Sports Supplement Belief Scale: Reliability and Validity Studies for Students Studying Sports Sciences Field at University

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Research Article

Abstract

This study aims to conduct reliability and validity studies of sports supplement belief scale for students in sport sciences. The scale adaptation method of research design was used. The research was conducted on two different study groups. The first working group, consisting of 76 people, represents the target value for which the exploratory factor analysis was conducted. One hundred forty university students were recruited in second study group. Data collected with the translated version of the Sports Supplement Belief Scale. In the study, a linguistic equivalence study was carried out, and it was determined that the correlations between the items in Turkish and the original form varied between 87 and 95. Attitude Factors Towards Sports Supplement scale was used for criterion-related validity. Exploratory, Confirmatory Factor Analysis and convergent and divergent validity methods were used for validity in the study. Exploratory and Confirmatory Factor Analysis was used for validity, while Cronbach's Alpha internal consistency coefficient was calculated for reliability. The scale was unidimensional and contributed to total variances at 69,379%. The fit indexes calculated after confirmatory factor analysis was at a good and acceptable level, as indicated in the literature. Convergent validity and its consequences; AVE>,5; Results were obtained as CR>,7 and CR>AVE, and for divergent validity, MSV<AVE, ASV<AVE. Cronbach's Alpha was ,912, indicating that the scale was reliable when compared with values in the literature. According to item analysis results, item-total correlations of sports supplement belief scale ranged between ,819 and ,614. Moreover, significant differences were found between the upper and lower 27% groups. It has been concluded that the sports supplements belief scale is a valid and reliable measurement tool for use in students studying in sports sciences.

Keywords*: Sports nutrition, Nutritional supplement, Belief, Scale adaptation*

Spor Besin Takviyeleri İnanç Ölçeği:
Spor Bilimlerı Alanında Öğrenim Gören Üniversite Öğrencilerine Yönelik Geçerlilik ve Güvenilirlik Çalışması

Öz

Bu araştırmanın amacı; spor takviye besin maddelerine yönelik geliştirilen spor besin takviyeleri inanç ölçeğinin spor bilimlerinde öğrenim gören ünİersite öğrencilerine yönelik geçerlik ve güvenirlik çalışmalarının yapılmasıdır. Çalışmada araştırma desenlerinden ölçek uyarlama yöntemi kullanılmıştır. Araştırma iki farklı çalışma grubu üzerinden yürütülmüştür. Birinci çalışma grubu 76 kişiden oluşan açımlayıcı faktör analizi yapılan hedef kitleyi temsil etmektedir. İkinci çalışma grubu ise, doğrulayıcı faktör analizi yapabilmek için spor bilimleri alanında öğrenim gören toplam 140 üniversite öğrencisi oluşturmaktadır. Araştırmada veri toplama aracı olarak "Sport Supplement Belief Scale", Türkçeye "Spor Besin Takviyeleri İnanç Ölçeği" olarak çevrilen ölçek kullanılmıştır. Araştırmada dilsel eşdeğerlik çalışması yapılmış, Türkçe ve orijinal formda yer alan maddeler arasındaki korelasyonların ,87 ile ,95 arasında değiştiği tespit edilmiştir. Ayrıca ölçüt geçeliğini sağlamak içinde "Sporcu Besin Desteği Tutum Faktörleri Ölçeği" kullanılmıştır. Araştırmada geçerlik için açımlayıcı, doğrulayıcı faktör analizi ve yakınsak ve ıraksak geçerlilik yöntemleri kullanılmıştır. Güvenirlik için ise Cronbach alpha iç tutarlılık katsayısı yöntemleri kullanılmıştır. Açımlayıcı faktör analizi sonucunda toplam varyansın %69,379 olduğu ve ölçeğin tek faktörlü yapıya sahip olduğu tespit edilmiştir. Ölçek uyarlama sürecinde doğrulayıcı faktör analizi sonucunda elde edilen uyum değerlerinin alanyazında belirtilen iyi ve kabul edilebilir değerlere sahip olduğu sonucuna ulaşılmıştır. Yakınsak geçerlilik ve sonuçları; AVE>,5; CR>,7 ve CR>AVE, ıraksak geçerlilik için ise MSV<AVE, ASV<AVE şeklinde sonuçlar elde edilmiştir. Güvenilirlik testi sonucunda, Cronbach alpha katsayısı ,912 olarak tespit edilmiştir. Bu değer alanyazında var olan değerler ile karşılaştırıldığı zaman ölçeğin güvenilir olduğu sonucuna ulaşılmaktadır. Madde analizi testi sonuçlarına göre, spor besin takviyeleri inanç ölçeği madde toplam korelasyonu ,819 ile ,614 arasında değişiklik göstermektedir. Ayrıca alt %27 ve üst %27 grupların maddeler açısından değerlendirilmesi sonucunda anlamlı farklılıklar tespit edilmiştir. Çalışma sonucunda spor besin takviyeleri inanç ölçeğinin spor bilimlerinde öğrenim gören öğrencilerinde kullanılması için geçerli ve güvenilir bir ölçme aracı olduğu sonucuna ulaşılmıştır.

