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An investigation of the mediator role of emotional regulation in the relationship between cognitive flexibility and psychological symptoms in adolescents

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Abstract

In this study, it is aimed to examine the mediating role of emotion regulation in the relationship between cognitive flexibility and psychological symptoms in adolescents. 554 adolescents between 14 and 19 years of age were included in the research designed in the relational survey model. The research data were collected through the Cognitive Flexibility Scale, Difficulties in Emotion Regulation Scale, Brief Symptom Inventory and Personal Information Form. As a result, the finding that emotion regulation difficulty has a full mediating role in the relationship between cognitive flexibility and depression, anxiety, negative sense of self and somatization scores has been reached. Another important finding of the study is that the difficulty in emotion regulation, is a suppression variable between cognitive flexibility and hostility.

Keywords: adolescents; cognitive flexibility; psychological symptoms; emotion regulation difficulty; direct and indirect relations

1. Introduction

Adolescence is an important stage of development that is between childhood and adulthood, with its own problems and tasks to be accomplished. In this period, biological, psychological and social changes begin to accelerate and interact intensively with each other. Besides, the changes that need to be adapted to and the speed of these changes in adolescence increases compared to childhood (Kim, 2003). In order to ensure a healthy maturation and successfully pass this period, adolescents need to be able to successfully adapt to this period and to cope with their situations. According to Thurston and Runco (1999), flexibility is one of the most effective ways in which adolescents can cope with the difficult situations they face and the changes that put themselves under pressure.Because flexibility is the ability of people to deal with change within conditions.

Cognitive flexibility is defined as the ability of the individual to adapt to certain situations, the ability to move from one thought to another, or the ability to approach various problems with multiple strategies (Stevens, 2009). The flexible individual considers themselves sufficient in interpersonal relations, they are assertive and responsible, show interest and make sense of their experiences. On the contrary, inflexible individuals fail to deal effectively with their problems, exhibit a rigid attitude and repeat the same mistakes and find it difficult to adapt to new situations (Martin and Anderson, 1998).

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On the other hand, during adolescence, individuals with inflexible thinking structures, who cannot cope with their problems, will also have a variety of emotional and psychological problems. According to the Rational Emotive Behavioral Therapy, the main determinant of our mental disorders is our irrational thinking. Though rational beliefs are flexible and bearable, irrational beliefs are seen as imperative, rigid and unbearable (Ellis, 2007). In support of this view, Stevens (2009) points out that in case of high cognitive flexibility, fewer problematic behaviors are exhibited, and in case of less flexibility, problematic behaviors increase. Studies conducted support the notion that individuals with low cognitive flexibility have more psychological symptoms. Gündüz (2013a; 2013b), reports that cognitive flexibility and psychological symptoms (anxiety, depression, negative sense of self, somatization, hostility) have negative relationships between them, and that psychological symptoms increase as cognitive flexibility decreases. Similarly, Dennis and Wall (2010) and Güler (2015) report in studies they conducted that depression scores decrease as cognitive flexibility increases.In addition, other researchers report that cognitive flexibility is significantly associated with post-traumatic stress disorder and eating disorders (Palm andFollette, 2011; Tchanturiaet al., 2013). These findings support the view that psychological symptoms, which are thought to be the opposite of being mentally healthy (Feldman, 2009), decreases when cognitive flexibility increases.

The concept of psychological symptom is the level of negative reactions caused by stress, or stress experienced by individuals as a result of life events (Dağ, 1991). Adolescence is a period in which psychological problems are experienced more in terms of developmental characteristics compared to other periods. Research shows that adolescents face psychological problems such as depression, anxiety, negative sense of self, somatization, phobias, and obsessive-compulsive disorder (Gülcez, 2007; Sarı, 2008).

Werner and Gross (2010) state that most psychopathologies in DSM IV are caused by problems related to emotion regulation. In addition, Cole and Hall (2008) reported that inadequate or excessive regulation of emotions is related to the development of problems such as aggressive behaviors, insufficient impulse control, anxiety, and depression, and has played a role in the emergence of many psychopathologies. Gross and Munoz (1995) point out that the difficulties of emotion regulation will affect the individual's working life, interpersonal relations and internal world.In this context, one of the factors that are thought to directly affect mental health is their emotion regulation skills.

