Adaptation of the Light Triad Scale to Turkish: A Validity and Reliability Study

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Abstract

This study aims to adapt the light triad scale of participants to Turkish. The research carried out for this purpose includes the validity and reliability process in the scale adaptation stage. In line with, an application was made to 139 participants who received postgraduate education in different branches in the field of physical education and sports sciences. The scale developed by Kaufman, Yaden, Hyde, and Tsukayama (2019) consists of 12 items. It consists of three sub-factors: belief in humanity, humanism, and Kantianism. The data collected with the language validity scale were processed into the SPSS-25 package program. Item-total correlation analysis was performed to test the internal validity of the items on the scale. In order to test the confirmation of the previously defined structure of the scale, confirmatory factor analysis was performed using the AMOS-25 package program. Cronbach Alpha and Gutmann coefficients were calculated in testing the reliability analysis of the scale. In the study, it was concluded that previously defined structure was confirmed and the items were distinctive, and their internal validity was ensured within the Turkish adaptation of the three-factor, 12-item light triad scale. It was determined that the reliability coefficients of the sub-factors and general of the scale are at an acceptable level. İt was concluded that the 3-factor, 12-item structure of the light triad scale, which was adapted into Turkish, was valid and reliable. The structure of the scale adapted within the scope of the research can be retested in larger samples and in each branch.

Keywords: Light Triad, Belief in humanity, Humanism, Kantianism, Scale adaptation

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Aydınlık Üçlü Ölçeğinin Türkçe'ye Uyarlaması: Geçerlik ve Güvenirlik Çalışması

Öz

Bu araştırmada katılımcıların aydınlık üçlü ölçeğinin Türkçe'ye uyarlamasını yapmak amaçlanmıştır. Bu amaç doğrultusunda yapılan araştırma ölçek uyarlama aşamasında geçerlik ve güvenirlik sürecini içermektedir. Bu bağlamda beden eğitimi ve spor bilimleri alanında farklı branşlarda lisansüstü eğitim gören 139 katılımcıya uygulama yapılmıştır. Kaufman, Yaden, Hyde ve Tsukayama (2019) tarafından geliştirilen ölçek toplam 12 maddeden oluşmaktadır. İnsanlığa inanç, insancılık ve kantçılık olmak üzere üç alt faktörden oluşmaktadır. Dil geçerliği sağlanan ölçek ile toplanan veriler SPSS-25 paket programına işlenmiştir. Ölçekteki maddelerin iç geçerliğinin test edilmesinde madde toplam korelasyon analizi yapılmıştır. Ölçeğin daha önceden tanımlanan yapısının doğrulanma durumunun test edilmesi için AMOS-25 paket programı kullanılarak doğrulayıcı faktör analizi yapılmıştır. Ölçeğe ait iç tutarlığa dayalı güvenirlik analizlerinin test edilmesinde Cronbach Alpha ve Gutmann katsayıları hesaplanmıştır. Yapılan araştırmada üç faktörlü 12 maddelik aydınlık üçlü ölçeğinin Türkçe uyarlamasında daha önceden tanımlanan yapının doğrulandığı maddelerin ayrt edici ve iç geçerliklerinin sağlandığı sonucuna ulaşılmıştır. Ölçeğe ait alt faktörlerin ve genelinin güvenirlik katsayılarının kabul edilebilir düzeyde olduğu tespit edilmiştir. Sonuç olarak Türkçe uyarlaması yapılan aydınlık üçlü ölçeğinin 3 faktörlü 12 maddelik yapısının geçerli ve güvenilir bir şekilde çalıştığı sonucuna ulaşılmıştır. Araştırma kapsamında uyarlaması yapılan ölçeğin çok daha büyük örneklemlerde ve her bir branş bazında yapısının doğrulanma durumu bir daha test edilebilir.

Anahtar kelimeler: Aydınlık Üçlü, İnsanlığa inanç, İnsancılık, Kantçılık, Ölçek uyarlama

Introduction

The rapid changes in technology and socio-economic aspects have featured individual and individuality in social and working life. Research about personality has become a focal point in other disciplines (organization, management, sociology, etc.) (Ağralı-Ermiş et al., 2018).

In this regard, studies on the negative aspects of personality traits have increased in different fields of science. In one of these studies, we face the concept of the "dark triad," which includes subclinical (non-clinical) narcissism, Machiavellianism and subclinical psychopathy, which has been referred to as "Dark Side of Personality" recently and brought to the literature by Paulhus and Williams (2002) (Şahin and Ağralı-Ermiş; 2020).

