

Adaptation of the Sporting Event Personality Scale to Turkish Culture

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Abstract

The purpose of this study is to adaptation of the “Sporting Event Personality Scale” (SEPS) developed by Lee and Cho (2012) in Turkish culture. In terms of practical implications, the research findings may assist sports managers and event organizers in evaluating the personality of their events and developing positioning strategies to create differentiation in competition. A total of 392 volunteer athletes over the age of 18, 149 of whom were female (38%) and 243 were male (62%), participated in the study using criterion sampling, a purposive sampling method. Descriptive statistics were used for demographic data and normality tests, and Confirmatory Factor Analysis (CFA) was performed for construct validity during the scale adaptation process. composite reliability (CR), average variance extracted (AVE), maximum shared variance (MSV), and average shared variance (ASV) values were calculated for convergent and discriminant validity, and Cronbach's Alpha values were calculated for reliability. The scale's measurement consistency over time was also evaluated using the test-retest method. The findings showed that the SEPS adapted in this study retained the psychometric properties of the original scale developed by Lee and Cho (2012). The scale has adequate fit indices for the CFA, convergent and discriminant validity, and high internal consistency coefficients. Consequently, it was concluded that SEPS can be considered a valid and reliable tool for studies of the Turkish population to yield meaningful interpretations of the personalities of sports events organized in Türkiye.

Keywords: Sports Event, Event Personality, Sports Event Personality, Validity and Reliability

INTRODUCTION

Since the early 2000s, it has been observed that sports events have turned into festivals that include cultural and tourism activities, and athletes are looking for a creative environment, different side activities, social interaction, and entertainment in which they can express themselves more in these events (Tiessen-Raaphorst, 2016). It is well known that events offering a unique sport experience play a key role in encouraging repeat participation and positive word-of-mouth

communication. Therefore, it is undeniable that event managers must enrich their side activities and enhance their services with entertainment elements to increase social interaction (Kogoya et al., 2022; Wang et al., 2018). Previous studies have shown that reducing competition and maintaining and expanding a loyal customer base can be achieved by creating events with a positive image (Alexandris, 2016; Koo et al., 2014). Furthermore, it is well known that event personality and event image are positively related (Karagiorgos et al., 2022; Lianopoulos et al., 2021).

Previous studies have shown that sport events can be considered as brands in themselves and that certain qualities specific to human personality can be identified with various product or service brands (Aaker, 1997; Lee & Cho, 2009; Meenaghan, 2001). Meenaghan (2001) states that just as the personalities of Rolex and Timex watch brands are different; Formula 1 event personality traits (glamorous, elite, fashionable, ambitious, serious, arrogant) are also different from those of US NASCAR auto racing events (entrepreneurial, courageous, mediocre, ordinary, noisy, non-elite). Research on sports brand personality has been applied to teams, professional athletes, and sport events. These studies have revealed that sports team personality may be a precursor to team identity, loyalty, team prestige, and the attractiveness of the game/match (Blank et al., 2018; Carlson et al., 2009; Giroux et al., 2017; Karjaluo et al., 2016; Papadimitriou et al., 2019). Another study found that athletes' personalities are associated with respectability and distinctiveness, which in turn influence their effectiveness as role models for others (Carlson et al., 2009). Again, regarding sports activities, Alexandris et al. (2016), suggested that there are differences in the perceptions of sports activity personality among alpine skiers according to the stages of the Psychological Continuum Model (PCM).

Lee and Cho (2012) have stated that, when considering sports services, individuals may perceive sports and sports events as having personality traits. For example, Red Bull, a world-renowned energy drink company, sponsors both athletes and events by selecting extreme sports that involve high levels of excitement and danger. The fact that these events have been attracting worldwide interest for years and continue to do so supports the compatibility between event personality and Red Bull brand personality (Çevik et al., 2018). Based on this, determining the event personality emerges as an important requirement for the event to be realized at the targeted level. According to research conducted by Lee and Cho (2009), the compatibility between the sponsoring brand and the event personality is linked to a positive attitude towards the sponsoring brand in sports events. This connection also increases the sponsoring brand's sales.

When the international literature is examined, in the limited number of studies conducted on sports event personality in the field of sports marketing, the brand personality scale developed by Aaker (1997). This scale is based on the 5-factor (Big Five) personality model, which provides a fundamental framework for personality classification in psychology and includes the dimensions of sincerity, excitement, competence, sophistication, and ruggedness. Caslavova and Petrackova (2011) evaluated the brand personality of major sports events, including the Tour de France, FIFA World Cup, and Summer Olympic Games, using the dimensions of sincerity, excitement, competence, sophistication, and ruggedness developed by Aaker (1997). Although the research is conducted under the concept of “brand personality”, it can be stated that it would be appropriate to refer to it as event personality since the events themselves have brand value. Kim et al. (2009), in their study indicating that the brand personality of sports products positively affects consumer loyalty and repurchase intention; Walsh et al. (2013), in their review revealing that consumers who use social media and those who do not have different perceptions of event personality; Alexandris et al. (2016), revealed differences in mountain skiers' perceptions of sport event personality in their study; Alexandris (2016), identified the positive role of sport event personality in increasing participation and loyalty in his study involving trail running events; Kim et al. (2020), reported a positive relationship between the Winter Olympic Games brand personality and the host country image and consumer loyalty in their study; Lianopoulos et al. (2021), in their study on an event involving road running, which addressed the positive effect of sports event personality on event image and participant loyalty, used the brand personality scale developed by Aaker (1997). Lee and Cho (2009) stated that while it is possible to use the brand personality scale to evaluate sports event personality, due to the variability of the resulting meaning and personality traits, sports event personality may differ from brand personality. In their research, they developed a new 5-dimensional structure specific to the personality of sports events. This structure was prepared using a 5-point Likert scale; it consists of 24 personality traits grouped into 5 dimensions specific to sports-event personality (diligence, uninhibitedness, fit, tradition, and amusement; Lee & Cho, 2012). The adaptation of this developed scale for Turkish culture was tested by Çevik et al. (2018); as a result of the adaptation study conducted with 191 participants in the Kite Festival (family recreational activity) organized by Anadolu University in Eskişehir, it was determined that the sports event personality scale is a valid and reliable measurement tool (22 personality traits and 5 dimensions). One of the statements in the original scale loaded onto a different factor and was inconsistent with the factor it was newly loaded onto; another statement loaded on multiple factors with a difference between loadings less than 0.1 (that

is, overlapping); a total of 2 statements were removed from the scale. The 22-item structure, grouped under 5 dimensions with eigenvalues above 1, was found to explain 67.9% of the total variance. No other adaptation of the scale which developed by Lee and Cho (2012) to any culture in international literature, either no studies specifically addressing sports event personality were found in the domestic literature.