Emotion regulation is the ability to monitor, control, evaluate and change the emotional reactions of an individual in order to reach a goal (WenarandKerig, 2005). A situation where there is no awareness about emotions, where feelings aren't accepted, negative emotions are experienced, and impulse control problems are experiences while having negative emotions can be called difficulties in emotion regulation(Gratzand Roomer, 2004). According to Gross and Munoz (1995), emotion regulation is the basic substance of mental health. It is thought that effective emotion regulation protects mental health, while the inability to regulate emotions, and lack of emotion control increases psychological symptoms. When the previous research were examined, common anxiety disorder (Mennin, Heimberg, Turk and Fresco, 2002), posttraumatic stress disorder (Cloitre, 1998), major depression (Hankin and Abela, 2005), anxiety and mood disorder (Campbell-Sills and Barlow, 2007), depression and trait anxiety level (Pektaş, 2015), social anxiety disorder (Eldoğan, 2007) were the variables related to emotion regulation. Difficulty in emotion regulation is one of the main causes of many psychopathologies such as mood and anxiety disorders (Werner and Gross, 2010). On the other hand, even

though there are studies investigating the relationship between emotion regulation difficulty and psychological symptoms, and cognitive flexibility and psychological symptoms; no studies have been encountered in the literature dealing with cognitive flexibility and emotion regulation difficulty.

As a result, according to years of research and theoretical explanations, the cognitive structures (automatic thoughts, beliefs, schemes) of the individual have an important role in determining their emotional reactions. When the conducted research is reviewed, the fact that there are no studies in which these three variables are examined together shows that there is a need for a study in this context. It is seen that the data obtained within the scope of the research is important for explaining the impact of cognitive flexibility of adolescents on their emotion regulation skills and the role of the two variables together on psychological symptoms. In this respect, it is thought to provide useful information in terms of increasing the cognitive flexibility and reducing the difficulties of emotion regulation of adolescents and possible intervention programs for the prevention of psychological symptoms. In this context, the aim of the study is to examine the mediating role of emotion regulation in relation to cognitive flexibility and psychological symptoms. For this purpose, answers to the following research questions are sought:

1. Is there a mediating role of emotion regulation in the relationship between cognitive flexibility and depression scores in adolescents?
2. Is there a mediating role of emotion regulation in the relationship between cognitive flexibility and anxiety scores in adolescents?
3. Is there a mediating role of emotion regulation in the relationship between cognitive flexibility and negative sense of self scores in adolescents?
4. Is there a mediating role of emotion regulation in the relationship between cognitive flexibility and hostility scores in adolescents?
5. Is there a mediating role of emotion regulation in the relationship between cognitive flexibility and somatization scores in adolescents?

2. Methodology

2.1. Research Model

A research was designed in the relational screening model to determine whether there is an intermediary role of emotion regulation in the relationship between the cognitive flexibility and psychological symptoms of adolescents. Three different relationships are predicted in the model to determine mediation effect.

2.2. Study Group

The study group is consisted of 262 (47.3%) girls and 292 (52.7%) boys, for a total of 554 adolescent, who were enrolled in various high schools and class levels in Ataşehir, Ümraniye and Kadiköy districts, in the 2017-2018 academic year.

2.3.Data Collection Tools

In the study, Cognitive Flexibility Scale (CFS); Difficulties in Emotion Regulation Scale (DERS); and Brief Symptom Inventory (BSI) was used.

Cognitive Flexibility Scale (CFS): Cognitive Flexibility Scale-CFS developed by Martin and Rubin (1995) to measure the cognitive flexibility levels of individuals is a scale consisting of a total of 12 items and a 6-point Likert-type scoring. It has a single-

factor structure and scores from the scale range from 10 to 60. The internal consistency coefficient of the Turkish version of the scale, the adaptation, validity and reliability study of which was performed by Çelikkaleli (2014a), was .74, the reliability coefficient obtained by test-halving method was .77 and the test-retest reliability coefficient was .98. In this study, the internal consistency coefficient of Cognitive Flexibility Scale was calculated as .78.