Anahtar kelimeler: *Sporcu beslenmesi, Besin takviyesi, İnanç, Ölçek uyarlama*

Introduction

Successful performance in sport, as well as the contribution of talent, is determined by the athlete's capacity to produce work or spend energy. The training produces a set of physiological adaptations that allow the athlete to produce more work and delay the onset of fatigue. However, the athlete must prepare for competition by understanding the factors that limit performance in a particular event and taking additional steps to reduce the effects of these factors (Burke and Read, 1989). Adaptation to the current competitive conditions in sports can be achieved through a healthy and adequate diet. Adequate nutrition is an essential factor in minimizing injuries and optimizing sporting performance, as well as maintaining health, growth, and maturation (Meyer, Connor and Shirreffs, 2007).

Nutrition plays a vital role in sports performance (Saura, Rentero and Hernández, 2019). Athletes' food preferences will affect performance both inside and outside the competition through effects on fitness and health. Compared to factors such as talent, training, motivation, and injury resistance that determine performance in sports, the place

of nutrition can be seen less. However, good nutritional options can compensate for lack of ability or education. Moreover, a proper diet helps talented and motivated athletes to make the most of their potential (Maughan, Depiesse and Geyer, 2007).

In the past 20 years, researchers have documented the benefits of nutrition on exercise (Torres-McGehee et al., 2012). Sports nutrition includes the science and application of food consumption to optimize and adapt to exercise (Burke and King, 2012). Any athlete who wishes to maximize exercise gains and competitive performance should focus on proper nutrient and nutrient intake in the sports field he/she is engaged in. This includes taking the appropriate type and amount of nutrients before, during, and immediately after their training or competition (Zoorob, Parrish, O'Hara and Kalliny, 2013).

A long and continuous exercise alone is not enough to achieve the highest performance in sports. Besides, it is necessary to apply methods that can speed up or facilitate body renewal processes and shorten the balancing time in order to consume energy (Apostu, 2014). Among these methods, nutrition of the athlete and supplementary food intake also plays an important role. Nutrition in sports plays an essential role in the performance of the athlete in the competitive process. In addition to nutrition, supportive products contain supplement foods that will help athletes achieve the desired performance level in less time. Athletes of all ages and abilities commonly use sports nutritional supplements to improve performance, promote healing, and correct or prevent nutritional deficiencies (Maughan et al., 2018). These nutrients are composed of compounds that do not have doping properties (Molinero and Marquez, 2009). Sports nutritional supplements, also called ergogenic aids, can be expressed as substances or strategies that improve athletic performance by improving energy production (Dunford and Smith, 2006). Sports nutritional supplements, namely ergogenic aids, can be defined as mechanical, nutritional, pharmacological, physiological, and psychological tools used by athletes to increase energy, performance, and recovery. Commonly used ergogenic aids include dried adrenal glands, amino acids, bee pollen, caffeine, carnitine, chromium, creatine, ginseng, glucosamine, and protein powders as side effects from high doses, allergic reactions, central nervous system and gastrointestinal disorders and kidney damage can be mentioned (Marcus, 2013). Therefore, proper dosage and usage are critical in sports in terms of performance and health (Slater, Tan and Teh, 2003).

