



Türk Sporcular için Spor Çok Boyutlu Mükemmeliyetçilik Ölçeği-2'nin Uyumu ve Doğrulaması: Geçerlik ve Güvenirlilik Çalışması

The Adaptation and Validation of the Sport Multidimensional Perfectionism Scale-2 for Turkish Athletes: Validity and Reliability Study

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ÖZ

Araştırmanın amacı, Gotwals ve Dunn (2009) tarafından geliştirilen “Spor-Çok Boyutlu Mükemmeliyetçilik Ölçeği-2 (SÇMÖ- 2)” formunun Türk kültürüne uyarlanmasıdır. Araştırmanın çalışma grubunu uygun örneklem yöntemi ile seçilen 612 yetişkin sporcu oluşturmaktadır. Türkçe’ye uyarlama sürecinde dil geçerliliği için uzman görüşüne başvurulmuş ve dil geçerliliği sağlandıktan sonra ölçeğin Türk kültüründe model uyumunu belirlemek için doğrulayıcı faktör analizi kullanılmış ve ölçeğin altı faktörlü yapısının model uyum indekslerinin iyi ve kabul edilebilir düzeyde olduğu bulunmuştur. Ölçeğin iç tutarlılık katsayısının ölçek toplamı için 0.88 ve alt boyutlar için sırasıyla; .85,.90,.92,.85,.85 ve .89 olduğu bulunmuştur. Araştırmadan elde edilen bulgular doğrultusunda “Spor-Çok Boyutlu Mükemmeliyetçilik Ölçeği-2 (SÇMÖ- 2)”nin Türk sporcuların mükemmeliyetçilik içerisinde tükenmişlik sendromu ile ilişkili olduğu düşünülen faktörlerin incelenmesinde kullanılabilecek geçerliliği ve güvenirliliği olan bir ölçme aracı olduğu söylenebilir.

ABSTRACT

The study aims to adapt the “Sport-Multidimensional Perfectionism Scale-2” form developed by Gotwals and Dunn (2009) to Turkish culture. The study group consists of 612 adult athletes selected by appropriate sampling method. For adaptation to Turkish, experts opinion have been applied for the validity of the language. After validation of the language, Confirmatory Factor Analysis has been used to determine the model fit of the scale in Turkish culture. It has been found that the model fit indexes of the six-factor structure of the scale are good and at acceptable level. The internal consistency coefficient of the scale is 0.88; and for sub-dimensions they are 0.85, 0.90, 0.92, 0.85, 0.85 and 0.89 respectively. As a conclusion, it has been found that “Sport-Multidimensional Perfectionism Scale-2” is a valid and reliable measurement tool that can be used to examine the factors related to burnout syndrome in perfectionism of Turkish athletes.

Atıf Bilgisi / Reference Information

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1. Introduction

Perfectionism is a phenomenon that is seen in almost every area of social life and expresses being complete or perfect in the normal course of life, and it is an important personality structure that affects an individual in at least one area (Stoeber & Stoeber, 2009). Therefore, it can be expressed as a multifaceted personality trait that reflects the beliefs that the individual deems valuable to achieve perfection (Flett & Hewitt, 2005). The level of this personality trait is determined by the social environment and it stems from the perceived imperative fulfillment of unrealistic expectations that are thought to provide community approval and recognition in society (Campbell & Di Paula, 2002).



Without any doubt, one of the most dominant areas of perfectionism is sport arena (Hall et al., 2012). Perfectionism is a useful tool that improves performance by providing motivation to the athlete (Stoeber, 2011). However, when overloaded, it harms the health of the athlete and causes phobia of error for him or her. From this point of view, it is a personality trait that negatively affects the health of the athlete and today perfectionism is referred to by the concept of burnout, which expresses negativity. (Szymanski, 2011; Hill & Curran, 2016).

Smith (1986) defines burnout as “psychological, emotional and sometimes physical withdrawal from an activity due to stress”. High performance expectation from athletes who already have an intensive program during training and competition periods may cause burnout for some athletes (Main & Landers, 2012). This leads to physical and emotional exhaustion, feeling of failure, indifference or disinterested to the sport they do, and as a result of all of these, high performance expectation from athletes may lead them to stop the active sport (Raedeke, 1997). However, if the symptoms of burnout are detected early, it is easier to take measures against possible risks (Gustafsson et al., 2011).