Difficulties in Emotion Regulation Scale (DERS): It is a 5-point Likert-type scale composed of 36 items developed by Gratz and Roemer (2004) in order to measure individuals' difficulties in emotion regulation. Gratz and Roemer (2004) found the internal consistency coefficient of the scale as .93 and test-retest reliability was calculated as .88 in the validity and reliability study of the original form of the scale. In the Turkish adaptation study conducted by Rugancı and Gençöz (2010), the internal consistency coefficient of the scale was calculated as .94 and the test-retest reliability was .83. In this study, the internal consistency coefficient of Difficulties in Emotional Regulation Scale was calculated as .90.

Brief Symptom Inventory (BSI): It is a Likert type self-evaluation inventory developed by Deregotis (1983). BSI, adapted by Şahin and Durak (1994), has five sub-dimensions: "Depression", "Anxiety", "Somatization", "Negative Sense of Self" and "Hostility". Derogatis (1983), calculated the internal consistency coefficients of the sub-dimensions of the scale between .71 and .85 (SavaşırandŞahin, 1997). In this study, the internal consistency coefficient of the Brief Symptom Inventory was found to be .95 and the coefficients for the subscales were between .74 and .88.

2.4.Procedure

In this study, 603 students from different high schools in Istanbul, from Ataşehir, Ümraniye and Kadıkoy districts were reached based on volunteering and the CFS, DERS and BSI scales were applied. However, 49 of these scales were not included in the analysis process due to incomplete or inaccurate filling. The analyses were carried out on 554 scale forms which were filled in appropriately.

2.5.Data Analysis

Whether there was an intermediary role of emotion regulation in the relationship between cognitive flexibility and psychological symptom levels of adolescents was analysed by structural equation modeling (SEM). However, prior to the analysis of the data, assumptions such as included sample size, loss valence, linearity, multiple linearity and singularity, autocorrelation and finally extreme values which are included in the structural equation model was examined (Çokluk, Şekercioğlu and Büyüköztürk, 2010). The Pearson Moments Multiplication Correlation Coefficient was calculated among the variables to test the mediation model for assumptions required for multivariate statistics. After the relations between the variables were tested, a path analysis including direct and indirect relationships with the AMOS 21 program was made and the path coefficients were examined.

3. Findings

3.1. Descriptive Statistics

Descriptive findings and correlation coefficients related to cognitive flexibility, emotion regulation difficulty, and psychological symptoms that are examined in the scope of this study, are given in Table 1.

Table1.Descriptive Findings and Correlation Coefficients of Cognitive Flexibility, Emotion Regulation Difficulty and Psychological Symptom Points of Adolescents

Variables	Mean	Sd	1	2	3	4	5	6	7
1-Cognitive Flexibility	51.66	9.29	1						
2-Emotion Regulation Difficulty	91.13	21.77	-.32**	1					
3-Anxiety	27.00	9.55	-.19**	.64**	1				
4-Somatization	17.17	6.49	-.21**	.52**	.75**	1			
5-Depression	28.04	10.34	-.17**	.61**	.78**	.69**	1		
6-Negative Sense of Self	25.87	9.40	-.19**	.64**	.82**	.66**	.78**	1	
7-Hostility	17.58	5.81	-.01	.49**	.65**	.55**	.60**	.61**	1