In the studies conducted, it has been determined that university students studying in the field of sports sciences use some drugs, powders or similar supplements as dietary supplements (Şirinyıldız, Cesur, Alkan and Ek, 2017; Çetin, Dölek and Orhan, 2008). The presence of excessively positive attitude, belief, or perception in the use of nutritional supplements will lead to the use of nutritional supplements that will adversely affect health. For this reason, the sports supplement belief scale was developed by Hurst, Foad, Coleman, and Beedie (2017) in line with the view that individuals who believe in the use of food supplements at extreme ends will also increase the tendency towards doping and similar banned substances. The scale is used to evaluate athletes' beliefs about dietary supplements. With the increase in the average score on the scale, there is an opinion that

the percentage of negative behaviors emerging in the future is high. For this reason, it was aimed to determine the nutritional supplement usage belief scores of the athletes and to prevent the negative behavior of the athletes at the extreme points.

University students studying in the field of sports sciences are prospective teachers, coaches, or a sports manager candidate in the future. Individuals who will be familiar with these qualifications are expected to have a high level of awareness of sports nutritional supplements. It is needed that validity and reliability studies of sports supplement belief scale should be conducted with the participation of this group to prevent them from negative diet behaviors and encourage them to avoid inappropriate supplement intake by informing the students about nutritional supplements. This study aims to conduct reliability and validity studies of sports supplement belief scale developed by Hurst, Foad, Coleman, and Beedie (2017) for students in sport sciences. This is the first time this scale is translated into a different language and adapted to a different culture.

Method

Sample

Relationship coefficients tend to be less reliable if estimated from small samples. It is, therefore, important that the sample size is large enough to determine the relationships reliably. In the literature, it is stated that the sample size between 100 and 200 is sufficient, especially when the factors are strong and evident, and the number of variables is not too large. It is also stated that the sample size should be at least five times the number of observed variables (Büyüköztürk, 2002). In the light of this information, separate samples were used for Exploratory and Confirmatory factor analyzes.

Exploratory Factor Analysis Sample

To run EFA, 76 students in sports sciences were recruited. 59 males (77,6%) and 17 females (22,4%) constituted the sample. The participants were between the ages of 18 and 28. The participants reported to have experiences in sport as less than a year (n=10; 13,2%), between 1 year and 3 years (n=12; 15,8%), between 4 and 6 years (n=12; 15,8%), and 7 years and above (n=42; 55,3%). The branches classified as individual (n=32; 43,4%) and team sports (n=44; 56,6%). The participants responded to the question whether they had used supplement before as yes (n=32; 42,1 %) and no (n=44; 57,9 %).

Confirmatory Factor Analysis Sample

140 students in sports sciences were recruited to run CFA. Since the number of items in the adapted scale is 6, it can be seen that the number of study groups overlaps with the numbers recommended in the literature. There were 89 males (63,6%) and 51 females (36,4%). Participants were between the ages of 18 and 27. Sporting year ranged between 7 years and more (n=77; 55%), 4-6 years (n=29; 20,7%), 1-3 years (n=22; 15,7%), under 1 years (n=12; 8,6%). Participants reported to compete in individual sports (n=74; 52,9%) and team sports (n=66; 47,1%). Participants responded to the question of "have you ever

used sports nutrition supplements (amino acid, protein powder, carnitine)" with yes (n=53; 37,4%) and no (n=87; 62,1%).

Data Collection Tools

Data collected with the translated version of the Sports Supplement Belief Scale. Attitude Factors Towards Sports Supplement scale was used for criterion-related validity.

Sports Supplements Belief Scale

Sports Nutritional Supplements Belief Scale went through five stages of development. In the first stage, semi-structured interviews were conducted on 16 athletes, and beliefs of athletes about sports supplements were evaluated. An item pool consisting of 26 items was created with inductive and inductive analysis. In the second stage, the experts' panel was created. Experts evaluated 26 items and suggested removing 15 items from the pool. In the third stage, the structure of the scale fulfilled by 171 student-athletes was analyzed with exploratory factor analysis. EFA revealed a two-factor structure for the scale. The first factor had six items, and the second factor had four items, while a cross-loaded item was detected. In the fourth stage, the answers given by 412 team athletes to the questions were subjected to confirmatory factor analysis.

