PJSS
ISSN: 1309-0356
http://pjss.pau.edu.tr
http://psbd.pau.edu.tr
Pamukkale Journal of Sport Sciences
2016, 7(2), 27-39
Received: 11.08.2015
Accepted: 27.04.2016

Adaptation of The Attitudes to Moral Decision-Making in Youth Sport Questionnaire-2 into Turkish Culture: A Validity and Reliability Study

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Abstract

The purpose of this study is to adapt the Attitudes to Moral Decision-Making in Youth Sport Questionnaire-2 (AMDYSQ-2, Whitehead and Ntoumanis; 2013) into Turkish culture. AMDYSQ-2 is the revised version of Attitudes to Moral Decision-Making in Youth Sport Questionnaire (Lee, Whitehead and Ntoumanis; 2007). It is a 3 factor, 15-item, 5 Likert type questionnaire. Data was collected from 286 student athletes aged between 11-19 (M=15,21; SD=2,26). Cronbach's Alpha Coefficient of the AMDYSQ-2 was found 0,82 and test retest reliability coefficient was found 0,95. The validity of the AMDYSQ-2 analyzed with exploratory and confirmatory factor analysis. Exploratory factor analysis resulted 3 factors which explained 51.15% of the total variance. Fit indices for all parameters found to be in an acceptable level (Chi-square/df=2,32; GFI= 0,91; CFI= 0,95; NNFI= 0,93; RMSEA= 0,068; SRMR= 0,061). With this psychometric information, the structure obtained from the Turkish athletes was found to have similar characteristics with the original scale. As a result, it was determined that the data obtained from the Turkish form of AMDYSQ-2 scale was described by the theoretical structure and reliability coefficients were sufficient.

Keywords: Attitudes to moral decision-making, youth sport, validity, reliability

INTRODUCTION

Since ancient times, the view that "competitive sports provide character development" is expressed by the people and this view also find considerable support at the present time. It is believed that strength and morality are developing simultaneously in team sports. Also today, "sport builds character" has become a popular idea in many educational institutions. (Bredemeier and Shields, 2006). In many educational curriculum in the primary and secondary education, moral development of the students has been identified as an important educational purpose (International Primary Curriculum (IPC), 2005; National Association for Sport and Physical Education (NASPE), 2004). It is stated that physical education and sport has a special role on the development of the basic moral values such as cooperation, respect, honesty and tolerance (Shields and Bredemeier, 1995).

Moral behavior in physical education and sports - usually associated with concepts such as fair play and sportsmanship - is an important area of research for many years. Early studies in this area, based on the fair play or violations of its principles and this studies was carried out through various attitude studies (Blair, 1985; Goodger ve Jackson, 1985). Shields and Bredemeier (1995), investigated moral development and moral behavior in an extensive research program based on Kohlberg's (1976) structural-developmental model and concluded that there is not enough evidence for setting up a link between physical activity and moral development. After this date, the research subject of morality in sport has retained its popularity. Vallerand and Losier (1994) provide an alternative socio-psychological perspective in this field. Then, Vallerand et al. (1997) developed “Multidimensional Sportspersonship Orientations Scale” based on the definition of sportsmanship. With this scale, the dimensions of sportspersonship has emerged “respect for social convention”, “respect for rules and officials”, “respect for one’s full commitment” ,“respect for opponents” and “negative approach towards sportspersonship”. Boixados et al. (2004) developed a simple scale to measure the attitudes of fair play. Boardley and Kavussanu (2007), in regard to the 8 mechanism of moral disengagement, they developed “Moral Disengagement in Sport Scale”. Afterwards, also Kavussanu and Boardley (2009), developed “the Prosocial and Antisocial Behavior in Sport Scale” in order to investigate the positive and negative behaviors of athletes against their teammates and rivals in competition. Morevover, Proios (2010), developed “Moral Content Judgement in Sport” scale. As is seen, these scales contain the examples of dillemmas that occur in sport context with the possible sport scenarios and attitudes exhibited in these dilemmas.