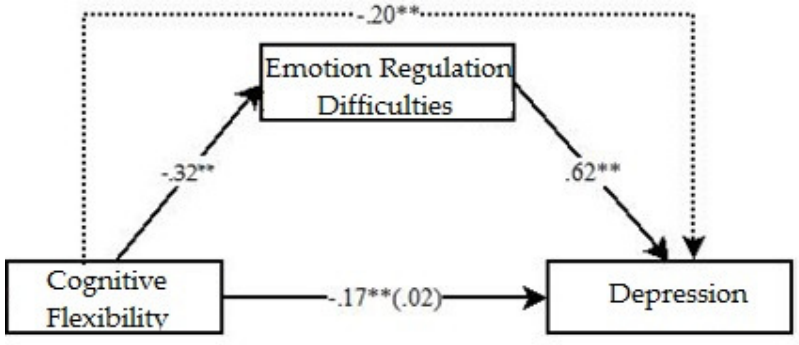
N=554, **p<.01

When Table 1 is examined, a significant negative relationship is seen between cognitive flexibility and emotion regulation difficulty (r=-.32, p<0.01), anxiety (r= -.19, p<0.01), somatization (r= -.21, p<0.01), depression (r=-.17, p<0.01) and negative sense of self (r= -.19, p<0.01). On the other hand, the negative relationship between cognitive flexibility and hostility (r = -.01, p> 0.01) is not significant.

Similarly, a strong positive relationship was seen between emotion regulation difficulties and anxiety (r= .64, p<0.01), somatization (r= .52, p<0.01), depression (r= .61, p<0.01),negative sense of self (r= .64, p<0.01) and hostility (r= .49, p< 0.01). Significant relationships between the variables show that the proposed model for mediation has a strong structure.

3.2. Findings Related to Mediation Analysis

First of all, in the mediation analysis, the findings related to whether emotion regulation difficulty had a mediating role in the relationship between cognitive flexibility scores and depression scores of adolescents are given in Figure 1.



**p<.01

Fig. 1. Direct and Indirect Relationships Between Adolescents' Cognitive Flexibility, Depression and Emotion Regulation Difficulties

In Figure 1, when the path coefficients of the direct relationships between variables were examined, there was a negative correlation between cognitive flexibility and depression (β = -. 17, p <.01) and emotion regulation difficulties (β = -. 32, p <.01); while there was a positive relationship between emotion regulation difficulty and depression (β=.62, p<.01). On the other hand, while the path coefficient of the indirect relationship between cognitive flexibility and depression (cognitive flexibility→emotion regulation difficulty→depression) formed through emotion regulation is significant in the negative direction (β=-.20, p<.01), the path coefficient between cognitive flexibility and depression is seen to become more insignificant (β=.02, p>.05). Based on this finding, it can be said that emotion regulation difficulties play a full mediating role between cognitive flexibility and depression in adolescents.In addition, the adaptive values of the relational model for the indirect relationship between cognitive flexibility, emotion regulation difficulty, and depression indicate that the model has perfect fit (χ^2/sd=0.45, AGFI=.99, GFI=.99, CFI=1.00 and NFI=.99**,** TLI=.99 and IFI=.99 and RMSEA=.00).

Findings regarding whether there is a mediating role of emotion regulation on the relationship between cognitive flexibility scores and anxiety scores of adolescents, another sub problem of the research, are given in Figure 2.

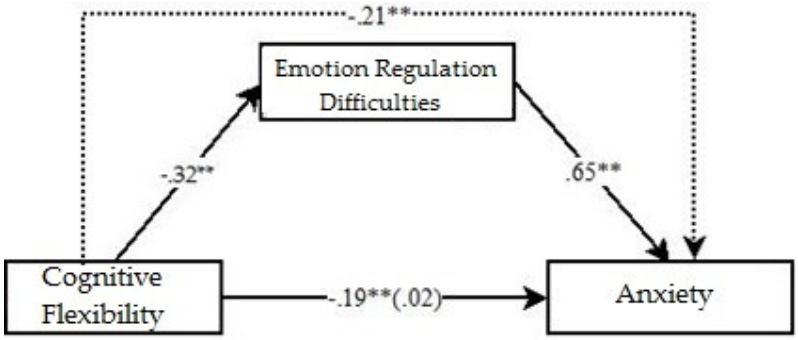
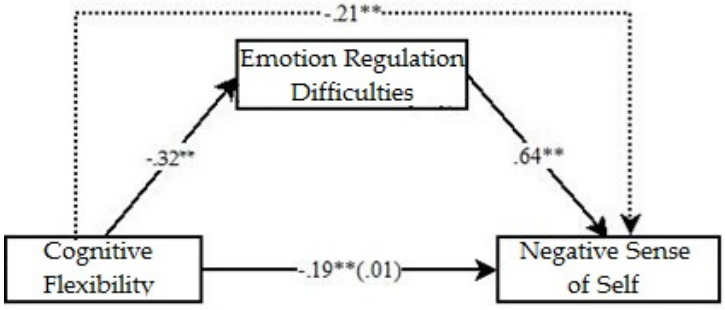