Dark personality traits, a concept first used by Paulhus and Williams in 2002, reveal that there is a malicious side in human nature and its effects on humans. Accepting this inevitable fact leads to the development of the literature on the dark side of the personality and the possibility of better understanding and managing this aspect of humanity.

Of course, it is inconvenient to focus on only one aspect of humanity as in the past, so focusing on dark personality traits alone may produce wrong results. At this point, it is thought that examining the light side of the personality or the light personality traits and the dark personality traits together will yield more useful results. In the literature, light personality traits first appeared in Johnson's thesis in 2018, whereas in 2019, it found a place in the literature as a new concept emphasized by Kaufman et al. (Polatcı & Yeloğlu; 2021).

These positive personality traits, reflecting caring and beneficent orientation toward other people, inhibit the generation of malevolent creativity among subordinates in response to abusive supervision and negative emotional reactions (Kaufman et al., 2019)

The concept of the Light Triad consists of three characteristics: Kantianism, Humanism, and belief in humanity. According to Kantianism, our behavior towards people should be determined not because they are valuable for a purpose but because people themselves are valuable. In other words, people should be treated well, not because they serve a purpose (as a means) but because they are valuable. Kantianism, which is the conceptual opposite of Machiavellianism, one of its dark triad features, is based on the philosophy of Immanuel Kant, as the name suggests. Humanism is defined as valuing the worth and dignity of each individual. Finally, belief in humanity refers to a belief that people are basically good. These characteristics indicate the attitudes of the person toward another person (Tekeş and Pıçaksız; 2021).

When the national literature is examined, it is noteworthy that the concept of light personality is new and that there are few studies on the concept (Polatçı and Yeloğlu, 2021; Özgür and Sökmen, 2021; Tekeş and Bıçaksız, 2021; Erhan, 2022). There are also limited studies in the international literature (Gerymski and Krok, 2019; Rodríguez et al., 2021; Khan et al., 2021; Krok et al., 2022; Farah Bijari et al., 2022). In this study, it was aimed to adapt the 12-item light triad scale developed by Kaufman et al. in 2019 to the Turkish sample and to test its validity and reliability, taking into account the gap caused by the limited number of studies in the national and international literature on light personality traits and the shortcomings in the adaptations.

Method

Research Model

This study aimed to adapt the Light Triad Scale (LTS) developed by Kaufman et al. (2019) into Turkish and to determine the validity and reliability of the adapted scale. In this direction, the study is descriptive research.

Descriptive research tries to explain the relationships between the variables examined by taking into account the previous situations of the examined events. (Brown, Cozby, Kee & Worden, 1999).

Study Group

The sample of the study consists of 139 volunteer students who receive postgraduate education in the field of sports sciences. In the determination of the research sample, the easily convenience sampling method was preferred.

Validity and reliability analyses were performed on the collected data. The distribution of the demographic characteristics of the students is shown in Table 1.

Table 1

Frequency and Percentage Distributions of Students' Demographic Characteristics

	Categories	*f*	**%**
Gender	Female	65	46,8
	Male	74	53,2
Marital Status	Single	94	67,6
	Married	45	32,4
The Department	Sports Management	48	34,5
	Movement and Training	32	23,0
	Physical Education and Sports	47	33,8
	Recreation	7	5,0

	Psychosocial Areas in Sports	5	3,6
Total		139	100,0

In Table 1, when the distribution of students by gender is analyzed, 65 (46.8%) of the students are female, and 74 (53.2%) are male participants. Considering the distribution of the students according to their marital status, it consists of 94 (67.6%) single and 45 (32.4%) married participants. When the distribution of the students is examined according to their departments, there are 48 (34.5%) participants studying in the sports management department, 32 (23.0%) participants studying in the movement and training department, 47 (33.8%) participants studying in the physical education and sports department, 7 (5.0%) participants studying in the recreation department and 5 (3.6%) participants studying in the psychosocial areas of sports. In general, 139 (100.0%) participants participated in the scale adaptation study.

Data Collection Tool

The scale developed by Kaufman, Yaden, Hyde, and Tsukayama (2019) consists of a total of 12 items, and Humanism 5-8, belief in humanity 1-4, and Kantianism 9-12 variables are each measured with four items. There are no reverse items on the scale. The original scale was developed in English, and the internal consistency coefficient (Cronbach's Alpha) was reported to be 0.84. The internal consistency coefficients of each subscale were found to be 0.76 for the Humanism factor, 0.80 for the belief in humanity factor, and 0.67 for the Kantianism factor. Scale items require evaluation on a 5-point Likert-type (1 = strongly disagree; 5 = strongly agree) scale, and high scores indicate high levels in the relevant feature. The total scale score can also be used, and high values of this total score reflect high levels in the three related features.