Attitudes to Moral Decision-making in Youth Sport Questionnaire (AMDYSQ) developed by Lee et al. (2007) is an instrument to measure attitudes towards moral decision making in sport among youth populations, with the sub dimensions of cheating, gamesmanship and keep winning in proportion. Cheating means, violating the rules of the game without being catched by the referee or opponent and without being penalized in the competition. Trying to get an unfair penalty and trying to make a goal with a hand are also the examples of cheating in sport. Gamesmanship indicates a violation of the spirit rather than the rules of the game. In order to defeat the rival in a disadvantage position, making slang talk, slow down the game, prevent the attack, making tactical fault are the examples of gamesmanship (Dixon and Morgan, 2007). It is also known that such immoral tactics have been successfully implemented by technically weaker athletes on behalf of winning the match. AMDYSQ contains 9 items and 3 sub dimensions and scored between (1) Strongly Disagree to (5) strongly Agree on a 5-point Likert type scale. The sub dimensions comprise Acceptance of Cheating (I would cheat if I thought it would help me win), Acceptance of Gamesmanship (I sometimes try to wind up the opposition) and Keep Winning in Proportion (KWIP) (Winning and losing are a part of life). Factor loadings of AMDYSQ was found 0.47 to 0.89 for the 9 items which was verified with the data of 375 athletes and fit indices has emerged as chi-square =33,54; df=24; CFI= 0,98; NNFI= 0,98; RMSEA= 0,034; SRMR= 0,052. Adaptation of the AMDYSQ into Turkish culture has been made by Gurpinar (2014-a). Factor loadings of the Turkish form was found between 0,43-0,78 for the 9 items and fit indicies values has emerged as chi-square = 68,39; df=24; GFI= 0,96; CFI= 0,96; NNFI= 0,94; RMSEA= 0,068; SRMR= 0,047.

AMDYSQ-2 is the revised version of AMDYSQ in which some items were removed or added in it (Whitehead and Ntoumanis ;2013). It also measures the attitudes to moral decision making in sport. In the construction of AMDYSQ-2, 9 AMDYSQ items and new 15 items added. The new 24 item scale was analyzed using the data of 344 participants aged between 11-16. As a result of exploratory factor analysis, 15 highest loading items were submitted to confirmatory factor analysis (CFA). As a result of CFA, factor loadings for the 15 item range between 0,61-0,88 and fit indices has emerged as chi-square=147,87; df=87; CFI= 0,97; NNFI= 0,96; RMSEA= 0,050; SRMR= 0,050. Compared with AMDYSQ, the 15-item AMDYSQ-2 has a conceptually improved KWIP scale (Whitehead, ve Ntoumanis, 2013).

In the literature, there are many studies using the AMDYSQ. Gürpınar (2014-b)

found that, attitudes to moral decision making scores were higher in girls; in secondary school pupils; in non-contact sport athletes and inexperienced student athletes. Fuster-Parra et al. (2014) indicated that, cheating and deception against the opponent and the referee was more in ego-oriented young athletes, while the task-oriented climate created by the coach caused gamesmanship. Palou et al. (2013) stated that ego-oriented goals created by the coaches negatively affect the attitudes of athletes in moral decision-making and caused cheating and gamesmanship. Ponseti et al. (2012) have demonstrated that acceptance of cheating and gamesmanship was high in handball and basketball players than football players. Zengaro (2010) remarked that aggressive players in sport accepted cheating more and they gave more importance to keep winning in proportion. Because it is a new questionnaire, no research have found in the literatüre using AMDYSQ-2. However, on behalf of the testing the improvement of the KWIP scale reported by researchers, it is important to adapt this scale into Turkish culture.

The purpose of this study is to adapt AMDYSQ-2 into Turkish culture. Also psychometric properties of the AMDYSQ-2 will be presented and discussed.

