

The Performance Enhancement Attitude Scale in Team Sports; Validity and Reliability Study

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Abstract. *Study Objectives:* The aim of this study was to evaluate performance enhancement attitudes of active licensed athletes in team sports. *Methods:* The research sample of this study consists of 371 actively licensed athletes aged 18 and over in team sports (football, basketball, volleyball, and handball). The average age of the athletes is 24.42 ± 2.12 . Participation in the study was carried out on a voluntary and confidential basis. Performance Enhancement Attitude Scale, developed by Petroczi (2002) and adapted to Turkish by Yıldız & Toros (2018), was used as a data collection tool. *Results:* In the analysis of the data, the Cronbach alpha coefficient test and the Pearson Correlation Coefficient were used to reveal the test-retest value. The Cronbach alpha coefficient for the team athletes of the scale was 0.84, and the test-retest reliability coefficient was 0.88. *Conclusion:* According to the research findings, the results of the reliability analysis reveal that the scale can be used on licensed athletes in team sports.

Key words: Team sports, athlete, doping, performance, attitude.

Introduction

When people were rivals, they used some useful methods to gain advantage over each other, and often resorted to drugs such as drugs. These are also searches that are not morally appropriate. Applying such methods in sports is seen as deception. People have never accepted their physical and mental limits; Since the prehistoric times when it started to exist on earth, it has always tried to go beyond its physical and spiritual boundaries, tried to develop its skills and abilities, and while trying to achieve this, it has always drunk, ate and used some provocative and reinforcing substances (1). In sports, which is an indispensable part of modern societies; the unbreakable level of records and the importance of split-second, millimeters, and grams for the record have led to the use of methods and materials

that are not suitable for sports (2). These methods, which are against sports morality, also work like a special diet that leads people to death. With the growth of the economic gain dimension of sports, the desire of the athlete to be successful has increased at the right rate. This has led the athletes to use some substances and methods that will affect the result of the competition beyond the performance they have gained through their efforts in sports competitions where winning is a great goal (3).

Throughout history, in ancient times, natural pursuits that developed in the form of boiling some herbs and drinking their water lost their innocence due to the advancement of medicine and the transformation of sports struggles into an international war arena and became the troublemaker of world sports (4). In every period of history, people have tried many herbal

formulas to increase power efficiency artificially. When the reports of Philostratos and Galen (1963) are examined, it is seen that in the historical process that lasted until the end of the 3rd century BC, more than one active substance was used to improve athletic performance (5).

When athletes encountered difficulties in training and racing, or when they had an injury, they believed that they could overcome difficulties by taking doping and pass the injury process easily (6, 7). Most athletes argued that doping is not a crime as long as there is no harm or victim from doping (8).

Briefly, some of the reasons that encourage athletes to doping are:

- In today's sports world, moving away from the spirit of Olympism and transforming the understanding of sports into a commercial and political competition,
- The idea of winning no matter what,
- High amount of transfer money (9),
- Encouraging individuals such as managers, trainers, doctors, physiotherapists, masseurs,
- The athlete's desire to be known, to be famous,
- It is the lack of knowledge of athletes, trainers, and managers on the subject (10).

Method

Sample Group

The universe of the study consisted of active licensed athletes in team sports in Turkey. In the sample of the research; there are active licensed team athletes over the age of 18 in Adana, Mersin, Antalya, and Konya provinces. 371 athletes, aged between 18-29 years ($\bar{X}_{\text{age}} = 24.42 \pm 2.12$) and sports age between 3-15 years ($\bar{X}_{\text{sport age}} = 7.89 \pm 2.51$), voluntarily participated in the study.

Data Collection

The data used in the study were collected by the researchers themselves. During the data collection process, the necessary explanations were made to the

participants by the researcher for the purpose and scope of the research and to protect the confidentiality of the information to be obtained. Participants voluntarily participated with an informed consent form according to the Helsinki criteria. The ethics committee was consulted for this study and the necessary permissions were obtained. Only athletes with active licenses in team sports were included in the study.

Performance Enhancement Attitude Scale

The Performance Enhancement Attitude Scale (PAT-S) consists of 17 items in which judgments are made according to six evaluation levels. Scale is the only sub-dimension. It is based on the 6-point Likert-type evaluation step expressed as "strongly disagree, disagree, partially disagree, partially agree, agree, and absolutely agree". The score range of the scale is between 17 and 102, and a higher than average score indicates a positive attitude towards doping, and a low score indicates a negative attitude towards doping. In previous international validity and reliability studies, the Cronbach's alpha value of the scale varies between 0.71 and 0.91 (11). The scale was adapted for Turkish Athletes by Yıldız and Toros (2018)(12). In the adaptation study, it was found that the single factor explained 47.56% of the overall variance, the internal consistency values calculated with Cronbach Alpha were 0.87, and the test-retest reliability applied twice 3 weeks apart was found to be 0.76 (12).