Fig. 2. Direct and Indirect Relationships between Adolescents' Cognitive Flexibility, Anxiety and Emotion Regulation Difficulties

In Figure 2, when the path coefficients of the direct relationships between variables were examined, there was a negative correlation between cognitive flexibility and anxiety (β = -. 19, p <.01) and emotion regulation difficulties (β = -. 32, p <.01); while there was a positive relationship between emotion regulation difficulty and anxiety (β=.65, p<.01). While the path coefficient of the indirect relationship between cognitive flexibility and anxiety (cognitive flexibility→emotion regulation difficulty→anxiety) formed through emotion regulation is significant in the negative direction (β=-.21, p<.01), the path coefficient between cognitive flexibility and anxiety is seen to become more insignificant (β=.02, p>.05). Based on this finding, it can be said that the difficulty of emotion regulation plays a full mediating role between cognitive flexibility and anxiety in adolescents.In addition, the adaptive values of the relational model for the indirect relationship between cognitive flexibility, emotion regulation difficulty, and anxiety indicate that the model has perfect fit (χ^2/sd=0, AGFI=1.00, GFI=1.00, CFI=1.00 and NFI=1.00**,** TLI=.99 and IFI=.99 and RMSEA=0.4).

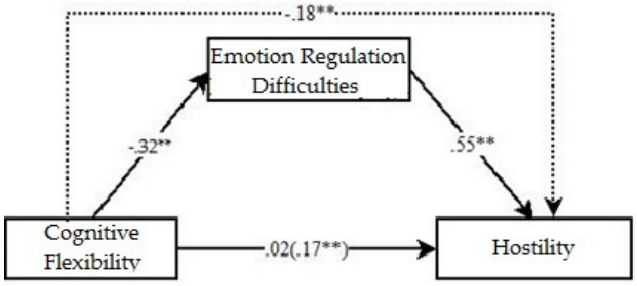
Findings regarding whether there is a mediating role of emotion regulation on the relationship between cognitive flexibility scores and negative sense of self scores of adolescents, are given in Figure 3.



**p<.01

Fig. 3. Direct and Indirect Relationships Between Adolescents' Cognitive Flexibility, Negative Sense of Self and Emotion Regulation Difficulties

In Figure 3, when the path coefficients of the direct relationships between variables were examined, there was a negative correlation between cognitive flexibility and negative sense of self (β = -. 19, p <.01) and emotion regulation difficulties (β = -. 32, p <.01); while there was a positive relationship between emotion regulation difficulty and negative sense of self (β=.64, p<.01). While the path coefficient of the indirect relationship between cognitive flexibility and negative sense of self (cognitive flexibility→emotion regulation difficulty→negative sense of self) formed through emotion regulation is significant in the negative direction (β=-.21, p<.01), the path coefficient between cognitive flexibility and negative sense of self is seen to become more insignificant (β=.01, p>.05). Based on this finding, it can be said that emotion regulation difficulties play a full mediating role between cognitive flexibility and negative sense of self in adolescents.In addition, the adaptive values of the relational model for the indirect relationship between cognitive flexibility, emotion regulation difficulty, and negative sense of self indicate that the model has perfect fit (χ^2/sd=0, AGFI=1.00, GFI=1.00, CFI=1.00 and NFI=1.00**,** TLI=.99 and IFI=.99 and RMSEA=0.4).Findings regarding whether there is a mediating role of emotion regulation on the relationship between cognitive flexibility scores and hostility scores of adolescents, are given in Figure 4.