METHODS

Participants and sampling procedure

The study group consists of student athletes making any sport with license and studying in secondary (100 students) and high school (186 students) in Antalya in the academic year of 2013-2014. While choosing the study group, appropriate sampling method was used (Büyüköztürk et.al., 2011). 109 female, 177 male totally 286 students participated in the study. The study group's age vary between 11-19 and their average age is 15,21±2,26. Participants of the study are to be licensed with 5 different sport branches (basketball=80 (%28); soccer=95 (%33,25); handball=40 (%14); volleyball=68 (%23,8); and unknownr=3 (%1,05) person). Students were informed about the research in each class and students who wish to participate as volunteers were included in the study.

Data Collection Tool

AMDYSQ-2 is a 3 factors and 15 items scale. Factor names are Acceptance of Cheating (items 2, 5, 8, 10, 11 and 15.; eg: I would cheat if I thought it would help me win), Acceptance of Gamesmanship (items 1, 3, 6, 9, 12 and 13; eg: I sometimes try to wind up the opposition) and Keep Winning in Proportion (items 4, 7 ve 14; eg: I think fairness is more

important than winning). From the 15 items, 12 has negative meaning and (1, 2, 3, 5, 6, 8, 9, 11, 12, 13, and 15 items) and 3 have (4, 7 and 14. items) positive meaning. Items are scored between (1) Strongly Disagree and (5) Strongly Agree on a 5-point Likert type scale.

Procedure

The traditional approach has been used for linguistic equivalence study (Hançer, 2003). The original form of the scale translated into Turkish by researcher and four other translators. These four people's English is good enough for the translations. For the best expression of each scale item, the five different translations analyzed with a translation expert. After that, Turkish form analyzed with three academic members from sport sciences. Suitability of each item discussed with them, and at the end Turkish form was created. The final Turkish form translated into English with back translation method by native two speakers. One of these people is a lecturer in the department of English in Australia and the other is a doctorate student in the field of sport sciences in America. The original and the translated forms examined with two lecturers from foreign languages department and reached a consensus that there was no difference between the two forms.

Data Analysis

Confirmatory factor analyze method (CFA) was used for investigating whether the factor structure obtained from Turkish sample is appropriate with original scale. Many fit indices statistics can be calculated in DFA for the model-data compliance. Most commonly used indices are Chi-Square Goodness, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), Root Mean Square Residuals (RMR or RMS) and Root Mean Square Error of Approximation (RMSEA) (Cole, 1987; Sümer, 2000). Spearman's correlation coefficients were calculated in order to determine the relationship between two different measurements in linguistic equivalence and test-retest reliability studies. The Kolmogorov-Smirnov test was applied for testing normal distribution. The data used for analysis in this study does not have any missing observations. The data used in this study were collected by the researcher in the classes. The application of the scale took approximately 10 minutes. In the analysis of the data SPSS 18.0 and Lisrel 8,72 was used.

RESULTS

Linguistic Equivalence Study

In order to decide the equivalency, the current Turkish form and the English form applied to 15 people who had a good English knowledge with 2 week break. The correlation coefficient between the two forms were found 0,84 (p<0,000). With the expert opinion and the obtained correlation coefficient, it can be said that Turkish form show parallelism with the English form.

Reliability and Internal Consistency

Test-retest and internal consistency estimations were made to analyze the reliability of AMDYSQ-2. For the test re-test reliability, Turkish form of the questionnaire was applied to 66 people with a 2 week break. Spearman correlation coefficient between the two measurements was 0.95 (p<0.000), and were considered to ensure internal consistency. Cronbach alpha coefficients of the factors and the correlations between the factors are given in table 1.

Table 1. Cronbach alpha values of AMDYSQ-2 and correlations between factors

Sub dimensions	α Value	AC	AG	KWIP
Acceptance of Cheating (AC)	,836			
Acceptance of Gamesmanship (AG)	,720	,474**		
Keep Winning in Proportion (KWIP)	,553	,239**	,221**	
Total (T)	,820	,814**	,844**	,438**

**p<0,01

Calculated Cronbach Alpha coefficients of AMDYSQ-2 subscales ranged between 0.55 and 0.84. Correlations between factor scores ranged between 0.47 and 0.22. Cronbach alpha coefficients, shows that the reliability of the scale is provided.