Instead of the “Brand Personality Scale” (Aaker, 1997) used in previous studies for sport events, the “Sporting Event Personality Scale” (SEPS) was developed by Lee and Cho (2012) based on the idea that it is possible to use the brand personality scale to evaluate sport event personality, but due to the variability of the resulting meaning and personality traits, sport event personality differs from brand personality. Therefore, it was felt necessary to test the “Sporting Event Personality Scale” in Turkish culture in a different competitive sport event that has become traditional, has a big number of participants, is required to obtain permission from the relevant sports federation (Turkish Athletics Federation) and provincial administrations (such as District Governorship, Security Department, Fire Department, Health Office, Forestry Directorates), has close relationships with third parties such as referees, observers, technical team, medical team, coaches, sponsors, press-broadcast and security services, is directed and managed by a regulatory board, is more structured and where participants (such as licensed professional athletes and amateur ones) are in competition as like in original scale.

The number of sports events involving running races, which has been increasing worldwide and especially in Türkiye in recent years (Beypazarı Ultra Marathon, Gomedra Ultra Marathon, Kaçkar UTMB, Karageçit Ultra Marathon, Tuzla Road Race, Soli Road Race, Lykos Half Marathon, Gaziantep Gourmet Half Marathon, etc.) and the competition between events, creating a satisfied and loyal participant base, has become crucial for event organizers to ensure the sustainability of the event in subsequent years. Knowing the personality of a sports event is critical for event organizers, as it affects many variables such as distinctiveness, finding suitable and appropriate sponsors, and creating a satisfied and loyal participant profile. In this context, the aim of this study is to adapt the personality scale developed for sports events to Turkish culture in a well-structured, competitive sports event with a large number of participants. In terms of practical value, the findings of the research can assist sports managers and event organizers in evaluating the personality of their events, finding the proper sponsorship of their events (by evaluating the personality of both the sponsor and the event), and developing positioning strategies that will create differentiation in market competition.

METHODS

Research Model

This study is a methodological research in which the "Sporting Event Personality Scale" (SEPS), developed by Lee and Cho (2012), was adapted for Turkish culture by testing its validity and reliability. The study is based on the quantitative research paradigm and uses a survey model. The scale adaptation process adhered to the stages proposed by Hambleton and Patsula (1999) with Brislin (1980). These are: a) deciding whether it is more useful to develop a new scale or adapt an existing one, b) obtaining permission from the scale owner when deciding to undertake the adaptation work, c) selecting qualified translators, d) translating the scale items (panel approach), e) reviewing the translated scale items and making changes if necessary (translation-back translation for face validity), f) conducting a pilot study (testing comprehensibility), g) conducting validity-reliability studies using appropriate statistical methods, h) reporting the results.

Participants

The study population consisted of 2,500 athletes who competed in the 10km or 21km courses at the "Konya Half Marathon" event held in Konya on October 15, 2023. In the study, criterion sampling, a type of purposive sampling, was selected as a non-random sampling method. The criteria for inclusion in the study were being registered for the "Konya Half Marathon" event, completing the race by running on any of the race courses, and being over 18 years of age. The sample consisted of volunteer runners who agreed to participate in the study without discrimination, were over 18 years of age, registered for the relevant courses of the "Konya Half Marathon" event, and completed the race.

The formula $n = \frac{(N t^2 p q)}{(d^2 (N-1)) + (t^2 p q)}$ was used to calculate the sample size of the adaptation study (Nachmias & Nachmias, 1996). Accordingly, in the "Konya Half Marathon" event, where the population (N) was 2,500; with a 95% confidence level, $t = 1.96$, $p = 0.5$, $q = 0.5$, sampling error margin $d = \pm 0.05$, and a significance level of $\alpha = 0.05$, the sample size was found to be 333. As part of the scale adaptation, 392 athletes who registered for and completed the "Konya Half Marathon" event held in Konya on October 15, 2023, participated in the study to test the construct validity of the scale (a total of 2,468 athletes registered, 1,387 athletes completed the race, and of the 400 questionnaires distributed; 392 were fully completed and the remaining 8 questionnaires were not evaluated due to incomplete/incorrect answers). The participants consisted of 392 runners ($\bar{x}_{age} = 40.82 \pm 19.59$), 149 (38%) of whom were female ($\bar{x}_{age} = 37.21 \pm 16.15$)

and 243 (62%) of whom were male ($\bar{x}_{age} = 43.02 \pm 21.69$). Female participants were aged between 18-52, while male participants were aged 18-66. The participants' preferred running routes were 21 km for 179 (45.6%) and 10km for 213 (54.4%) athletes (Table 1).

Table 1

Demographic Characteristics of Participants

<i>Demographic variables</i>		<i>n</i>	<i>%</i>
Gender	Women	149	38.0
	Men	243	62.0
Race course preference	10km	213	54.4
	21km	179	45.6
Total		392	100.0

Ethics Approval

Ethical approval for the study was obtained from the Ethics Committee of Marmara University, Institute of Health Sciences within the scope of the doctoral thesis (Protocol No: 21.06.2023/78). Written permission was obtained from the owner for the use of the adapted scale and from the event organizers for data collection from participants.