Statistical Analysis

The Cronbach-Alpha Coefficient was used to reveal the reliability of the scale, and the Pearson Correlation Coefficient was used to see the test-retest result.

Results

It was observed that the total eigenvalue of the scale was 5.432 and the dimension explained 47.368 percent of the variance. Factor analysis was conducted to determine the scale items and it was observed that the items were collected in one sub-dimension as in the original scale. As can be seen in Table 1, the factor

Table 1. Item Factor Loads and Item-Total Correlation Analysis Results of the Performance Enhancement Attitude Scale

ITEM	Performance Enhancement Attitude Scale	Item Factor Loads	Item-Total Correlation
1	Legalizing performance enhancements would be beneficial for sports.	.461	.624**
2	Doping is necessary to be competitive.	.487	.660**
3	The risks related to doping are exaggerated.	.513	.473**
4	Recreational drugs give the motivation to train and compete at the highest level.	.447	.645**
5	Athletes should not feel guilty about breaking the rules and taking performance-enhancing drugs.	.423	.560**
6	Athletes are pressured to take performance-enhancing drugs.	.681	.369**
7	Health problems related to rigorous training and injuries are just as bad as from doping.	.422	.567**
8	The media blows the doping issue out of proportion.	.527	.536**
9	The media should talk less about doping.	.516	.462**
10	Athletes have no alternative career choices, but sport.	.442	.640**
11	Athletes who take recreational drugs, use them because they help them in sports situations.	.520	.650**
12	Recreational drugs help to overcome boredom during training.	.483	.615**
13	Doping is an unavoidable part of competitive sport.	.432	.435**
14	Athletes often lose time due to injuries and drugs can help to make up the lost time.	.423	.481**
15	Doping is not cheating since everyone does it.	.623	.467**
16	Only the quality of performance should matter, not the way athletes achieve it.	.612	.564**
17	There is no difference between drugs, fiberglass poles, and speedy swimsuits that are all used to enhance performance.	.515	.582**

**p < 0.01

Table 2. Cronbach Alpha reliability coefficient for team sports of Performance Enhancement Attitude Scale

	Cronbach Alpha Reliability Coefficient
Performance Enhancement Attitude Scale	0.84**

**p < 0.01

Table 3. The Test-retest reliability coefficient of the Performance Enhancement Attitude Scale for team sports

	Test-retest Reliability Coefficient
Performance Enhancement Attitude Scale	0.88**

**p < 0.01

loads of the items that make up the scale vary. The item-total correlation of the scale for 17 items varies.

When Table 2 is examined, the reliability coefficient of the Performance Enhancement Attitude Scale for team sports was found to be 0.84.

When Table 3 is examined, the reliability coefficient of the Performance Enhancement Attitude Scale for team sports was found to be 0.88.

Discussion and Conclusion

Scale adaptation is a long process that requires a lot of attention and takes place with the efforts of more than one researcher. The fact that the scale is adapted from a different language, therefore from a different culture, and therefore to a different culture, brings along important issues that need to be taken into account, besides being as fidelity to the translation as possible. In our study, item analysis was conducted to determine to what extent the items that make up the measurement tool were related to all items of the scale. The correlation coefficient was calculated for item analysis. The high correlation coefficient found for each item indicates that that item is effective and sufficient in measuring the desired behavior. Considering

that items with high levels in the interpretation of item-total correlation in the literature distinguish individuals well in terms of the measured characteristics, item-total correlations are sufficient. The high internal consistency coefficients in the scale studies indicate that the internal consistency is sufficient. In our study, the internal consistency coefficient of the Performance Enhancement Attitude Scale for team athletes is 0.84. Morente-Sánchez et al. (2014) found the internal consistency coefficient of the Performance Enhancement Attitude Scale as 0.71-0.85, it was found to be 0.80 in test-retest measurement. Petroczi (2002) reported the internal consistency coefficient of the Performance Enhancement Attitude Scale as 0.85. Considering that the predicted reliability level for measurement tools that can be used in research is 0.70, it can be said that the reliability level of the scale used in our study is sufficient. It was decided that there was a similarity between the validity and reliability studies and our study.

Expressions of feelings, thoughts, and behaviors vary in different societies. Even in the same society, culture can undergo rapid change under the influence of various factors. For this reason, while adapting the scale, necessary changes have been made by considering this dynamic structure. As a result, the findings obtained from the validity and reliability studies of the Performance Enhancement Attitude Scale show that the Turkish form of this scale is a valid and reliable measurement tool for team athletes.

Conflicts of interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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