The concepts of perfectionism and burnout are psychological processes that can be encountered in every moment of life. However, they should be evaluated differently in the case of sports. Because, the emotional reactions of the athletes (pre-competition, during and after the competition) affect their physical performance. In the sports literature, there are many “perfectionism” and “burnout” studies in Turkey but they are studied separately and not handled together in a study. On the other hand, to the author's knowledge, there is no study on the effect of burnout syndrome in sports perfectionism in Turkey. Therefore, it is aimed to investigate burnout syndrome in Turkish athletes in perfectionism. Since there is no the reliable and valid instrument which could be used to increase the success of Turkish athletes, the “Sport-Multidimensional Perfectionism Scale-2” form developed by Gotwals and Dunn (2009) has been adapted to Turkish culture.

With the adaptation of "Sport Multidimensional Perfectionism Scale-2", a valid and reliable measurement tool that can be used to investigate the factors associated with excellence and burnout has been introduced to the literature for the research of psychological process of athletes in Turkey. For this purpose, it has been aimed in this study to test the validity and reliability of 42-item original form of Sport-Multidimensional Perfectionism Scale-2. .

2. Method

2.1. Working Group

Çalışmanın The participants of the study consists of 612 adult athletes from different branches who are engaged in individual and team sports in 2018-2019 season and selected by easy sampling method. The study has been conducted on three groups:

1.The first group consists of 50 male and female athletes. According to the data obtained from the first group “language validity” has been tested.

2.The second group, for pilot application, consists of 84 male and female athletes. With the data obtained from the second group, “internal consistency value” and “item total correlation values” of the scale have been examined.

3.In order to examine the model fit of the scale, third group consists of totally 478 athletes, 53 of them are from Canoe, 50 of them are from Judo, 41 of them are from Football, 50 of them are from Volleyball, 50 of them are from Handball, 53 of them are from Wrestling, 44 of them are from Rowing, 45 of them are from Badminton, 46 of them are from Athletics and 46 of these 478 are from Taekwondo. 299 of the participants are male (62.6%) while 179 out of 478 participants are female (37.4%). The age ranges of the



participants are 18-23 (43.7%, N: 209), 24-29 (41%, N: 196), 30 and above (15.3%, N: 73). With the data obtained from this group, “factor analysis, item analysis and internal consistency studies” have been performed.

Bryman and Cramer (2001) have stated that multiplying the scale's number of items by ten is a criterion in determining the number of participants for factor analysis. Therefore, the study groups in this study are large enough for both validity and reliability analyzes.

2.2. Data Collection Tool

For the adaptation and validation, “Sports-Multidimensional Perfectionism Scale-2” developed by Gotwals and Dunn (2009) has been used after getting permission from John Gotwals. This scale consists of 6 sub-dimensions (Personal Standards, Concern Over Mistakes, Perceived Parental Pressure, Perceived Coach Perspective, Doubt About Action, and Organization) and 42 items to determine the perfectionist tendencies of athletes.

Table 1. Dimensions of Sport Multidimensional Perfectionism Scale-2

Dimensions	Item No	Explanation
Personal Standards (PS)	1, 8, 17, 21, 23, 33, 36	It includes personal expectations and extreme demands from the athlete for the competition.
Concern Over Mistakes (COM)	2, 10, 16, 24, 28, 32, 39, 42	It points to the athlete's negative feelings about the failure of competition and / or the possibility of poor performance, as well as the belief that errors lead to loss of respect from other athletes.
Perceived Parental Pressure (PPP)	4, 7, 11, 15, 19, 25, 29, 38, 40	It explains the perceptions and criticisms of the parents' high expectations in situations where the athlete cannot achieve high performance in competition.
Perceived Coach Pressure (PCP)	6, 13, 22, 26, 30, 35	It mentions the athlete's perceptions of the high performance levels determined by the coaches, as well as the negative interactions with coaches when the athlete does not reach the high performance level in competition
Doubts About Actions (DAA)	3, 12, 14, 20, 31, 37	It describes the extreme tendency to doubt about performance of the athletes.
Organization (Org)	5, 9, 18, 27, 34, 41	It emphasizes the importance of order and organization.

2.3. Data Analysis

Deniz (2007) has pointed out that psychological measurement tools prepared for a specific culture can be translated and used in other cultures and languages. The procedures performed (validity, reliability) by examining the psychometric properties of a scale are expressed as the adaptation of the scale. Therefore,



in this study, the opinion of a group of experts consisting of 3 sworn translators and 3 academicians working in this field have been taken to improve the translation, adaptation and content validation process of the scale. In order to adapt the scale, permission has been obtained by e-mail from Professor John Gotwals who developed the scale.

In this study, bilingual group design has been applied. This method is preferred because they are the standards of the original scale (Seçer, 2018). First, the original scale has been translated from English to Turkish and then from Turkish to English by interpreters. The scale, which has been translated from Turkish to English, has been compared with the original version and the issues identified as missing have been corrected during the meeting held by video-conference method.