Procedure

The following steps were taken for the scale adapted to Turkish culture within the scope of this research:

- Translation-back translation using a committee approach for face validity: For face validity, a committee proposed by Brislin (1980), whose members are experienced in sports science and sports activities, translated the scale items using the back-translation method.
- Pre-testing to assess the comprehensibility of scale items: It is recommended to conduct a pre-test with a group of 50 people who represent the target population using the translated scale items (Hambleton & Patsula, 1999). Following translation and back-translation, a pre-test was conducted on October 1, 2023, with 54 athletes who competed in the 5km, 10km, and 21km courses of the "Bodrum Half Marathon" event held in Bodrum, Muğla.
- When conducting CFA from SEM for the construct validity of the scale, the convergent validity, discriminant validity, and Cronbach's Alpha values, which measure the reliability of the scale, were calculated using data collected from volunteer runners who participated in the race covered by the study at the Konya Half Marathon event on October 15, 2023.
- In order to determine that the scale can measure the desired characteristics repeatedly at different times under the same conditions, data was collected again from the sample group

from which the data was collected 3 weeks after it was determined that the necessary validity and reliability criteria were met, for the test-retest reliability test.

Data Collection Tools

The “Personal Information Form” developed by the researchers includes questions on age, gender, and preferred running course. The “Sporting Event Personality Scale” (SEPS) developed by Lee and Cho (2012) was used as a data collection tool with the authors' permission. The scale consists of 24 items across 5 dimensions: “diligence, uninhibitedness, fit, tradition, and amusement”. The scale is a 5-point Likert-type, rated as “1 = Not at all descriptive; 2 = Not descriptive; 3 = Somewhat descriptive; 4 = Descriptive; 5 = Extremely descriptive.” While the factor loadings of the original SEPS ranged from 0.70 to 0.88; CMIN/DF value was 2.42; RMSEA = 0.06; RMR = 0.07; CFI = 0.94 and NFI = 0.93; internal consistency coefficients (Cronbach's alpha) ranged from 0.75 to 0.90 (Lee & Cho, 2012).

Data Analysis

Descriptive statistics were used to provide personal information about the participants (demographics), and to test the normality of the research data. CFA was used to assess the scale's construct validity, while CR, AVE, MSV, and ASV were used to determine convergent and discriminant validity. Cronbach's alpha, the internal consistency coefficient, was examined to assess reliability. 3 weeks after determining that the scale met the required validity and reliability criteria, Pearson's correlation was used to assess test-retest reliability using data collected from the same group. Mplus, SPSS 26 and AMOS 24 software packages were used for data analysis.

RESULTS

To test the comprehensibility of the scale items, a pilot study was conducted with 54 athletes who competed in the 5km, 10km, and 21km courses of the “Bodrum Half Marathon” event held in Bodrum district of Muğla on October 1, 2023. There were no questions, misunderstandings, or objections regarding the translated items (e-mails were sent to 60 athletes, but no responses were received from 6). After this stage, the scale's validity and reliability analyses were conducted.

According to the descriptive statistics findings of the data collected from the Konya Half Marathon event on October 15, 2024, for the adaptation of the “Sporting Event Personality Scale” (SEPS) developed by Lee and Cho (2012) with 5 dimensions and 24 items in a 5-point Likert type to Turkish culture; it was observed that multivariate skewness/kurtosis were checked by Mardia's multivariate normality test and none of the multivariate skewness/kurtosis were rejected

($p>0,05$). The collected data met the conditions for multivariate normal distribution (Table 2; Mardia, 1974; Rencher, 1998).

Table 2
SEPS Descriptive Statistics

<i>Sub-dimensions</i>	<i>Items</i>	<i>n</i>	<i>Mean</i>	<i>Sd</i>	<i>Skewness</i>	<i>Kurtosis</i>
Diligence	7	392	3.49	0.43	1.67	1.41
Uninhibitedness	6		3.71	0.54	-1.81	1.77
Fit	5		2.90	0.59	-0.29	-0.71
Tradition	3		3.63	0.44	1.31	-0.29
Amusement	3		4.06	0.23	1.32	1.74
Total		392	3.51	0.27	1.71	1.54

EFA and CFA techniques are used during scale adaptation. EFA is a dimension reduction method used to identify the latent variable being measured when no relationship is found among scale items, while CFA is a method of creating latent variables through observable variables. CFA is also used to test the validity of a model whose existence has been previously proven in a new data set, based on a strong model assumption (Schumacker & Lomax, 2004). Since the “Sporting Event Personality Scale” (SEPS) has previously been validated as a model (Lee & Cho, 2012), a CFA was conducted in the current study to test its construct validity.

The initial CFA findings on the normally distributed data set failed to meet the accepted fit index criteria (RMSEA = 0.11, and GFI = 0.80). Therefore, following the analysis program's recommendation, modifications were made to improve the fit index values without compromising the theoretical structure of the scale (modifications were made between items under the same factor, not between items in different factors). These modifications involved the 11th and 13th items under the “Uninhibitedness” factor and the 15th and 16th items under the “Fit” factor. Following these two modifications, the measurement model, consisting of 24 items and 5 dimensions and retaining the same structure as the original scale, is shown in Figure 1, and the fit index values, which are within the expected criteria, are shown in Table 3.

According to the analysis findings, the factor loadings for the 24-item, 5-dimensional structure ranged from 0.74 to 0.98; the CR values for convergent validity were greater than 0.70, and the AVE values were also greater than 0.50 (Table 4). It is understood that the MSV and ASV values calculated for discriminant validity are smaller than the AVE values (Table 4); and the square root of AVE is greater than the correlations between factors (Table 5).

Cronbach's Alpha values, which were used to test the reliability of the scale, show the internal consistency coefficients, were found to be 0.92 for the sub-dimensions of Diligence, 0.96 for Uninhibitedness, 0.95 for Fit, 0.92 for Tradition, and 0.86 for Amusement (Table 6).