**p<.01

Fig. 4. Direct and Indirect Relationships Between Adolescents' Cognitive Flexibility, Hostility and Emotion Regulation Difficulties

In Figure 4, when the path coefficients of the direct relationships between the variables are examined, there is an insignificant positive relationship between cognitive flexibility and hostility (β = .02, p> .05), a significant negative relationship between cognitive flexibility and emotion regulation difficulty (β = -. 32, p < .01); and a significant positive relationship between hostility and emotion regulation difficulty (β=.55, p<.01). While the path coefficient of the indirect relationship between cognitive flexibility and anxiety (cognitive flexibility→emotion regulation difficulty→hostility) formed through emotion regulation is significant in the negative direction (β=-.18, p<.01), the path coefficient between cognitive flexibility and hostility is seen to become significant while it was insignificant before (β=.17, p<.01). Based on this finding, it can be said that the difficulty of emotion regulation has a variable role in increasing the regression coefficient (MacKinnon, Krullve Lockwood, (2000)) between the independent variable (cognitive flexibility) and dependent variable (hostility) when the suppressive variable is included in the analysis in the relationship between cognitive flexibility and hostility in adolescents. In other words, the regression effect between cognitive flexibility and difficulty in emotion regulation causes cognitive flexibility to affect hostility. Individuals who are cognitively flexible but have difficulty in emotion regulation may experience hostility due to this interaction.In addition, the adaptive values of the relational model for the direct and indirect relationship between cognitive flexibility, emotion regulation difficulty, and hostility indicate that the model has perfect fit (χ^2/sd=0, AGFI=1.00, GFI=1.00, CFI=1.00 and NFI=1.00**,** TLI=.99 and IFI=.99 and RMSEA=0.3).

Findings regarding whether there is a mediating role of emotion regulation on the relationship between cognitive flexibility scores and somatization scores of adolescents, are given in Figure 5.

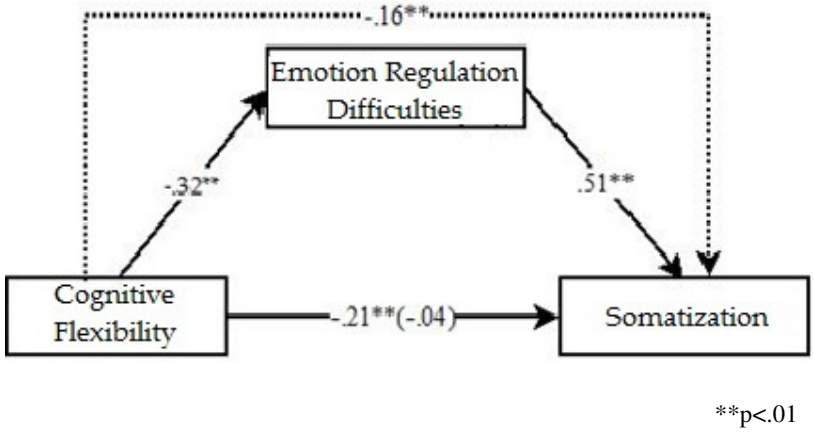


Fig. 5. Direct and Indirect Relationships between Adolescents' Cognitive Flexibility, Somatization and Emotion Regulation Difficulties

In Figure 5, when the path coefficients of the direct relationships between variables were examined, there was a negative correlation between cognitive flexibility and somatization (β = -.21, p <.01) and emotion regulation difficulties (β = -.32, p <.01); while there was a positive relationship between emotion regulation difficulty and somatization (β=.64, p<.01). While the path coefficient of the indirect relationship between cognitive flexibility and somatization (cognitive flexibility→emotion regulation difficulty→somatization) formed through emotion regulation is significant in the negative direction (β=-.16, p<.01), the direct path coefficient between cognitive flexibility and anxiety is seen to become more insignificant (β=-.04, p>.05). Based on this finding, it can

be said that emotion regulation difficulties play a full mediating role between cognitive flexibility and somatization in adolescents. In addition, the adaptive values of the relational model for the indirect relationship between cognitive flexibility, emotion regulation difficulty, and somatization indicate that the model has perfect fit (χ^2/sd=1.52, AGFI=.98, GFI=.99, CFI=.99 and NFI=.99**,** TLI=.99 and IFI=.99 and RMSEA=0.03).