The scale questions, which were adjusted and corrected, have been applied to a group of 50 English speaking athletes reflecting the universe before the application of psychometric properties, and the relationship between the original form and the Turkish form of the scale has been examined with "Moments Multiplication Correlation Analysis". In the study, as the table for linguistic equivalence is depicted, it can be said that the relationship between the original form of the scale and the Turkish form is high ($r = .84$, $p < .01$).

Table 2. Linguistic Equivalence Relationship Between Original Form and Turkish Form

		Original Form	Turkish Form
Original Form	Pearson Correlation	1	0,848**
	Sig. (2-tailed)		0,000
	N	50	50
Turkish Form	Pearson Correlation	0,848**	1
	Sig. (2-tailed)	0,000	
	N	50	50

The relationship between the two scales has been re-administered to the same people at intervals of one week. Then, necessary corrections have been done about the scale (Deniz, 2007). All participants have been given informed consent to participate in the study.

The second group consists of 84 athletes for pilot application. With the data obtained from this group, the "internal consistency value of the scale" has been found to be 0.89. In addition, it has also been examined whether the item total correlation values are below 0.50. According to item total correlation, all items except items 2, 7, 8, 10 and 37 has showed high correlations with scale scores and each other. Hence, items 2, 7, 8, 10 and 37 have been excluded from the scale and the number of items has been reduced to 37.

After intercultural adaptation and content validity, actual applications have been studied. The validity and reliability study has been performed by applying the measurement tool to 503 athletes. The measurement tool has been applied to the volunteer athletes by the researcher. The data collected during the adaptation process have been transferred to the computer and then missing data, extreme value, normality, linearity and multicollinearity analyzes have been performed. In addition, the data of 17 people in Confirmatory Factor Analysis (CFA) and 8 people in reliability analyzes have been excluded from the data set since they have extreme values that would affect the normality of the data set. Exploratory Factor Analysis (EFA) and then CFA have been applied to determine the validity of the scale used. Before the factor analysis, the Kaiser-Meyer-Olkin (KMO) value, which is examined for the suitability of the data, has been calculated as 0.88. Can (2018) have concluded that KMO value should be at least 0,60 to be able to do factor analysis on any given data. In this study, the KMO value has been found as 0.88 which is suitable for factor analysis. On the other hand, the Barlett test for factor analysis of 37 items has been

calculated as [10655,925 ($p < 0.001$)]. According to the KMO and Barlett test results, it has been concluded that factor analysis can be performed on these data. As a result of factor analysis, total variance explained has been calculated as 19,959% for the first dimension, 12,836% for the second dimension, 11,489% for the third dimension, 7,777% for the fourth dimension, 6,937% for the fifth dimension and lastly 6,645% for the sixth dimension. The total variance explained for the scale in general has been found to be 65.644%. The CFA results of the factors are presented in Table 3.

Table 3. Results of Exploratory Factor Analysis

	Item	1st Factor	2nd Factor	3rd Factor	4th Factor	5th Factor	6th Factor
Personal Standards	1	,790					
	17	,808					
	21	,759					
	23	,762					
	33	,716					
	37	,843					
Concern Over Mistakes	16		,778				
	24		,767				
	28		,837				
	32		,845				
	39		,810				
	42		,813				
Perceived Parental Pressure	4			,870			
	11			,866			
	15			,703			
	19			,777			
	25			,769			
	29			,754			
	38			,883			
	40			,852			
Perceived Coach Pressure	6				,734		
	13				,753		
	22				,771		
	26				,709		
	30				,684		
	35				,878		
Doubts About Actions	3					,805	
	12					,776	
	14					,731	
	20					,815	
	31					,782	
Organization	5						,794
	9						,840
	18						,725
	27						,797
	34						,787
	41						,798

The model fit of the scale in Turkish culture has been examined by CFA. Multiple compliance indexes (CFI, RMSEA and RMR) have been used in CFA. The value for CFI in CFA is considered as the acceptable limit if it is > 0.90 and considered as the perfect fit limit if it is > 0.95 . For RMSEA and RMR,

is it is accepted as acceptable limit if the value is <0.08 and considered as perfect compliance limit if it is <0.05 . Additionally, the chi-square value in CFA should be below 3 (Marcoulides & Schumacher, 2001; Schumacher & Lomax, 2004; Kline, 2005).

CFA is an analysis method that is frequently used in the process of adapting the measurement tools developed in different cultures and samples, and examining the model fit of an implicit structure obtained by Exploratory Factor Analysis. CFA is defined as a method that allows the researchers to test whether the data conforms to the previously discovered original structure (Meydan & Şeşen, 2011).

