specific individual and contextual characteristics.

**pos303.42 Influence of school adjustments on global self-worth and mentalhealth among college students**

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Purpose: Junior colleges in Japan have 2 or 3 years course. Therefore students are very busy and hard to study. Will the school adjustments influence mental health and global self-worth? What domain of school adjustments will influence mental health and global self-worth?

The purpose of this study was to examine level of global self-worth and mental health, and to examine influences of school adjustments on global self-worth and mental health among college students in Japan.

Method: Global self-worth was the degree to which the adolescent likes oneself as a person and is happy with oneself. Responses ranged from 1 to 6, with higher scores indicating more positive self-evaluations. Mental health was assessed using Kessler 10 (K10). Responses ranged from 0 to 4, with higher scores indicating unhealthiness unhealthy mentally. School adjustment was assessed good friendship, relations with teachers, learning motivation, learning ability, problem-focused coping, effort to future, time perspective, and so on. Responses ranged from 1 to 5.

The questionnaire was administered in July 2016. The analysis reported here, are based on 152 junior college students.

Results and Conclusions: Main results were as follows. (1) Junior college students had very negative global self-worth and mental unhealthiness. (2) School adjustments related to global self-worth. Time perspective, and learning motivation related to global self-worth positively, but learning ability related to global self-worth negatively. (3) There were negative relations with school adjustments and mental unhealthiness. Particularly, problem-focused coping and time perspective related to mental unhealthiness.

It was suggested that time perspective influenced global self-worth and mental health, not interpersonal relationships among junior college students. About learning, it was suggested that motivation influenced global self-worth positively, but ability influenced global self-worth negatively.

		global self-worth	mental health
school adjustments (β)	time perspective	.473 ***	-.371 ***
	leaning motivation	.258 **	-----
	learning ability	-.163 *	-----
	problem-focused coping	-----	-.290 ***
R <sup>2</sup>		.316 ***	.317 ***
Means		2.687	13.740
SD		.786	8.74
(range)		(1-6)	(0-40)

\*\*\*:  $p < .001$ , \*\*:  $p < .01$ , \*:  $p < .05$

*Table 1: Results of regression analysis and means (SD)*

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Van Londen, Monique	pos101.34	Verbeke, Lize	sym102-7
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