A model showing the best fit of the six-factor single-factor model was obtained from the three-factor model tested ($2/df = 2,894$, RMSEA = 0,068; % 90 CI = 0,038 and 0,099, p> 0,146, SRMR=0,0246, CFI=0,987, TLI=0,978, AIC=50,045, EVCI=0,122). The factor loads of the measuring instrument ranged from 0,4 to 0,9. All t-values were statistically significant (p<0,001). In the fifth stage, the relations between the scores obtained from the six-item scale and the further use were examined. Linear regression showed that higher scores were significantly associated with higher number of supplements (=0,534, p<0,001, r^2=0,285) and higher supplementation frequency (=−0,517, p<0,001, r^2 = 0,267) (Hurst et al., , 2017).

Attitude Factors Towards Sports Supplements Scale

Attitude Factors Towards Sports Supplement Scale is a 5-point likert-type scale developed by Argan and Köse (2009). The scale has 13 items with three factors. These factors are related to benefits, side effects, and ethical and natural nutrition. In this study, benefit sub-dimension items were used to test similar scale validity (criterion validity).

Table 1. Reliability average, standard deviation, skewness and kurtosis scores for different samples

	Sample size	Cronbach Alpha	Mean	Sd	Skewness	Kurtosis	VIF
1. Sport Supplement Belief Scale Sample 1 for EFA	76	,937	3,39	1,5	,109	-1,149	2.70-3.80
2. Sport Supplement Belief Scale Sample 2 for CFA	140	,912	3,27	1,4	,098	-,908	2.00-3.30

Since the Skewness and Kurtosis scores were between -2 and +2, the data displayed normal distribution (George and Mallery, 2010). Because VIF value was under 4, there were no multiple connections in data (Hair, Anderson, Babin and Black, 2010). It is suggested that the authors can choose a cutoff point for factor loadings (Çokluk, Şekercioğlu and Büyüköztürk, 2010). The cutoff point was set as 0.30.

Table 2. Correlation analysis for two different samples

Sample size: 76	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
Item 1	1					
Item 2	,630	1				
Item 3	,654	,753	1			
Item 4	,637	,662	,785	1		
Item 5	,641	,753	,762	,756	1	
Item 6	,787	,683	,734	,704	,747	1
Sample size :140	**Item 1**	**Item 2**	**Item 3**	**Item 4**	**Item 5**	**Item 6**
Item 1	1					
Item 2	,551	1				
Item 3	,523	,728	1			
Item 4	,525	,666	,707	1		
Item 5	,487	,703	,772	,724	1	
Item 6	,665	,542	,651	,565	,644	1

$p<0,01$

Table 2 shows the positive correlations between items in different sample groups (p<0,01).

Procedure

In the first stage of the adaptation of the scale, necessary permissions were obtained from the corresponding author (Hurst et al., , 2017). The English form of the scale was translated into Turkish by four academicians who are experts in the field. Three of these experts were in the field of sport sciences while one was in the field of English language teaching. The scale translated into Turkish has been translated into English, the original language of the scale, with the help of academicians who are experts in 4 different fields. After the back translation, it was concluded that the Turkish form of the scale is close to the English form. After the translation phase, necessary permissions were obtained to collect data. The scale was applied to students studying in different departments of the faculty of sports sciences within four weeks. The application time of the scale applied to university students competing in individual and team sports varied from approximately 1 minute to 3 minutes. Exploratory and confirmatory factor analysis was used for validity, while Cronbach's Alpha internal consistency coefficient was calculated for reliability. The upper and lower 27% group analysis was included in data analysis. Data were analyzed with SPSS 20 and AMOS 21.

Results

Linguistic Equivalence

A linguistic equivalence study was conducted in order to test the consistency between the Turkish form and the original form of the scale. In this context, first the original form of the scale and then the Turkish form was applied to 25 students studying at the English Language Teaching Program of the Faculty of Education at Burdur Mehmet Akif Ersoy University and the correlation between the two applications was examined.