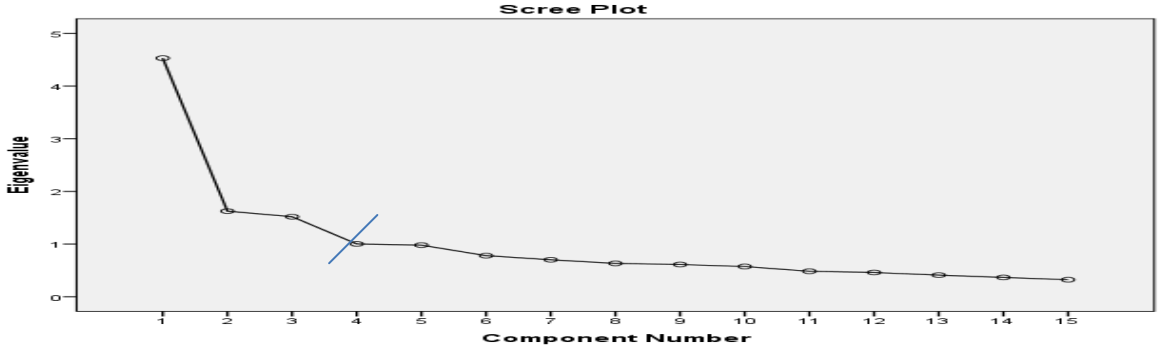

Figure 1. Scree plot of AMDYSQ-2

Validity

In order to calculate the construct validity of the scale, exploratory factor analysis (EFA) and Confirmatory Factor Analysis (CFA) methods were used. The EFA results of this study have been previously reported by Gürpınar (2014-c). With the EFA made with 15 items; there were 4 factors found whose eigenvalues were larger than 1, however considering the Scree Plot Graphic and the original scale's factoral structure, the number of factors was decided to take three. AFA repeated with 3 factors and these three factors explained 51.15% of the total variance.

To test the suitability of the data structure in terms of sample size for factor analysis, the Kaiser-Meyer-Olkin (KMO) test conducted, to test whether multivariate data show a normal distribution Bartlett Sphericity test done. KMO value was found (,840) and Bartlett test was significant (Chi-square: 1182.347, df 105, p <0.000). Descriptive statistics and EFA results are given in Table 2.

Table 2. Descriptive statistics and EFA results of AMDYSQ-2

Item	F1	F2	F3	Mean	SD
A11	,806			2,039	1,203
A8	,798			2,040	1,199
A15	,738			2,032	1,203
A2	,729			1,960	1,088
A10	,711			2,301	1,205
A5	,516			2,234	1,193
A12		,697		3,119	1,379
A13		,696		2,710	1,238
A1		,633		3,594	1,302
A6		,618		2,815	1,426
A9		,590		2,850	1,377
A3		,417		2,622	1,294
A14			,748	4,021	1,063
A4			,742	4,385	,890
A7			,628	3,958	1,205
Eigenvalue	3,484	2,453	1,735		
Percent of Variance	23,227	16,357	11,567		
Cumulative Percent	23,227	39,584	51,151		

According to the literature, if the KMO value ranges between 0.80 to 0.90, this is a good value for the sample size (Şencan, 2005). Hence, the number of participants in research said to be adequate for factor analysis. CFA was used to test the construct validity. Results of CFA

with the standardized solutions and schematic representation of the path obtained by the structural model is given in Figure 2.