Figure 1
Path Diagram of SEPS

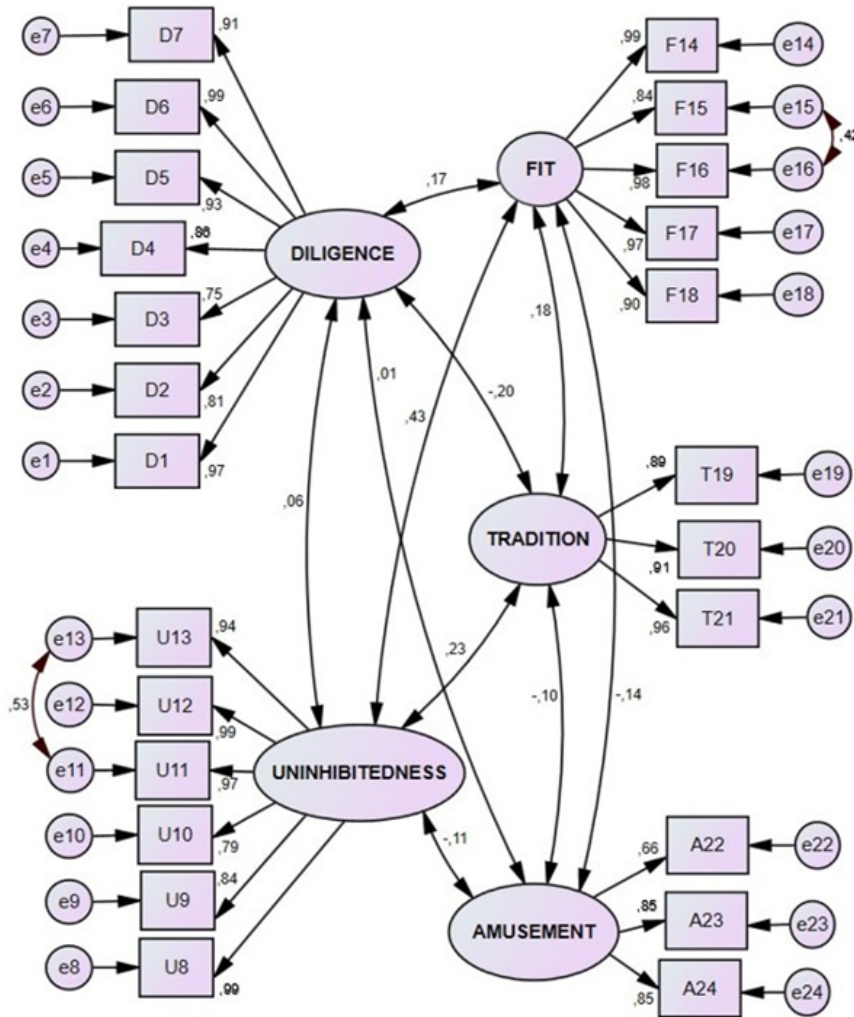


Table 3
Goodness of Fit Index

<i>Fit index</i>	<i>Excellent threshold</i>	<i>Acceptable threshold</i>	<i>SEPS</i>
¹ CMIN / DF	0 < CMIN / DF < 2	2 < CMIN / DF < 5	4.14
² RMSEA	0 < RMSEA < 0.05	0.05 < RMSEA < 0.10	0.09
³ RMR	0 < RMR < 0.05	0.05 < RMR < 0.08	0.01
⁴ GFI	0.90 < GFI < 1	0.85 < GFI < 0.90	0.88
⁵ CFI	0.95 < CFI < 1	0.90 < CFI < 0.95	0.97
⁶ NFI	0.95 < NFI < 1	0.90 < NFI < 0.95	0.96

Note. ^{1,5,6} (Bentler & Bonet, 1980), ^{1,2,4} (Tabachnick & Fidell, 2007), ^{3,4,5} (Hu & Bentler, 1999).

Table 4
Covergent and Discriminant Validity

<i>Sub-dimensions</i>	<i>Items</i>	<i>Loadings</i>	<i>CR</i>	<i>AVE</i>	<i>MSV</i>	<i>ASV</i>
Diligence	7	0.74-0.97	0.98	0.86	0.04	0.01
Uninhibitedness	6	0.83-0.96	0.96	0.84	0.06	0.03
Fit	5	0.91-0.94	0.96	0.86	0.03	0.02
Tradition	3	0.97-0.98	0.98	0.95	0.06	0.03
Amusement	3	0.84-0.93	0.91	0.78	0.03	0.02

Table 5
SEPS Correlation Matrix and $\sqrt{AVE}$

<i>Sub-dimensions</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Diligence	0.98				
Uninhibitedness	0.02	0.92			
Fit	0.12	0.14	0.92		
Tradition	0.19	0.25	0.16	0.97	
Amusement	0.06	-0.16	-0.17	-0.06	0.88

Table 6
SEPS Internal Consistency Coefficients

<i>Internal Consistency</i>	<i>Diligence</i>	<i>Uninhibitedness</i>	<i>Fit</i>	<i>Tradition</i>	<i>Amusement</i>
Cronbach Alpha	0.92	0.96	0.95	0.92	0.86

In addition to internal consistency calculations, three weeks after it was determined that no items were eliminated based on CFA results and that the fit indices were within the required range, an analysis was conducted using the test-retest reliability method with 112 participants from a sample group of 392, and a Pearson correlation coefficient of 0.95 was obtained.

DISCUSSIONS

The SEPS, adapted to Turkish culture, has undergone various validity and reliability tests. In psychometric studies in which a measurement tool developed for one culture is adapted to another, it is recommended that experts proficient in both the original and target languages be selected (Deniz, 2007; Hambleton & Patsula, 1999). The committee approach to translating scale items aims to reduce the impact of cultural biases specific to the native language through collaboration and consensus (Martinez et al., 2006; Pan & De La Puente, 2005; Simonsen & Elklit, 2008). Accordingly, to assess face validity, the items were translated back into English by panel members experienced in sports science and sports activities, as suggested by Brislin (1980).

It is recommended that a pre-test be conducted with a group of 50 people who represent the target population using the translated scale items (Hambleton & Patsula, 1999). To test its

comprehensibility, a pre-test was conducted with a group of 54 participants competing in the 5km, 10km, and 21km courses of the “Bodrum Half Marathon” event held in Bodrum, Muğla, on October 1, 2023. No questions, misunderstandings, or objections were encountered regarding the translated items. Following this phase, the scale underwent validity and reliability analyses.

One of the factor analysis techniques used to provide evidence of a measurement tool's construct validity is CFA. While EFA aims to discover the structure of a measurement tool, CFA aims to test whether it measures a previously known structure. Since the factor structure is unknown when developing a measurement tool, EFA is preferred initially, while CFA is preferred in adaptation studies where the factor structure is known (Field, 2013).