4. Discussion and Conclusion

According to the findings negative relationship between the cognitive flexibility scores of the adolescents with their anxiety, depression, negative sense of self and somatization scores were found to be significant, but the relationship between hostility scores was not significant. These findings of the study are consistent with other research results in the literature that reveal cognitive flexibility is significantly associated with psychological symptoms in a negative way (Gündüz, 2013a; Gündüz 2013b). However, in this study, the negative relationship of cognitive flexibility with hostility was not significant. This finding can be considered as an unexpected result in contrast to research in the literature. According to this research, high and low cognitive flexibility is not effective on the adolescent's feelings of hostility. Additionally, there is research supporting the significant negative relationship between cognitive flexibility and depression subdimension (Dağ and Gülüm, 2013; Dennis and Wall, 2010; Güler, 2015; Palm and Follette, 2011; Sapmaz and Doğan, 2013) and a significant negative relationship between cognitive flexibility and anxiety subdimension (Dağ and Gülüm, 2013; Dennis and Wall,2010; Öz, 2012). In conclusion, research findings support the prediction that there is an increase in psychological symptoms as the level of cognitive flexibility decreases. On the other hand, it is stated in the literature that cognitively flexible individuals are able to cope more easily with difficult life events and adapt to new situations easily (Altunkol, 2011; Bilgin, 2009; Martin and Rubin, 1995). Therefore, it can be said that cognitive flexibility plays an important role in healthily overcoming this difficult period, maintaining psychological health and preventing the appearance of psychological symptoms.

Secondly, there was a statistically significant negative correlation between emotion regulation and cognitive flexibility scores. While in the literature, these two variables are not discussed together and the relationship between them is not examined directly; Bilgin (2017) states that individuals with low cognitive flexibility, tend to experience more emotional inconsistency (qualities such as being anxious, angry, nervous, insecure, messing with themselves, frustrated).This view supports the argument that there will be more difficulties in emotion regulation if there is less cognitive flexibility. On the other hand, it is thought that the cognitive structures of the individual in emotion regulation processes play an important role in gaining effective emotion regulation strategies. Supporting this view, Dodge and Garber (1991) are seen to focus on research on the use of cognitive processes in the regulation of emotions. As a result of their studies, they stated that cognitive steps play an active role in emotion regulation and emotion regulation involves cognitive processes.

Finally, it was determined that there were positive positive correlations between emotion regulation difficulty scores and depression, anxiety, somatization, negative sense of self and hostility scores.These findings of the study are consistent with the results of other research in the literature that reveal that emotion regulation difficulty is positively related to psychological symptoms (Campbell-Sills and Barlow, 2007; Evers, StokandRidder, 2010; Harrison et al., 2011; Rugancı, 2008; Rugancı and Gençöz, 2010; SimandZeman, 2005). Therefore, this research finding shows that there will be an increase in psychological symptoms as the difficulties experienced in emotion regulation

increase. Supporting this view, Rugancı (2008), in their study that looks at the relationship between attachment style, and emotion regulation and psychological disorder, reported that individuals in the clinical group had more difficulty in emotion regulation than individuals in the control group and that emotion regulation difficulty was significantly associated with psychological disorders.

The first finding of the study related to mediation is that the emotion regulation difficulty in the relationship between cognitive flexibility and depression has a fully mediating role. According to this result, cognitive flexibility indirectly affects depression through difficulty in emotion regulation. This finding shows that less difficulty in emotion regulation is effective in decreasing the level of depression in adolescents with increased cognitive flexibility.Gross and Munoz (1995) state that emotion regulation skills have important effects on mental health. It is stated that psychopathology will develop in case of continuous failure in emotion regulation and many psychopathologies experienced in childhood are caused by failure of emotion regulation (Dodge and Garber, 1991). In a study in which adolescents with self-cutting behavior were put in group therapy, it was stated that Cognitive Behavioral Therapy alone reduced depression and anxiety, but that difficulties in emotion regulation should be worked on for an effective therapy (Slee, Spinhoven, GarnefskiandArensman, 2008). Pektaş (2015) states that the level of depression increases as the difficulties in emotion regulation increase. As a result, cognitive flexibility will be more effective in reducing depression with emotion regulation.