Table 3. Linguistic equivalence results of sport supplement belief scale

Item	r
Item 1	.89
Item 2	.95
Item 3	.91
Item 4	.95
Item 5	.87
Item 6	.89

It is seen that the correlations between the items in the Turkish and original forms of the scale vary between .87 and .95. Based on these findings, it can be said that the Turkish form of the scale and the English form are linguistically equivalent.

The Construct Validity

Exploratory Factor Analysis

In exploratory factor analysis, factors are revealed based on the relationships between variables. Variables observed in exploratory factor analysis can be loaded on any one or more of the factors. However, in the confirmatory factor analysis, the theoretically predetermined factor structure is confirmed by the available data (Civelek, 2018).

Table 4. KMO and Bartlett's Sphericity value

Kaiser-Meyer-Olkin		,897
Bartlett's Sphericity	x^2	366,233
	df	15
	p	,000

Whether the data of the study is suitable for factor analysis was evaluated by Kaiser Meyer Olkin (KMO) coefficient and Bartlett's sphericity test (Table 4). KMO is a sample suitability test that measures the correlations between variables and the suitability of factor analysis (Albayrak, 2006).

Generally, KMO value is expected to be higher than 0,60 (Büyüköztürk, 2015; Albayrak, 2006). It is stated that the KMO value is excellent as it closes to 1, it is not

acceptable if it is below 0,50 (excellent in 0,90s, very good in 0,80s, mediocre in 0,70s and 0,60s, bad in 0,50s) (Tavşancıl, 2014; Çokluk et al., 2014; Hutcheson and Sofroniou, 1999). KMO test conducted within the scope of the research shows that 0,87 is among the values suggested in the literature.

Bartlett's test of Sphericity value is examined to proceed to exploratory factor analysis. This test is done to check whether the values are significant (Seçer, 2015), and this value is expected to be less than 0,05 (Çokluk et al., 2014). In other words, p<0.05 level means that the scale is useful in measuring the sub-dimensions of the phenomenon (Özdamar, 2016). As a result of the Bartlett Sphericity test conducted in this context, the p-value was found to be 0,00. It is seen that it is compatible with the value specified in the literature.
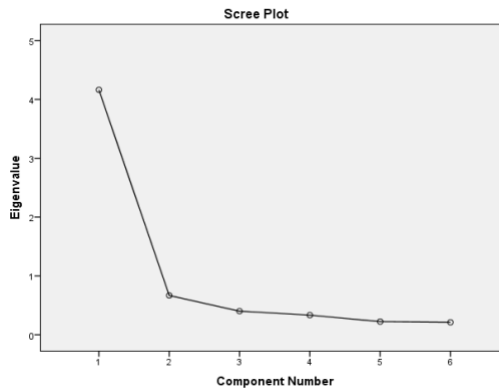

Figure 1. Line Graphic

In figure 1, when the line graph is evaluated, it is seen that there is a break after factor 1, and it is understood that the single factor structure of the scale is confirmed.

Table 5. EFA results

Item	Item Variance	Factor Loading
Item 1	,685	,828
Item 2	,732	,856
Item 3	,806	,898
Item 4	,756	,869
Item 5	,796	,892
Item 6	,791	,890
Eigenvalue		4,566
Total variance		**%76,094**

In table 5, the factor loadings of items of Sports Supplements Belief Scale ranged between ,737 and ,884. After these procedures, the exploratory factor analysis phase was started to determine the factors. Principal component analysis was chosen for EFA. The varimax rotating technique has been chosen, but no rotating process has been done since

the scale has a one-dimensional structure. A single dimension whose eigenvalue is greater than 1 (4,566) has been extracted, and its contribution to the general variance is 76,094%.

