

Determining Validity and Reliability of Sportspersonship Scale among Young Athletes

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ABSTRACT

The purpose of this study is to determine the validity and reliability of sportspersonship questionnaire. In order to do so, a five-scale, 25-item questionnaire of Multidimensional Sportspersonship Orientation Scale (MSOS) used in similar studies. After the translation was completed, assessment in terms of wording, modifying the errors as well as updating, the same questionnaires were ready for distribution. In this study, 373 young athletes from Pakdasht Township (197 girls and 176 boys) participated. Answering the questions was considered based in Likert 5-value scale (from score 1 (I am not at all like this) to score 4 (I am exactly like this)). In order to conduct data inferential analysis, Cronbach's Alpha factor method was used to determine the questionnaire internal stability, while confirmatory factor analysis was applied to determine the structure validity. The results indicated quite proper values on used questionnaire internal stability. From fitting indicators to test model fitting, the following were used: (1) wellness indicators, inter alia, AGFI, GFI, NFI and badness indicators, inter alia, X2/df, RNMSEA.

KEYWORDS: *Sportspersonship, Multidimensional Sportspersonship Orientation Scale (MSOS), internal stability*

INTRODUCTION

In designing and drawing the background literature, the important aspects relevant to sportspersonship means validity and reliability are from amongst the most important issues. Here, this issue has specifically been considered.

While according to many, definition of sportspersonship is a difficult task (Vallerand, R., Deshaies, P., Cuerrier, J., Briere, N., & Pelletier, L., Wandzilak, T., Carroll, T., & Ansoerge, C. J.), but it seems most of the definitions are similar in focusing on respecting the participants to themselves, opponents and sports rules. By virtue of most of the definitions, it is often expected in sportspersonship that one behaves his/her opponents with fairness, merci, interest and goodwill (Keating, J., Polley, J. C.). Meanwhile, both cases (expression and nature of rules) (NCAA "National Collegiate Athletic Association", 2003, p 15) and acting based on gravity and dignity in two states of success and failure (Keating, J. 2001) that the aspects of a sports behavior are good.

In expressing different definitions, while similar, on sports behavior, Vallerand et al (1996) conducted a study with the purpose of presenting definition on sportspersonship. In this study, 5 factors on the sports behavior perceived parts were obtained as per the following: (1) complete obligation (2) social contracts (consents) (3) aspect- opponent (4) negative approach.

In a study conducted by Storer and Bro (2002) with handball teenage players, the instrumental quarrel was also added to the means. They understood that it is possible the antisocial behavior such as instrumental quarrel manifested in the form of threats is common in sports.

Up to now, several tools have been used to measure sports behaviors. Prior to 1979, several means have been developed to measure sportspersonship, much of which have not been used. Meanwhile, means psychoanalysis is always missing.

After all, 4 measuring tools which have more extensive applications as prioritized include:

- (1) DIT, developed by James Rest (1979) as ethical development criterion
- (2) HBVCI, designed by Ham- Beller and Stol (1989) a mean to assess the ethical reasoning in sports environments
- (3) RSBH developed By Rod et al (1998) to measure two different types of ethical personalities and as an effort to explain the different viewpoints on the role of sport in personality growth

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- (4) MSOS formed by Vallerand et al (1997) based on 5 aspects, in defining sportpersonship mentioned above, and its developed edition (EMSOS) which was further generated by Storer and Bro (2002) by adding 6th aspect as instrumental quarrel.

MSOS was normalized along with different societies. These studies include teenage athletes as participants.

MSOS has been translated into several languages (French, Norwegian, and Spanish) and used in international societies.

The developed edition of EMSOS was fortified in terms of psychoanalysis and through strengthening the scale capacity in measuring sportpersonship with respect to the primary edition (Storer and Bro, 2010). EMSOS has 30 cases, 5 for each of the 6 subscales.