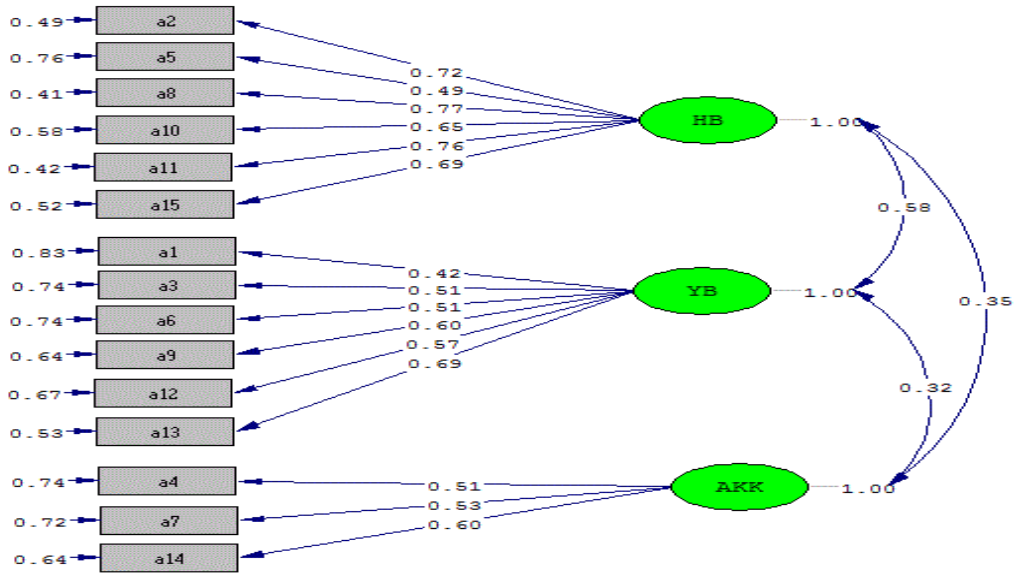

Figure 2. Standardized solutions of AMDYSQ-2

Several fit indices are used to determine the sufficiency of the tested model in CFA. To assess whether the model is verified, all indices should be evaluated together rather than a single index (Cole, 1987). Fit Indices statistics are given in Table 2.

Table 3. Fit indices for the AMDYSQ-2

Fit Indices	**Scale**
Chi-Square	201.80
df	87
p	0.00
Chi-Square/df	2.32
GFI	0.91
CFI	0.95
NNFI	0.93
RMSEA	0.068
SRMR	0.061

Whether the data obtained from the Turkish students compliance with the actual structure of the scale, was tested with CFA. These results indicate that the model showed good or excellent fit.

DISCUSSION

In this research, the revised scale of AMDYSQ-2 (Whitehead and Ntoumanis ; 2013) which was constructed to determine the attitudes to moral decision-making in the youth athletes, is aimed to be adapted into Turkish culture. 3-factor structure of the original scale tested by EFA and CFA also reliability coefficients were calculated.

Calculated for the test re-test reliability and linguistic equivalency reliability; Spearman correlation coefficients was found 0.95 ($p<0.000$) for test re-test and 0.84 ($p <0.000$) for linguistic equivalence. Alpar (2010) stated that if the Cronbach alpha coefficient is between 0,80-1,00, the scale has a high reliability; if it is between 0,60-0,79, the scale has a notably reliability; if it is between 0,40-0,59 the scale has a low reliability and if it is between 0,00-0,39, the scale has no reliability. Based on this information, it can be commented that Cronbach's alpha coefficients are in acceptable limits.

According to the scree plot graphic, the number of the factors revealed, has supported the original structure and the number of factors in the original scale. Factor 1 has been named "acceptance of cheating", factor 2 has been named "acceptance of gamesmanship" and factor 3 has been named "keep winning in proportion" as in the original scale. Calculated KMO value was found (,840), and the Bartlett test was statistically significant (Chi-square: 1182.347, DF: 105, $p <0.000$). Because the KMO value ranging between the 0.80 to 0.90, the sample size was interpreted as a good degree (Şencan, 2005; Tavşancıl, 2006). The Cronbach alpha reliability coefficient was found 0,836, 0,720, 0,553 for sub-dimensions respectively and 0.820 for total. Alpar (2010) stated that if the Cronbach alpha coefficient is between 0,80-1,00, the scale has a high reliability; if it is between 0,60-0,79, the scale has a notably reliability; if it is between 0,40-0,59 the scale has a low reliability and if it is between 0,00-0,39, the scale has no reliability. Based on this information, it can be said that Cronbach's alpha coefficients for the scales of Acceptance of Cheating and Acceptance of Gamesmanship are found highly reliable. Keep Winning in Proportion has a low but acceptable reliability.