Confirmatory Factor Analysis

Confirmatory factor analysis is the careful use of existing and accepted hypotheses or emerging factors with variables. In other words, it is a method that tests the relations of the related factors. In this method, the factors or properties in the factors are tested for compliance with this factor or not (Hutcheson and Sofroniou, 1999). Confirmatory factor analysis is generally used in scale development and validity analysis and aims to verify a structure that is predetermined or constructed (Bayram, 2010). Confirmatory factor analysis is a type of structural equation modeling that deals with the relationship between measurement models, i.e., observed measurements or "indicators" (e.g., test items, test scores, behavioral observation ratings) and hidden variables (Hoyle, 2012).
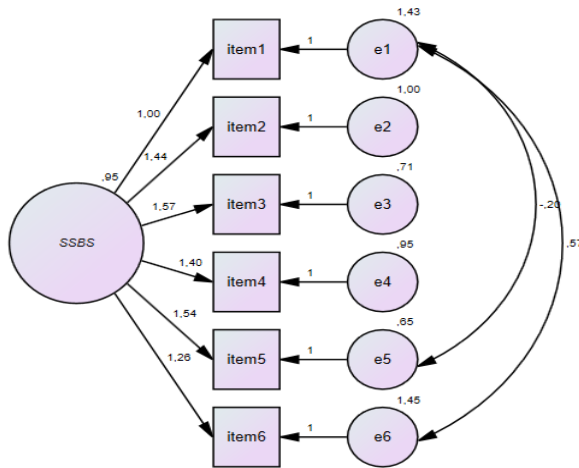

Figure 2. One-Factor Model of the Scale

In figure 2, SSBS is the abbreviation of the scale used in research Sports Supplement Belief Scale. According to the result of the confirmatory factor analysis; before modification, the values of; x2/df 4,091 RMSEA =149, %90 CI (101 and ,201) GFI, 930 AGFI 836, CFI 949, RMR ,131, IFI ,950, NNFI, 934 were found. After modification, the values of x2/df 1,220 RMSEA= 040, %90 CI (,000 and ,117) GFI ,981 AGFI 943, CFI 997, RMR 0,047, IFI 0,997, NNFI ,985 were found. As it is among the suggested values as a result of the information obtained from Tabachnick and Fidell (2015), Seçer (2015), Çokluk, Şekercioğlu and Büyüköztürk (2014), Bayram (2010), Çelik and Yılmaz (2013), Meydan and Şeşen (2015).

It can be concluded that the scale structure is confirmed. Among the questions in the sports supplements belief scale, covariance was established between item 1 and item 5, item 1 and item 6. When the literature is examined, considering that sports nutritional supplements directly affect the physical characteristics of athletes, such as increasing endurance and energy; covariance has been established between items since it can support

both sportive performance and training quality and the athlete's awareness of his/her potential (Aydoğdu, 2006; Williams, 2005; Bishop, 2010; Jung et al., 2017).

Concurrent Validity

Table 6. Concurrent validity results

Scale	Benefit Subscale
The sports supplements belief scale	Pearson Corelation = ,751
	P = ,00
	N= 140

In table 6 in order to determine the criterion-related validity of the scale, the benefit sub-factor of the attitude scale towards food supplement products developed by Argan and Köse (2009) was taken as the basis. A significant correlation of ,751 was found between the sports supplements belief scale and the benefit sub-dimension of the attitude factors towards the sports supplements scale.

Convergent and Divergent Validity

Table 7. Convergent and divergent validity results

	Standardized Factor Loading	CR	AVE	√AVE	MSV	ASV
Sports Supplement Belief Scale	Item 1= 0,633					
	Item 2= 0,815					
	Item 3= 0,876	0,910	0,630	0,794	0,158	0,180
	Item 4= 0,815					
	Item 5= 0,881					
	Item 6= 0,716					

As it is seen in table 7, to test the reliability and internal consistency, composite reliability and Cronbach's alpha coefficient were calculated. To ensure composite reliability, the scores should be as AVE>,5; CR>,7 and CR>AVE; to ensure discriminant validity, the scores should be as MSV<AVE, ASV<AVE (Gürbüz, 2019). Accordingly, appropriate results were obtained for composite reliability and discriminant validity.

Reliability

Cronbach's alpha coefficient was calculated for reliability. Cronbach's alpha coefficient of the scale was found to be 912. The value obtained with this method to test the reliability of the scale shows that it is sufficient for the reliability of the scale according to the literature (Alpar, 2010; Büyüköztürk, 2015).