Different methods can be used to estimate the parameters of the measurement model. The most frequently used of these methods is the “maximum likelihood” method (Tabachnick & Fidell, 2007). Many analysis programs with CFA capabilities use this estimation method by default, unless otherwise specified. However, for this method to be used, the data must meet the assumption of multivariate normality. Therefore, before testing the CFA model, it must be tested whether the data meets the multivariate normality assumption (Brown & Moore, 2012). The skewness and kurtosis values ($p > 0.05$) of the data set used in the adaptation of the scale indicated the normal distribution (Mardia, 1974; Rencher, 1988). And the goodness-of-fit values were calculated by selecting the “maximum likelihood” method in CFA.

In various studies on fit and lack of fit quality in CFA, more than 30 indices have been developed as fit indices and/or lack-of-fit indices (Marsh et al., 1988). However, these indices do not always yield consistent results, and there is no consensus on the “best fit index” (Thompson & Daniel, 1996). While Steiger (1990) states that there is no such thing as the “best fit index,” Jaccard and Wan (1996) emphasize that at least three indices should be reported in studies involving model estimation, and Kline (2011) emphasizes that at least four indices should be reported. Raykov et al. (1991) with Hu and Bentler (1999) recommend reporting CMIN/DF, RMSEA, RMR, NFI, and CFI. Furthermore, Fornell and Larcker (1981), with Hair et al. (2010), considered reporting CMIN/DF, RMSEA, CFI, NFI, and GFI sufficient. Accordingly, in this study, from among the indices recommended in the above-mentioned literature, CMIN/DF, RMSEA, RMR, GFI, CFI, and NFI were used (Gupta & Singh 2014; Mulaik et al., 1989; Yurdugül, 2007).

The CFA findings for the adaptation of the “Sporting Event Personality Scale” (SEPS), developed by Lee and Cho (2012) as a 5-item Likert scale consisting of five dimensions and 24 items, to Turkish culture indicated that the factor loadings ranged from 0.74 to 0.98. This can be seen as

evidence that the items in the scale strongly represent their dimension (Marsh & Hocevar, 1985). In the original scale, the cut-off point was set at 0.50, and factor loadings ranged from 0.70 to 0.88 (Lee & Cho, 2012). In the adaptation by Çevik et al. (2018), factor loadings were measured between 0.47 and 0.86, and a cut-off point of 0.45 was considered; since one of the items in the original scale loaded on a different factor and that item was incompatible with its new factor, and another statement loaded on multiple factors with a difference between loadings less than 0.10, (that is overlapping) a total of 2 statements were removed from the scale, resulting in a 22-item structure grouped under 5 dimensions. Child (2006) states that factor loadings of 0.50 and above can be interpreted as good and highly meaningful, while those of 0.32 and below can be interpreted as weak. In this adaptation, where no items were removed, the 24-item, 5-dimensional structure of the original scale was preserved.

The initial CFA results yielded values of 0.11 for RMSEA and 0.80 for GFI, which were found to be outside the acceptable range of goodness of fit (Tabachnick & Fidell, 2007). Kline (2011) suggests that if values outside the acceptable range of goodness of fit are found, the CFA should be repeated with appropriate modifications suggested by the analysis program that do not conflict with the theoretical framework of the original measurement instrument, to see if there is any improvement in the values. Accordingly, modifications were made to improve the fit index values between items 11 and 13 under the "Uninhibitedness" factor and between items 15 and 16 under the "Fit" factor, in line with the analysis program's recommendations and without compromising the conceptual structure of the scale. First adaptation of SEPS to Turkish culture by Çevik et. al. (2018), modifications were made to improve the fit index values between items 11 and 12 under the "Uninhibitedness" factor and between items 6 and 7 under the "Diligence" factor, while Lee and Cho (2012) reported to make modifications in line with the analysis program's recommendations and without compromising the conceptual structure of the scale.

In previous adaptations of the SEPS to Turkish culture, the CMIN/DF value was 1.59 (Çevik et al., 2018) and 2.42 on the original scale (Lee & Cho, 2012). CMIN/DF is calculated by dividing the chi-square value by the degrees of freedom, and it is stated that a value less than 2 indicates a perfect fit, while a value between 2 and 5 indicates an acceptable fit (Bentler & Bonet, 1980; Tabachnick & Fidell, 2007). In this adaptation, where no items were removed, the CMIN/DF value was found to be 4.14, indicating acceptable fit.

While the RMSEA value in the original version of the SEPS was 0.06 (Lee & Cho, 2012), it was 0.06 in the adaptation by Çevik et al. (2018). RMSEA is an index that evaluates as a function of degrees

of freedom; according to Tabachnick and Fidell (2007), the expected RMSEA value should be less than 0.05, while values up to 0.1 are considered acceptable. The RMSEA value of this adaptation study is 0.09, which is an acceptable level of fit, and it has yielded results parallel to the previous adaptation and original version of the SEPS.

RMR is an index that varies with the measurement model size, the number of variables, and the values of other fit indices. While RMR value is expected to be below 0.05, it is stated that this value can be relaxed to 0.08 for RMR (Hu & Bentler, 1999). The RMR value of the original scale is 0.07 (Lee & Cho, 2012), whereas in the previous adaptation study, it was 0.06 (Çevik et al., 2018). In this study, the RMR value is 0.01, showing excellent fit.

Tabachnick and Fidell (2007), Hu and Bentler (1999) suggested that values of 0.85 and above for GFI is acceptable fit values. The value in this study is 0.88 for GFI, which are within the acceptable fit range according to the literature. It is possible to say that the results are parallel to the previous adaptation of SEPS by Çevik et al. (2018; GFI value 0.87).

The CFI value was 0.94 in the original form of SEPS (Lee & Cho, 2012) and 0.95 in the previous adaptation (Çevik et al., 2018). CFI compares the fit of the tested measurement model with a null hypothesis model that ignores correlation and covariance among latent variables, assuming no relationships among variables. CFI values range from 0 to 1, with fit quality increasing as the value approaches 1. For CFI to be acceptable, it must be above 0.90 (Bentler & Bonet, 1980; Hu & Bentler, 1999). The CFI value obtained in this adaptation is 0.97, indicating excellent fit.

NFI examines the fit between the null hypothesis measurement model and the hypothesized model, and a value above 0.90 is desired; the closer the value is to 1, the better the fit (Bentler & Bonet, 1980). In a previous SEPS adaptation, the NFI value was 0.88 (Çevik et al., 2018). The original scale reported an NFI value of 0.93 (Lee & Cho, 2012). The NFI value found in this adaptation study is 0.96, indicating excellent fit.