Data Collection Tool Adaptation Steps

In the scale adaptation process, the steps defined in some studies were examined, and the research process was planned (Hambleton, Merenda, & Spielberger, 2004; International Test Commission, 2017). As a first step, the purpose of the research was determined. In the second step, instead of developing a new scale, it was decided to adapt the previously developed scale to Turkish because it would be more convenient and useful in terms of time and economy to adapt an existing scale. In the third step, permission was obtained from the authors before the Turkish adaptation of the scale developed by Kaufman, Yaden, Hyde, and Tsukayama (2019). Three qualified English language experts were selected in the fourth step, and the items were translated into Turkish. In the fifth step, another three English Language experts were selected, and the scale items, which were adapted into Turkish, were translated back into English, and a one-to-one comparison was made with the items in the original form. As a result of the comparison, it is seen that both forms show

equivalence. As the sixth step, the 12-item scale adapted into Turkish was reviewed by two experts, an assessment and evaluation specialist, and a Turkish language expert, and evaluated in terms of compatibility with the adapted culture and intelligibility. In the seventh step, ten students from different branches read these items and evaluated them in terms of intelligibility. In the eighth step, after the Turkish adaptation of the scale developed on the students was made, its final form was given, and the scale, which was designed to be answered in the form of a 12-item 5-point Likert scale, was applied to 139 students working in different branches so that validity and reliability analyses could be made. In the ninth step, in order to reveal the same structure of the scale with the data collected as a result of the application, the scale was given its final form after analyses such as exploratory factor analysis, internal validity, construct validity for the confirmation of the construct, and internal consistency reliability analysis were performed.

Data Analysis

The data collected within the scope of the research were processed into the SPSS-24 package program. In the study of adapting the Light Triad Scale (LTS) to Turkish culture, confirmatory factor analysis was performed to confirm the three-factor, 12-item structure of the scale in order to determine the construct validity. During the adaptation of the scale to Turkish, the AMOS-25 package program was used for confirmatory factor analysis. T statistics were used to reveal the distinctiveness of the item by comparing the 27% of the subgroups and supergroups, and item-total correlation analyzes were used to provide evidence for the internal validity of the item. In order to determine the reliability of the scores obtained from the scale, Cronbach Alpha and Guttman values were calculated. The criteria determined by Schermelleh-Engel, Moosbrugger and Müller (2003), and Byrne (2013) were taken into consideration in the interpretation of the fit index values obtained as a result of confirmatory factor analysis.

Findings

Item Discrimination and Internal Validity of the Scale

After the Turkish adaptation of the three-factor 12-item structure of the Light triad Scale (LTS), developed by Kaufman, Yaden, Hyde, and Tsukayama (2019), 27% of the subgroup-supergroup for item discrimination and item-total correlations in terms of internal validity were examined through the data collected from 139 participants. Table 2 shows the t statistics for item discrimination and item-total correlation analyzes of the scale.

Table 2

Statistics and Item Total Correlation Values for 27% of Sub-Supergroup of Items

Items	t statistics	Item Total Correlation Value
I1	6.96*	0.57*
I2	5.75*	0.35*
I3	5.58*	0.44*
I4	5.17*	0.48*
I5	6.24*	0.40*
I6	6.18*	0.45*
I7	9.97*	0.56*
I8	7.44*	0.50*
I9	5.02*	0.52*
I10	3.77*	0.58*
I11	4.35*	0.51*
I12	3.72*	0.62*

*$p<.05$

Looking at Table 2, as the maximum point of item discrimination and representativeness of groups, 27% of the sample should be compared to see if each item distinguishes between the participants with a low score on the light triad scale and the participants with a high score from the light triad scale by comparing the mean values of the individuals in the subgroup with the mean values of the individuals in the supergroup group (Kelley, 1939). In this context, it is seen that the t statistics regarding the difference between the mean scores of the group (n=38), constituting 27% of the 139 participants, show a significant difference in favor of the supergroup in 12 items according to $p<.05$. When the results of the item-total correlation analysis calculated for 12 items for internal validity are examined, it is seen that the correlation values of the items in the scale vary between 0.35 (m2) and 0.62 (m12) and are significant at the 0.05 level. As proof that the feature to be measured with the scale can be measured with each item, the item-total correlation values were examined.