The second finding of the research on mediation is that the emotion regulation difficulty has a full mediating role in the relationship between cognitive flexibility and anxiety. According to this result, cognitive flexibility indirectly affects anxiety through emotion regulation difficulties. Pektaş (2015) and Çöllü (2017) state that anxiety increases as the difficulty of emotion regulation increases. Karcı (2017) reports that patients who regulate their emotions effectively have less anxiety symptoms, and anxiety symptoms increase in individuals who have difficulty in emotion regulation. These results indicate that the study of emotions along with cognitions may produce more effective results in reducing anxiety.

The third finding of the study on mediation is that it has a full mediator role in the relationship between cognitive flexibility and negative sense of self. According to this result, cognitive flexibility indirectly affects the negative sense of self through difficulty in emotion regulation. Telef and Karaca (2011) stated that negative self-perceptions of adolescents decrease with high emotional competence. Although the problems experienced in the emotion regulation caused an increase in psychological symptoms, both in this research and other studies, (Akhun, 2012; Campbell-Sills and Barlow, 2007; Evers, StokandRidder, 2010; Harrison et al., 2011; Livinstone, Harper andGillanders, 2009; Rugancı, 2008; RugancıandGençöz, 2010; Sim andZeman, 2005), it was seen that there was not much research on the effects of difficulties in emotion regulation on the sense of self in a more specific way. In conclusion, although cognitive flexibility does not directly lead to negative sense of self of adolescents, it can be said to indirectly affect negative sense of self by affecting emotion regulation difficulties.

The fourth finding of the study related to mediation, is that when the mediating role of emotion regulation difficulty on the relationship between cognitive flexibility and hostility is examined, it is seen that emotion regulation difficulty plays a suppression variable role in the relationship between cognitive flexibility and hostility in adolescents. Adolescents who are cognitively flexible but have difficulty in emotion regulation may experience hostility due to this interaction. A low-level relationship between cognitive

flexibility and hostility was reported in a study of individuals aged between 14-34 years (Gündüz, 2013a). When the studies about anger and aggression which are thought to be associated with hostility are examined (Diril, 2011), the level of anger increases as cognitive flexibility decreases. On the other hand, past research shows that there is a significant relationship between emotion regulation and hostility (Akhun, 2012; Rugancı and Gençöz, 2010). In other words, when there are difficulties in emotion regulation in individuals, hostility symptoms also increase. In addition, it is reported in the literature that individuals with poor emotion regulation have high aggression responses (Eisenberg, Fabesand Murphy, 1996). As a result, while being cognitively flexible or not is not directly related to hostility, cognitive flexibility may indirectly lead to increased hostility as a result of the relationship between cognitive flexibility and emotion regulation.In other words, in this model with emotion regulation difficulty, it can be said that it contributes to the prediction of hostility by suppressing cognitive flexibility.

The last finding of the mediating effect between the variables is that emotion regulation difficulty has a full mediating role in the relationship between cognitive flexibility and somatization. In his study, Doğan (2017) found that blaming others, positive reassessment and devaluing the event, which are sub-dimensions of cognitive emotion regulation, and positive reassessment and focusing on the problem and revealing the emotions, which are sub-dimensions of coping attitudes, predicted somatization. Again, in his study, Vatan (2017) evaluated whether the presence of these emotions is accepted or not, affects psychological symptoms. And ultimately, the acceptance of negative emotions was important in preventing the occurrence of psychological symptoms. Telef and Karaca (2011) reported that somatization symptoms increased as emotion regulation difficulties increased, and emotion-related variables had an important contribution in explaining psychological symptoms, and the increase in the frequency of anxiety and guilt and the decrease in the frequency of feeling joy has an important contribution to the prediction of increase in somatization symptoms.These results show that cognitive flexibility and emotion regulation can produce more effective results in reducing somatization together.In conclusion, it can be said that although psychological symptoms in adolescents are not directly affected by cognitive flexibility, it increases the difficulties experienced in emotion regulation and indirectly causes psychological symptoms.In other words, psychological symptoms are experienced when cognitive processes are accompanied by negative emotional processes.

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