When assessing the convergent validity of the measurement model, the lowest factor loading among the 24 items is 0.74. Fornell and Larcker (1981) indicate that factor loadings above 0.70 serve as evidence of convergent validity. Considering all scale items, convergent validity is achieved. In addition, CR and AVE values were also calculated. The CR value is greater than 0.70 and the AVE value is greater than 0.50 for all 5 dimensions. Based on these construct validity values, it is evident that the factors and all items meet the criteria for convergent validity (Fornell & Larcker, 1981; Hair et al., 2010). In the previous adaptation of SEPS by Çevik et al. (2018), the

lowest loading value among the 22 items was 0.47. In the original 5-dimensional 24-item scale, the lowest loading was 0.70 (Lee & Cho, 2012).

To ensure discriminant validity, the square root of AVE must be greater than the inter-factor correlation, and the MSV and ASV values must be smaller than the AVE values (Hair et al., 2010). For this study, since the AVE was greater than the MSV and ASV, and the square root of the AVE was greater than the inter-factor correlation, it is possible to conclude that the adapted scale achieved discriminant validity. In the previous adaptation of SEPS by Çevik et al. (2018), correlations among dimensions ranged from 0.34 to 0.66, and all structures showed a positive relationship. In the original version of SEPS, correlations between dimensions ranged from -0.26 to 0.31 (the uninhibitedness dimension showed a negative relationship with diligence, fit, tradition, and amusement; the other dimensions showed positive correlations with each other) (Lee & Cho, 2012). In this study, correlations between dimensions ranged from -0.17 to 0.25 (amusement dimension has a negative relationship with uninhibitedness, fit, and tradition dimensions; other dimensions have positive correlation with each other) and it can be stated that the dimensions are distinct from each other.

The Cronbach Alpha values used to test the reliability of the scale and showing the internal consistency coefficients were found to be 0.92 for Diligence, 0.96 for Uninhibitedness, 0.95 for Fit, 0.92 for Tradition, and 0.86 for Amusement. According to Nunnally and Bernstein (1994), DeVellis (2017), and Büyüköztürk (2021), when the Cronbach Alpha coefficient is greater than 0.90, the scale has a high level of reliability, while a value above 0.70 is considered sufficient. As can be understood from this, the SEPS, which has been re-adapted to Turkish culture in this study, has high internal consistency. The reported internal consistency coefficients of the original scale ranged from 0.75 to 0.90 (Lee & Cho, 2012), whereas in the previous adaptation by Çevik et al. (2018), they ranged from 0.57 to 0.90.

In addition to Cronbach Alpha internal consistency calculations, three weeks after it was determined that no items were eliminated based on CFA results and that the fit indices were within the required range, an analysis was conducted using the test-retest reliability method with 112 participants from the same sample group of 392 individuals, and a Pearson correlation coefficient of 0.95 was obtained. According to Hair et al. (2010), the Pearson correlation coefficient showing the test-retest result indicates a high level of relationship as it approaches 1. In other words, it can be said that there is a high consistency among the items in the scale, meaning that there is no problem with the reliability of the scale over time.

Limitations

The study sample, which was composed of runners of the Konya Half Marathon event, may be a limitation of this study. Therefore, in the following research studies, testing the scale's reliability and validity across different sports events and participant groups may enhance its reliability and validity and strengthen its functionality across different sample groups.

It is apparent that further well-controlled experimental studies will be essential to better understand the antecedents and consequences of sporting event personality dimensions. The antecedents might include variables such as sports marketing messages, media communication, liking of athletes/players, interaction between players and fans, actual playing of sports, demographics, etc. A future study could systematically manipulate these antecedent variables to see their individual and interaction effects on the five sporting event personality dimensions. It would also help sports marketers to develop marketing strategies to promote their sports, sports teams, and sporting events (e.g., interaction with sports fans, sponsoring of amateur games, etc.). The five sporting event dimensions can be manipulated in an experimental setting to analysis their independent and interaction effects on various outcome variables, such as consumer attitudes toward the sporting event, the sponsor, and purchase intention.

CONCLUSION

The findings indicate that the adapted SPES in this study retains the psychometric properties of the original scale developed by Lee and Cho (2012). The scale demonstrates adequate fit indices, convergent and discriminant validity, and high internal consistency. Consequently, the “Sports Event Personality Scale” can be considered a valid and reliable tool for research on the Turkish population, enabling meaningful interpretations of the personalities of sports events held in Türkiye. Instead of the brand personality scale developed by Aaker (1997), which was used in a limited number of studies on sports event personality in the international sports literature, it has been understood that the sports event personality scale developed by Lee and Cho (2012) for sports events is applicable in the context of running races. The model has provided sufficient evidence that it can be used by event organizers as a measurement tool to assess the personality perception of their events in participants' point of view.

THEORETICAL and PRACTICAL IMPLICATIONS

Brand personality, brand image, brand satisfaction, repurchase, and loyalty are positively related, and theoretically, the potential relationships between sports event personality and other

theoretical concepts such as event image, participant satisfaction, repeat participation, or loyalty can be explored, which could strengthen the theoretical value of the study. According to congruity theory, consumer's best remember information that is congruent with their prior expectations. This is because the memorization and retrieval of information are influenced by the similarity or relatedness between sponsoring brands and sporting events (via event personality and/or event image). Thus, the sporting event personality scale may enable researchers to accurately and appropriately measure the degree of congruence or incongruence between sporting event personality and sponsoring brand personality and/or image.

In Türkiye, especially in recent years, there has been a significant increase in the number of public and private events in many sports disciplines and, consequently, the mobility of local athletes and sports enthusiasts at all levels. This positive situation not only intensifies competition between events but also challenges event organizers and managers in terms of the sustainability of their events in subsequent years. In order to gain a competitive advantage over other sports events, it is important for event organizers and managers to define the personality of sports events with the aim of creating satisfied and loyal participants. Highlighting the distinctive qualities of the event, investing in the event in every emotional, social, organizational, and physical dimension that will make a difference, or finding the right and appropriate sponsors to invest in the event is the most important task of event organizers and managers in terms of both sustainability and creating a satisfied and loyal participant profile.