Findings Related to Confirmatory Factor Analysis of the Scale

Figure 1 shows the measurement model for the confirmation of the three-factor 12-item structure of the Light Triad Scale (LTS), which was adapted into Turkish and developed by Kaufman, Yaden, Hyde, and Tsukayama (2019), with the data collected from the participants. In the three-dimensional structure, it was determined that the first four items (m1, m2, m3, m4) measure the "belief in humanity" dimension, and the next four items (m5, m6, m7, m8) measure the "Humanism" dimension, and the last four items (m9, m10, m11, m12) measure the "Kantianism" dimension. Confirmatory factor analysis was performed to examine the one-dimensional structure of LTS. Since the multivariate normal distribution assumption was not provided during the

confirmatory factor analysis, the maximum likelihood based on the asymptotic covariance matrix was used by using the robust estimation method.
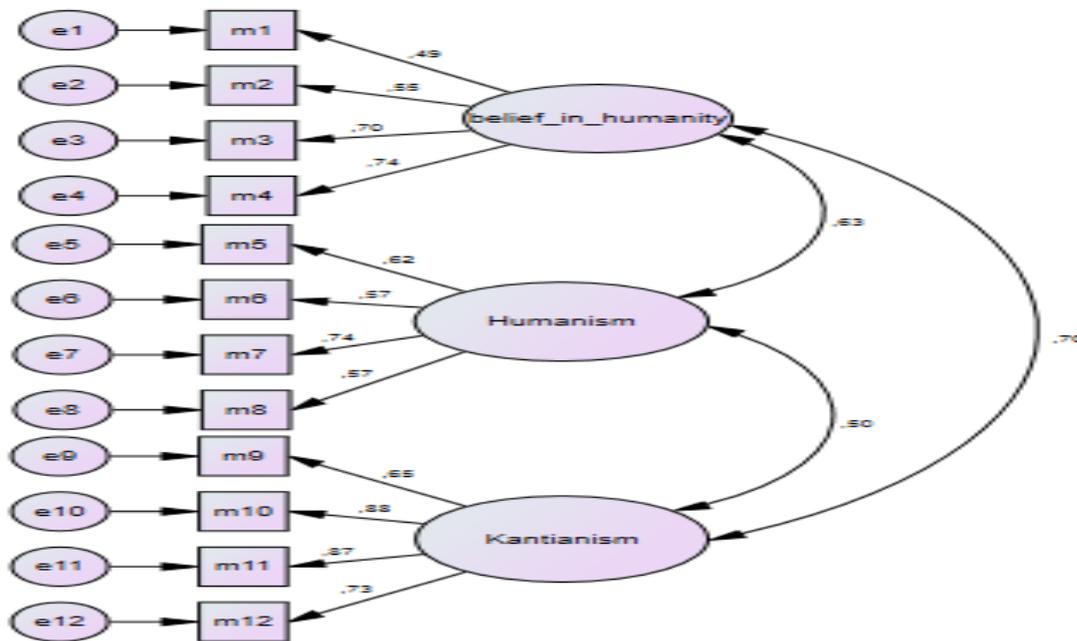

Figure 1: 1st *Level Three-Factor DFA Model*

While performing the confirmatory factor analysis, the fit index and factor load values were examined, and the model data fit was evaluated.

Table 3

Fit Index Values Regarding the Measurement Model

Fit Index	Measurement Model	Perfect Fit Criteria	Acceptable Fit Criteria	Evaluation
$\chi 2/$ (df)	151.54/(51)= 2.97	$0 \leq \chi^2 \leq 3$	$3 < \chi^2 \leq 5$	Perfect Fit
RMSEA	0.071	$0 \leq RMSEA \leq 0.05$	$0.05 < RMSEA \leq 0.08$	Acceptable Fit
TLI/NNFI	0.95	$0.97 \leq TLI \leq 1.00$	$0.95 \leq TLI < 0.97$	Acceptable Fit
CFI	0.96	$0.97 \leq CFI \leq 1.00$	$0.95 \leq CFI < 0.97$	Acceptable Fit
NFI	0.93	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI < 0.95$	Acceptable Fit
AGFI	0.87	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI < 0.90$	Acceptable Fit
GFI	0.92	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI < 0.95$	Acceptable Fit
Factor Load Values	Minimum	0.50	Maximum	0.88