After primary development, the MSOS 25-item edition was given to 362 athletes (avg. age 14.4 years) (Vallerand et al. 1997).

Data in MSOS was compared through analyzing the CEA with 5-factor model (or complete model). The results indicated that such 5-factor model presented an acceptable fitting for the data (Vallerand et al 1997). Generally speaking, the factor loads were higher than average and they were all meaningful. The Cronbach's Alpha for each of the subscales showed an acceptable level (higher than 0.6). These values were as per the following: 0.73 for commitment to sport, 0.74 for respecting social covenants, 0.67 for respecting and paying attention to opponent, 0.72 for respecting rules and authorities (Miller et al 0024). Merely the negative scale subscale had Cronbach's alpha equal 0.54. Therefore, this subscale was removed from some of the studies (Miller et al 2004).

It seems that notwithstanding the critics made by McCacci (1999), MSOS enjoys an acceptable level of reliability and validity, however, with some limitations. First, that MSOS validity was confirmed with limited number of athletes and second, the low level of Cronbach's alpha which was obtained for negative approach subscale. In order to have a positive orientation from the concept, MSOS included four positive and one negative aspect (Shields and Bord Mir, 1995). Regarding EMSOS, a negative aspect was added which was instrumental quarrel and included being aggressive to opponents with the purpose of achieving some personal advantages (Storer and Bro 2002). According to them, inclusion of instrumental quarrel in EMSOS promoted instrument psychoanalytic features.

Regarding EMSOS validity and reliability, a study was conducted by (Storer and Bro 2002) with the presence of 157 men and 148 women with the purpose of measuring and further studying the non-sportive behaviors throughout university and college, where Cronbach's alpha showed acceptable values (bigger than 0.6) for 5 out of subscales and the negative approach subscale indicated -0.371 for Cronbach's Alpha which was not acceptable. The total Cronbach's alpha for EMSOS in this study was reported as 0.821. Meanwhile, in this study, there was a meaningful difference between men and women's sportpersonship variable ($sd= 2.82$, $m= 20.517$ for men and $sd= 2.62$, $m=21.842$ for women). No meaningful different results were obtained between age and knowledge of the athletes.

In a study titled "perceived motivational climate in young footballers" relating to social performance, sportpersonship and normative perceives of the team, conducted in a case study with the presence of 279 male footballers (12~14yrs of age) attended youths international football tournament, Amandes et al (2001) used MSOS (MSOS Valelrand et al 1997), through performing main components factor analysis by using varimax rotation, four factors could be interpreted while all were obtained with special values bigger than 1 and 43% variance. For each of the first factors (sportpersonship, respective rules and authorities) and second factor (sportpersonship, respective covenants and rules) each 5 cases were fruitful. In the third factor (sportpersonship), including 3 cases of commitment scale, one case of respecting covenants and one case of negative approach scale were used for simplification. The fourth scale included the remained items of the negative approach which was removed due to unacceptable alpha from further analysis. Cronbach's alpha for the said 3 factors were obtained as 0.79, 0.75 and 0.64, respectively.

In a study titled motivation, sportpersonship and quarrel of athletes: interface analysis, conducted in two case studies including 102 physical education students (avg. age 20.7 yrs) and 202 male athletes (avg. age 24.1 yrs), Chantal et al (2003) used MSOS (Valelrand et al 1997), to measure sportpersonship orientations. In order to identify whether the current MSOS data is compatible with these results, a series of factors analysis was used by using an obilim rotation.

The results caused the removal of negative subscale with respect to participation in a sport. Therefore, 4 subscales remained (refer to Dan and Gashgro, 1999). Specially, merely for 4 interpretive factors special values bigger than 1 were obtained for 59.7 of the total variance. Meanwhile, each of the 4 subscale presented similar internal stability with Cronbach's alpha between 0.7 and 0.84.