Within the scope of this study, SEPS, adapted to Turkish culture, is crucial for event organizers and managers in terms of evaluating the personality of sport events from the participants' perspective. Collecting this type of information will be useful for event organizers and managers in guiding their market positioning, identifying the event's distinctive features through the event personality scale, and finding sponsors that match the event's personality. Similarly, it is recommended that brands wishing to sponsor sport events use SEPS to assess the compatibility between their corporate brand personality and the event personality before making a sponsorship decision.

Brand personality is one of the positioning tools marketers can use to differentiate their products/services from competitors (Eisend & Stokburger-Sauer, 2013). From a theoretical perspective, this suggests that the brand personality structure can be applied to sport events, as it is to many product/service brands and classes (Eisend and Stokburger-Sauer, 2013; Tsotsou, 2009; Usakli & Baloglu, 2011). Just as consumers choose brands that match or reflect their own

personality traits, event participants may prefer to participate in events that they believe reflect their personality traits and carry symbolic meaning for them. However, to better understand how event participants attribute their personality traits to different events, more research is needed and recommended in high-participation sports events (such as running, swimming, cycling, and triathlon).

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Authors' Contribution

First and second author contributed to conceptualization of the research, literature review, data collection, research outline, determining the research method, collecting the data, evaluating the analysis of the data, and critically interpreting the final draft. First and third author contributed to performing data analysis, evaluating findings, and critical interpretation of final draft.

Declaration of Conflict Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics Statement

Written permission for the use of the scale was obtained from the authors of the SEPS and ethics committee permission was obtained for this study from "Marmara University Health Sciences Institute" within the scope of doctoral thesis (Protocol No: 21.06.2023/78).

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REFERENCES

- Aaker, J.L. (1997). Dimensions of brand personality. *Journal of Marketing Research*, 34(3), 347-356. <https://doi.org/10.1177/002224379703400304>
- Alexandris, K. (2016). Testing the role of sport event personality on the development of event involvement and loyalty: The case of mountain running races. *International Journal of Festivals and Event Management*, 7(1), 2-20. <https://doi.org/10.1108/IJEFM-10-2015-0041>

- Alexandris, K., Du, J. & Funk, D. (2016). The influence of sport activity personality on the stage based development of attitude formation among recreational mountain skiers. *Managing Sport and Leisure*, 21(4), 218-238. <https://doi.org/10.1080/23750472.2016.1255155>
- Bentler, P.M. & Bonett, D.G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588-606. <https://doi.org/10.1037/0033-2909.88.3.588>
- Blank, S.A., Koenigstorfer, J. & Baumgartner, H. (2018). Sport team personality: It's not all about winning. *Sport Management Review*, 21(2), 114-132. <https://doi.org/10.1016/j.smr.2017.05.004>
- Brislin, R.W. (1980). Translation and content analysis of oral and written material. *Handbook of Cross-Cultural Psychology*, 2(2), 349-444.
- Brown, T.A. & Moore, M.T. (2012). *Handbook of structural equation modeling*. New York: Guilford Press.
- Büyükoztürk, Ş. (2021). *Sosyal bilimler için veri analizi el kitabı*. Pegem Akademi.
- Carlson, B.D., Donavan, D.T. & Cumiskey, K.J. (2009). Consumer-brand relationships in sport: Brand personality and identification. *International Journal of Retail and Distribution Management*, 37(4), 370-384. <https://doi.org/10.1108/09590550910948592>
- Caslavova, E. & Petrackova, J. (2011). The brand personality of large sport events. *Kineziologija*, 43(1), 91-106.
- Child, D. (2006). *The essentials of factor analysis*. London: Continuum Books.
- Çevik, H., Şimşek, K.Y., Mercanoğlu, A.O. & Bayram, A. (2018). Spor etkinlik kişiliği ölçeğinin geçerlik ve güvenirliği. *Spormetre*, 16(2), 245-258. https://doi.org/10.1501/Sporm_0000000370
- Deniz, Z. (2007). Psikolojik ölçme aracı uyarlama. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 40(1), 1-16. https://doi.org/10.1501/Egifak_0000000158
- DeVellis, R.F. (2017). *Scale development: Theory and applications*. Thousand Oaks, CA: Sage.
- Eisend, M.A. & Stokburger-Sauer, N.E. (2013). Brand personality: A meta-analytic review of antecedents and consequences. *Marketing Letters*, 24(3), 205-216.
- Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics*. London: Sage Publications.
- Fornell, C. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.2307/3151312>
- Giroux, M., Pons, F. & Maltese, L. (2017). The role of perceived brand personality in promotion effectiveness and brand equity development of professional sports teams. *International Journal of Sports Marketing and Sponsorship*, 18(2), 180-195. <https://doi.org/10.1108/IJSMS-05-2017-092>
- Gupta, K. & Singh, N. (2014). Fit estimation in SEM: A synthesis of related statistics. *HSB Research Review*, 8(2), 20-27.

- Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. (2010). *Multivariate data analysis*. NY: Prentice Hall.
- Hambleton, R.K. & Patsula, L. (1999). Increasing the validity of adapted tests: Myths to be avoided and guidelines for improving test adaptation practices. *Journal of Applied Testing Technology*, 1(1), 1-30.
- Hu, L.T. & Bentler, P.M. (1999). Cut off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- Jaccard, J. & Wan, C.K.W. (1996). *LISREL approaches to interaction effects in multiple regression*. Sage Publications.
- Karagiorgos, T., Ntovoli, A. & Alexandris, K. (2022). Developing a brand personality framework in the context of outdoor small-scale sport events. *Journal of Convention & Event Tourism*, 24(3), 246-268. <https://doi.org/10.1080/15470148.2022.2158153>
- Karjaluoto, H., Munnukka, J. & Salmi, M. (2016). How do brand personality, identification, and relationship length drive loyalty in sports? *Journal of Service Theory and Practice*, 26(1), 50-71. <https://doi.org/10.1108/JSTP-09-2014-0206>
- Kim, Y.M., Kim, K.C. & Kim, W.S. (2009). The effect of the brand personality of sporting goods on brand satisfaction, brand identification and brand loyalty. *Korean Society For Sport Management*, 14(3), 233-246.
- Kim, D., Kim, H., Huang, Y. & Jeon, Y.K. (2020). Structural relationship between brand personality of Winter Olympics and host nation, image fit and loyalty. *International Journal of Human Movement Science*, 14(2), 109-122. <https://doi.org/10.23949/ijhms.2020.12.14.2.7>
- Kline, R.B. (2011). *Principles and practice of structural equation modeling*. London: Guilford Publications.
- Kogoya, K., Guntoro, T.S. & Putra, M.F.P. (2022). Sports event image, satisfaction, motivation, stadium atmosphere, environment, and perception: A study on the biggest multi-sport event in Indonesia during the pandemic. *Social Sciences MDPI*, 11(6), 1-13. <https://doi.org/10.3390/socsci11060241>
- Koo, S.K., Byon, K.K. & Baker, T.A. (2014). Integrating event image, satisfaction, and behavioral intention; small-scale marathon event. *Sport Marketing Quarterly*, 23(3), 127-137.
- Lee, H.S. & Cho, C.H. (2009). The matching effect of brand and sporting event personality: Sponsorship implications. *Journal of Sport Management*, 23(1), 41-64. <https://doi.org/10.1123/jsm.23.1.41>
- Lee, H.S. & Cho, C.H. (2012). Sporting event personality: Scale development and sponsorship implications. *International Journal of Sports Marketing and Sponsorship*, 14(1), 46-63. <https://doi.org/10.1108/IJSMS-14-01-2012-B005>
- Lianopoulos, Y., Theodorakis, N.D., Alexandris, K. & Papanikolaou, M. (2021). Testing the relationships among event personality, event image and runners' loyalty: A study of an international running event. *Sport, Business and Management: An International Journal* 12(1), 189-207. <https://doi.org/10.1108/SBM-12-2020-0135>

- Mardia, K.V. (1974). Applications of some measures of multivariate skewness and kurtosis in testing normality and robustness studies. *The Indian Journal of Statistics*, 36(2), 115-128.
- Marsh, H.W. & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First and higher order factor models and their invariance across groups. *Psychological Bulletin*, 97(1), 562-582. <https://doi.org/10.1037/0033-2909.97.3.562>
- Marsh, H.W., Balla, J.R. & McDonald, R.P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: The effect size. *Psychological Bulletin*, 103(3), 391-410. <https://doi.org/10.1037/0033-2909.103.3.391>
- Martinez, G., Marin. B. & Schoua-Glusberg A. (2006). Translating from English to Spanish: The 2002 national survey of family growth. *Hispanic Journal of Behaviour Science*, 28(1), 531-545. <https://doi.org/10.1177/0739986306292293>
- Meenaghan, T. (2001) Understanding sponsorship effects. *Psychology & Marketing* 18(2), 95-122.
- Mulaik, S.A., James, L.R., Van Alstine, J., Bennett, N., Lind, S. & Stilwell, C.D. (1989). Evaluation of goodness-of-fit indices for structural equation models. *Psychological Bulletin*, 105(3), 430-445. <https://doi.org/10.1037/0033-2909.105.3.430>
- Nachmias, C.F. & Nachmias, D. (1996). *Research methods in the social sciences*. London: St. Martin's Press Inc.
- Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric theory*. New York: McGraw-Hill.
- Pan, Y. & De La Puente, M. (2005). *Census bureau guideline for the translation of data collection instruments and supporting materials*. Washington DC: Educational Research Press.
- Papadimitriou, D., Kaplanidou, K., Alexandris, K. & Theodorakis, N. (2019). The brand personality of professional football teams: A refined model based on the Greek professional football league. *Sport, Business and Management: An International Journal*, 9(5), 443-459. <https://doi.org/10.1108/SBM-03-2018-0021>
- Raykov, T., Tomer, A. & Nesselroade, J.R. (1991). Reporting structural equation modeling results in psychology and aging: Some proposed guidelines. *Psychology and Aging*, 6(1), 499-503. <https://doi.org/10.1037/0882-7974.6.4.499>
- Rencher, A.C. (1998). *Multivariate statistical inference and applications*. New York: Wiley.
- Schumacker, R.E. & Lomax, R.G. (2004). *A beginner's guide to structural equation modeling*. Lawrence Erlbaum Associates Publishers.
- Simonsen, E. & Elklit, A. (2008). *Experiences in translating and validating the MCMI in Denmark*. New York: Guilford Press.
- Steiger, J.H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25(2), 173-80. https://doi.org/10.1207/s15327906mbr2502_4
- Tabachnick, B.G. & Fidell, L.S. (2007). *Using multivariate statistics*. Boston: Pearson Education Inc.

- Thompson, B. & Daniel, L.G. (1996). Factor analytic evidence for the construct validity of scores: A historical overview and some guidelines. *Educational and Psychological Measurement*, 56(2), 197-208. <https://doi.org/10.1177/0013164496056002001>
- Tiessen-Raaphorst, A. (2016). Running across Europe: The rise and size of the largest sport markets. *European Journal for Sport and Society*, 13(1), 250-251. <https://doi.org/10.1080/16138171.2016.1226032>
- Tsiotsou, R. (2009, June 18-19). *An empirical analysis of the brand personality effect on brand involvement [Oral presentation]*. 8th International Conference of the International Association on Public and Non Profit Marketing, Valencia.
- Usakli, A. & Baloglu, S. (2011). Brand personality of tourist destinations: An application of self-congruity theory. *Tourism Management*, 32(1), 114-127. <https://doi.org/10.1016/j.tourman.2010.06.006>
- Walsh, P., Clavio, G., Lovell, M.D. & Blaszk, M. (2013), Differences in event brand personality between social media users and non-users. *Sport Marketing Quarterly*, 22(1), 214-223.
- Wang, J.J., Wann, D.L., Lu, Z. & Zhang, J.J. (2018). Self-expression through sport participation: Exploring participant desired self-image. *European Sport Management Quarterly*, 18(5), 583-606. <https://doi.org/10.1080/16184742.2018.1446994>
- Yurdugül, H. (2007). The effects of different correlation types on goodness-of-fit indices in first order and second order factor analysis for multiple choice test data. *Elementary Education Online*, 6(1), 154-179.