When we look at Table 3, this value is calculated as 2.97 when $\chi2/$ (df) is considered, and when compared with the table value, it is seen that it has an acceptable fit index (Byrne, 2013). Considering the RMSEA fit index, it has an acceptable fit index with a value of 0.071. When TLI/NNFI, CFI, NFI, AGFI and GFI values are examined, it is seen that it has an acceptable fit

index (Schermelleh-Engel, Moosbrugger & Müller, 2003). In general, when the fit index values of the measurement model established with the data collected from the participants are examined, it is seen that the model is confirmed. When the factor loading values of the items are examined, it varies between a minimum of 0.50 and a maximum of 0.88. The Cronbach's alpha and combined reliability Guttman values for each sub-dimension and for the three-dimensional structure of the LTS are given in Table 4.

Table 4

Reliability of Scores for the Three-Dimensional Structure of LTS and for the Overall Scale

	Cronbach Alpha	Guttman
Belief in Humanity	0.71	0.74
Humanism	0.71	0.72
Kantianism	0.86	0.88
Overall Scale	0.83	0.88

When Table 4 is examined, Cronbach's alpha and Guttman values were calculated for each sub-dimension of the LTS and the overall scale. Tezbaşaran (1997: 47) states that a reliability coefficient that can be considered sufficient in a Likert-type scale should be as close to 1 as possible. According to Özdamar (1999), a Cronbach Alpha reliability value between 0.60 and 0.80 is acceptable, between 0.80 and 0.90 indicates a high level of reliability, and between 0.90 and 1.00 indicates a very high level of reliability. In this context, it is seen that the scores obtained from Cronbach Alpha and Guttman reliability are in acceptable and high-level ranges.

Discussion and Conclusion

The Turkish adaptation of the three-factor, 12-item light triad scale was made in the study. The same scale three-factor structure confirmatory factor analysis was performed by Tekeş and Bıçaksız (2021), and it is seen that the CFI and NFI values, in which the data fit was achieved, were slightly lower. It was concluded that the model was validated because the other fit index values were at an acceptable level. At the same time, it is seen that the reliability coefficients for the sub-factors are slightly lower. Özgür and Sökmen (2021) performed exploratory factor analysis in the scale adaptation study, and three items in the original structure were excluded from the study, and analyses were made with nine items. Confirmatory factor analysis was performed, but fit index values were not reported, but some evidence of validity was included. It is seen that the reliability coefficients of the scale are at an acceptable level. After examining the scale adaptation studies, it was concluded that a new scale adaptation study was needed to ensure language validity in a different sample.

In this context, confirmatory factor analysis of the previously defined structure was conducted in light of the data collected from the participants who received postgraduate education in the field of sports sciences. It was concluded that the previously defined 12-item structure with three factors was confirmed. In light of the data collected from the participants who had postgraduate education in the field of sports sciences, it was determined that the items in the scale were sufficient to distinguish between the participants with high perception and those with low perception. When the item-total correlations of the scale are examined, it is seen that the feature to be measured with the overall scale and the feature to be measured with each of the items are the same, which is determined through the item-total correlation analysis based on the internal validity of the items. When the fit index values were examined as a result of the confirmatory factor analysis of the scale, it was concluded that the structure in which the fit index values of the model were confirmed worked for the participants who had a graduate education in the field of sports sciences. It was determined that the item factor loads obtained from the confirmatory factor analysis were high. When the reliability values based on the internal consistency coefficients of the sub-factors and general items of the scale were examined, it was concluded that the scale had an acceptable level of reliability. It was concluded that the scale adapted into Turkish by following the scale adaptation steps is a valid and reliable scale.

Recommendations

Confirmation of the structure of the scale adapted within the scope of the research in larger samples and on the basis of each branch can be retested. By testing the measurement invariance according to the branches of the participants and their gender, it can be checked whether they work similarly in each subgroup. After the structure is confirmed by applying to larger samples, the differences between the sub-factors and overall score distributions of the scale can be tested according to the demographic characteristics of the participants. Homogeneity of test validity can be tested by applying the scale testing the similar structure, validity, and reliability analyses that have been done before and the adapted scale to the same group. Test-retest reliability can be tested by applying the scale twice to a group of students with the same characteristics in different time periods.

Ethics Committee Permission Information

Ethical evaluation: Gazi Üniversitesi Etik Komisyonu

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Authors' Contributions

Both authors contributed equally at all stages of the research.

Conflicts of Interest

The authors declare that they have no competing interests.

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