The construct validity of the scale was also tested with CFA. As a result of CFA fit indices were calculated. Fit indicies values has emerged: chi-square/df=2,32; GFI= 0,91; CFI= 0,95; NNFI= 0,93; RMSEA= 0,068; SRMR= 0,061. If the chi-square/df value smaller than 3 for big samples and smaller than 2,5 for small samples, it shows an excellent fit (Kline, 2011). If GFI and AGFI are bigger than 0,90 this shows good fit, if it is bigger than 0,95 this shows excellent fit (Hooper et.al., 2008; Sümer, 2000). When NNFI and CFI values above 0.95. this

indicates excellence of the model's adequacy (Thompson, 2004; Sümer, 2000; Hu and Bentler, 1999). When the RMSEA value less than 0.07 it indicates that the model fit is good (Steiger, 2007). SRMR values vary between 0 and 1, if the value is smaller than 0.05, the data show that the model is a perfect fit (Brown, 2006). By looking the fit indices, it can be said that the original three factor structure of the AMDYSQ-2 showed a very good fit for the sampling group.

Consequently, looking ahead the results it can be said that, AMDYSQ-2 can be used by Turkish researchers when they want to measure the attitudes toward decision making of the young athletes.

In the literature, there are various opinions about the number of samples required for EFA. Comrey and Lee (1992) stated that for factor analysis, 100 participants are insufficient, 200 participants are average, 300 participants are good, above 500 participants are very good and 1000 participants are excellent (cited. Çokluk et.al, 2014). According to Tavşancıl (2006), sample size should be 5 or 10 times of the number of items. The numbers of items are 15, while the sample size is 286 in this study. Therefore, the sample size is 19 times of the number of items. Thus, numbers of samples in this study are in the average level according to some sources while according to some sources it is sufficient. In future researches it would be useful to test the model with more samples and on different sample groups.

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Author's note: A part of this study was presented as a proceeding at the 13. Sports Science Congress.

Appendix: Turkish version of AMDYSQ-2

Altyapı Sporlarında Ahlaki Karar Alma Tutumları Ölçeği - 2

Kesinlikle Katılmıyorum 1	Katılmıyorum 2	Kararsızım 3	Katılıyorum 4	Kesinlikle Katılıyorum 5

1	Kuralları çiğnemediğin sürece rakiplerinin düzenini bozabilirsin.	1	2	3	4	5
2	Kazanmama yardımcı olacağını düşünürsem hile yaparım.	1	2	3	4	5
3	Rakibin iyi oynamasını istemiyorsam, onun dikkatini biraz dağıtırım.	1	2	3	4	5
4	Bence dürüstlük kazanmaktan daha önemlidir.	1	2	3	4	5
5	Diğer insanlar hile yapıyorsa ben de yaparım.	1	2	3	4	5
6	Bazen rakibin düzenini bozmak için zaman harcarım.	1	2	3	4	5
7	Bazen kaybetmek önemli değildir çünkü hayatta her şeyi kazanamazsınız.	1	2	3	4	5
8	Yakalanmayacağımı bilirsem hile yaparım.	1	2	3	4	5
9	Rakibi kızdırmak iyi bir fikirdir.	1	2	3	4	5
10	Bazen hile yapmam gerekir	1	2	3	4	5
11	Eğer kimse fark etmeyecekse hile yapılabilir.	1	2	3	4	5
12	Rakibin psikolojisini bozmak kurallara aykırı olmadığı için yapılabilir bir şeydir.	1	2	3	4	5
13	Bazen rakibimi tahrik etmeye çalışırım.	1	2	3	4	5
14	Sadece kazanmayı değil diğer insanları da düşünmelisiniz.	1	2	3	4	5
15	Bazen avantaj elde etmek için hile yaparım.	1	2	3	4	5