Table 8. Item analysis

Item	Item Correlations	t Upper and Lower %27
Item 1	,641	-19,596
Item 2	,763	-24,204
Item 3	,819	-18,637
Item 4	,763	-19,696
Item 5	,805	-32,649
Item 6	,724	-40,252

In table 8 item analysis was examined by calculating the item-total correlation and the difference between 27% lower and 27% upper group items. Item-total score correlation explains the relationship between the scores obtained from the test items and the total score of the test, and the correlation values should be greater than .20 (Büyüköztürk, 2015, p.183). When the item analysis table is examined, the total correlation of the items of sports supplements belief scale ranged from ,819 to ,641. Since this value is higher than 20 the results were acceptable.

Besides, as a result of evaluating the lower 27% and upper 27% groups in terms of items, significant differences were found between the t-values (p<0,05). The difference between the item mean scores of the lower 27% and upper 27% groups is tested using an independent t-test. Significant differences between the groups (p<0,05) are considered as an indicator of the internal consistency of the test. In other words, the results of the analysis show how much the items differentiate individuals in terms of measured behavior (Büyüköztürk, 2015).

Discussion and Conclusion

This research aims to ensure the validity and reliability of the sports supplement belief scale developed by Hurst, Foad, Coleman and Beedie (2017) for university students studying in the field of sports science.

During the adaptation of the scale, it was translated into Turkish by academicians who were experts in the field and then translated back to English, which was the original language by different academicians who were experts in the field. After the back translation, the scale was found to be similar between Turkish and its original language. According to the results of the exploratory factor analysis, the total variance explained was 69,379%. This result proved that the scale has a single factor structure like the original. It was concluded that the factor loads of the items in the scale were between ,737 and ,884. In the original version of the scale, these values are between 0.463 and 0.966 (Hurst et al., 2017).

As a result of the confirmatory factor analysis, the values of x2/df 1,220 RMSEA 0,040, GFI, 981 AGFI, 943, CFI, 997, RMR 0,047, IFI 0,997, NNFI, 985 were found. These values show that the scale has acceptable fit values, and the structure is confirmed. As a result of the reliability analysis of the scale, Cronbach alpha value was found to be 0.912. This value

shows that the scale is in the high confidence range. It was concluded that the total correlation of the item in the sports supplements belief scale ranged between 0.641 and 0.819. Also, 27% of the lower-upper group t values were found to be significantly different (p<0.05). As a result of the concurrent validity of the scale, a significant relationship was found at the level of 0.775. These results obtained from the validity and reliability studies support the findings in the study of Hurst, Foad, Coleman and Beedie (2017).

The scale is aimed at evaluating the beliefs of students studying in the field of sports sciences about dietary supplement foods. With the increase in the average score, there is an opinion that the percentage of negative behaviors tendency emerging in the future is high. For this reason, it was aimed to determine the nutritional supplement usage belief scores of the athletes and to prevent the negative behavior of the athletes at the extreme points. According to the results of this research, it can be suggested to apply the scale in elite and professional athletes in different types of sample groups, where competition and winning ambition, the results of winning are crucial. Supporting the scale with studies in different patterns can contribute to more accurate and realistic results.

Yazar Notu:

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Ekler

Ek 1. Spor Besin Takviyeleri İnanç Ölçeği (Türkçe Formu)

Spor Besin Takviyeleri İnanç Ölçeği	(1) Kesinlikle Katılmıyorum	(2) Katılmıyorum	(3) Kısmen Katılmıyorum	(4) Kısmen Katılıyorum	(5) Katılıyorum	(6) Kesinlikle Katılıyorum
1. Besin takviyeleri performansımı geliştirir.	1	2	3	4	5	6
2. Besin takviyeleri rekabetçi olabilmem için gereklidir.	1	2	3	4	5	6
3. Besin takviyeleri güvenimi artırır.	1	2	3	4	5	6
4. Besin takviyeleri kullandığım zaman kazanma şansım artar.	1	2	3	4	5	6
5. Besin takviyeleri potansiyelimi fark etmeme yardım eder.	1	2	3	4	5	6
6. Besin takviyeleri antrenmanımın kalitesini arttırır.	1	2	3	4	5	6

NOT: Araştırmacılar ölçeği atıf yapmak şartı ile izin almadan kullanabilirler.