3. Results

3.1. Structure Validity

3.1.1. Confirmatory Factor Analysis

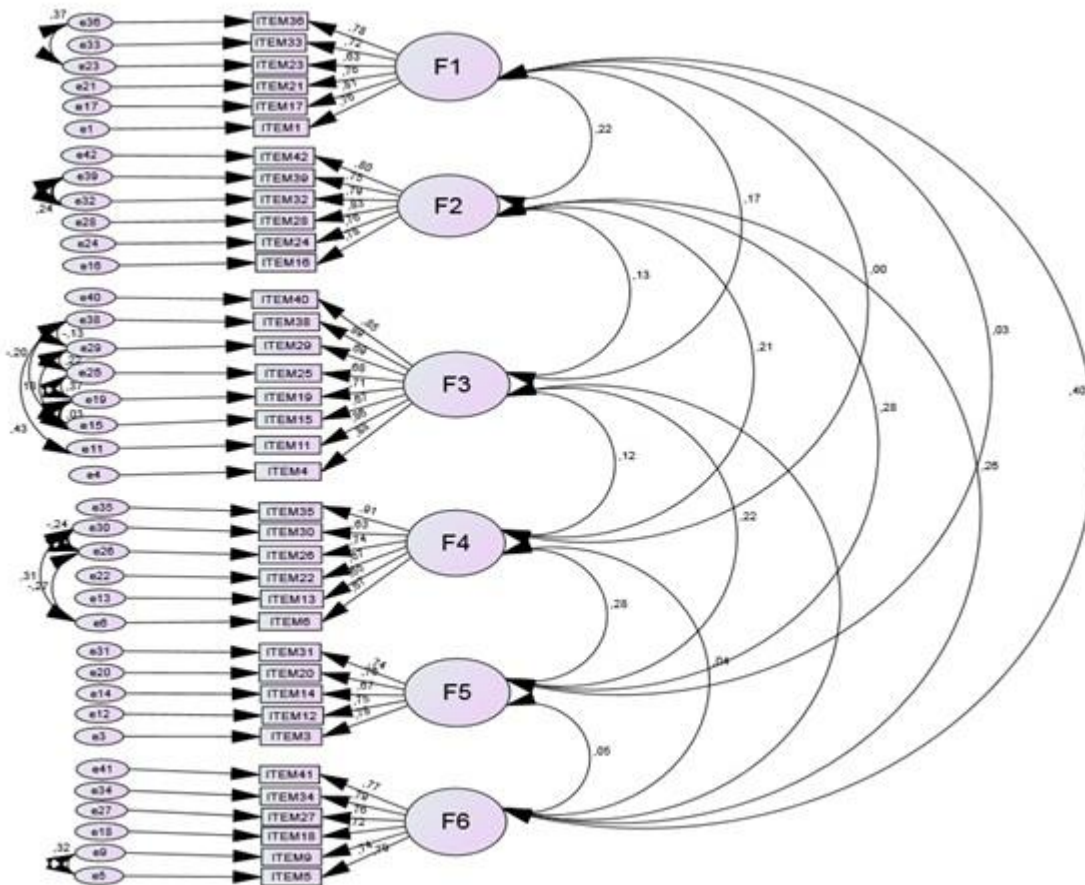
Model fit of SMPS-2 form in Turkish culture has been examined by first level CFA. Model fit indexes have been used to evaluate CFA results. As a result of the first level CFA to determine SMPS-2 model fit, the chi-square fit value ($X^2 = 1003.24$, $df = 601$, $p = .00$) of the factor structure consisting of 37 items and 6 factors has been meaningful and the X^2/df value which is related to model fit has been found to be 1.66. Compliance index values have been found as $RMSEA=0.03$, $RMR=0.06$, and $CFI=0.96$. Table 4 presents the findings of the first-level CFA to evaluate the model fit of the six-factor structure of the SMPS-2 form.

Table 4. Results of First Level Confirmatory Factor Analysis

Indexes	Perfect Compliance Criteria	Acceptable Compliance Criteria	Research Finding	Result
X^2/df	0-2	2-3	1.6	Perfect Compliance
RMSEA	≤ 0.05	≤ 0.08	0.03	Perfect Compliance
RMR	≤ 0.05	≤ 0.08	0.06	Acceptable Compliance
CFI	≥ 0.95	≥ 0.90	0.96	Perfect Compliance
TLI	≥ 0.95	≥ 0.90	0.95	Perfect Compliance
NFI	≥ 0.95	≥ 0.90	0.91	Acceptable Compliance
IFI	≥ 0.95	≥ 0.90	0.96	Perfect Compliance
RFI	≥ 0.95	≥ 0.90	0.90	Acceptable Compliance
GFI	≥ 0.90	≥ 0.85	0.90	Perfect Compliance
AGFI	≥ 0.90	≥ 0.85	0.88	Acceptable Compliance

When the compliance index values given in Table 4 are taken into consideration, it can be said that RMR, NFI, RFI and AGFI values have acceptable level of fit and X^2/df , RMSEA, CFI, TLI, IFI and GFI values have perfect fit level. The path diagram for the first-level CFA for the SMPS-2 form is given in Figure 1.

Figure-1. Path Diagram for the First-Level CFA for the SMPS-2 Form.



3.2. Reliability

In order to determine the reliability of SMPS-2 form, internal consistency, two-half reliability analyzes and test-retest reliability analyzes have been performed and the obtained results are given in Table 5.

Table-5. Internal Consistency and Two-half Reliability Analyzes Results

Dimensions	Internal Consistency	Two-half Reliability
Personal Standards	0,85	0,86
Concern Over Mistakes	0,90	0,90
Perceived Parental Pressure	0,92	0,93
Perceived Coach Pressure	0,85	0,86
Doubts About Actions	0,85	0,83
Organization	0,89	0,87
Total of Scale	0,88	0,85

4. Discussion

It is clear that athletes should strive to achieve success in the sports they perform. However, it is suggested that athletes are negatively affected by the perception of excessive perfectionism and they have burnout syndrome while trying to achieve perfection (Hill et al.,2010). Therefore, determination of the burnout status of athletes is important for their success. Measurement tools have an important function in sports psychology in the context of achievement. Although there are many studies dealing with scales on perfectionism in Turkey; there is not, to the author's knowledge, a valid and reliable measurement tool to be used in the field of research to be done on the determination of burnout in perfectionism. In this



respect, it has been aimed to introduce and adapt the SMPS-2 form developed by Gotwals and Dunn (2009) to Turkish culture and to use this adapted SMPS-2 scale as a valid and reliable measurement tool that can be used in field by researches.

In the process of adapting the scale to Turkish culture, first of all, language validity has been tried to be ensured and expert opinions have been sought for this purpose. After the linguistic equivalence has been achieved, the pilot application has been applied on the final form of the scale and item total correlation values and Cronbach alpha values indicating the internal consistency of the scale have been examined. In the reliability analysis, when items 2, 7, 8, 10 and 37 have been removed from the total original 42 items in the scale, the item-total correlation value of the remaining 37 items has been found as 0.30 and above, and the internal consistency value of the whole scale has been found to be Cronbach's alpha = 0.88. This value has been evaluated as the first form of the scale to have sufficient internal consistency (Karakoç & Dönmez, 2014).

The model fit of the six-factor structure of the scale has been tested with the first level CFA. As a result of the first level CFA; the model fit indexes of the six-factor structure of the SMPS-2 form have been found to be good (RMSEA=0.03, RMR=0.06, and CFI=0.96) and it has concluded that the scale have model fit. In addition, the factor load values of the SMPS-2 form have been between 0.71 and 0.84 in the Personal Standards sub-dimension, between 0.76 and 0.84 in the Concern Over Mistakes sub-dimension, between 0.70 and 0.87 in the Perceived Parental Pressure sub-dimension, between 0.68 and 0.87 in the Perceived Coach Pressure sub-dimension, between 0.73 and 0.81 in the Doubts About Actions sub-dimension and between 0.72 and 0.84 in the Organization sub-dimension. It can be concluded that the obtained factor load values are sufficient and that the six factor structure in original SMPS-2 form is maintained on the Turkish sample (Kline,2011; Marcoulides & Schumacher, 2001).

Internal consistency and two quasi-reliability methods have been used to determine the reliability of the SMPS-2 form. As a result of the analyzes, it has been determined that the scale has internal consistency and two-half reliability in terms of both sub-dimensions and total score. In order to be considered as reliable in scale development and adaptation studies, it is generally expected to have a reliability value of 0.70 and above (Çokluk et al., 2018). According to the findings, it can be said that SMPS-2 form has internal consistency and two half-reliability.

SMPS-2 consists of six sub-dimensions. Each of the sub-dimensions of the scale is scored and evaluated separately. It is accepted that as the scores obtained from the scales increase, the symptoms of burnout in perfectionism also increase.

In conclusion, the Turkish version of SMPS-2 is a valid and reliable instrument that can be used to examine the symptoms of burnout and related variables in athletes.

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