Monasis et al (2013) in a study titled "self-control motivation, sportpersonship, and sports orientation: interface analysis" conducted with the participation of 166 competitive athletes in team and individual and team sports, used (MSOS Valelrand et al 1997) to measure sportpersonship orientations. In this study, the

participants answered 25 questions (5 questions each subscale) based on Likert 5-point scale. The internal similarity with Cronbach's alpha as 0.87 was acceptable and high.

Mizzen et al (2012) in a study titled sportspersonship and sympathy, a study was conducted on footballers with the presence of 130 Turkish footballers (avg. age 17-31), from 7 clubs in 2007-2008 season, used the MSOS sportspersonship Turkish scale. The scale was implemented randomly for 30 students from physical education governmental university of Turkey. After this process, the reliability and validity studies were conducted by random selection of 110 footballers from different Ankara clubs. Based on the primary analysis related to 25 cases (5 subscales) from MSOS, 5 cases of subscale of negative approach to sportspersonship showed unacceptable reliability. Therefore, this subscale was not considered in the second analysis. Therefore, the Turkish copy of the MSOS with 4 subscales was with 20 cases. Cronbach's alpha calculated for 4 subscales of respecting social covenants, respecting rules and authorities, respecting complete commitment and respecting opponent were obtained as 0.86, 0.83, 0.91 and 0.82, respectively.

Miller et al (2005) in a study titled the effect of motivation status on sportspersonship among young female and male footballers with the presence of 512 young male and 202 young female footballers (12-14 yrs of age) participated in an international competition, used the MSOS Norwegian edition (Lemir et al 2002) to achieve sportspersonship orientations of participants. In this study the negative approach subscale was not used. Three out of the subscales included 5 cases: including commitment, social covenants and rules, while respecting the opponent had four cases. All participants answered all the 19 cases by using 5-point Likert scale. A maximum factor analysis with varimax rotation was conducted for the respondents. In the main MSOS Norwegian brief copy in 4 subscales, the special values bigger than 1 were obtained and 51% of the variance was clarified. The Cronbach's alpha factor for 4 subscales included the following values: 0.73 for commitment to sport, 0.74 for respecting social covenants, 0.67 for respecting and paying attention to opponent, 0.72 for respecting rules and authorities and therefore, no case was removed from the study.

Chantal et al (2013) in a study titled "effect of negative halo of anabolic steroids users through achieving the perceived purposes" the orientations of sportspersonship and quarrel tendencies conducted with the presence of 173 physical education students (67 women and 106 men avg. age 19.3 and SD=1.65), in order to measure the sportspersonship orientations a briefed copy MSOS (Vallerand et al 1997) was used. They used 3 subscales of respecting the opponent, respecting social covenants in sports, and respecting complete commitment in sports were used. The participants had to answer the questions based on 7-point Likert scale. All the subscales indicated an acceptable level of internal stability. Cronbach's alpha for the aforesaid was obtained as 0.84, 0.89 and 0.82, respectively.

Barkokis et al (2011) in a study titled particulars of sportspersonship and motivation of elite athletes relating to the doping behavior conducted with the presence of 1075 elite athletes participated in 9th Olympics with 22.9 average age (SD=6.39), the sportspersonship was used by using the MSOS. In order to respond the 25 cases available in the form of 5 subscales, 5-point Likert scale was used.

Claude Galt et al (2010) in a past-oriented study titled mental foreteller variables in using the performance increasing materials in young athletes conducted with the presence of 3,573 athletes (avg age 15.5 yrs) in Quebec, Canada, a short copy of the MSOS was used. They announced Cronbach's Alpha as 0.91 which indicates the questionnaire proper internal stability.

As it may be seen from the said issues and rich scientific basis of study and studying sportspersonship in different studied societies, sportspersonship measuring questioners are quite important and sensitive in conducting such studies and studying and determination reliability and validity of these questionnaires may be helpful for the scholars in this field.

METHODOLOGY

Method of Study implementation

The study method is of descriptive and surveying type, in which sportspersonship questionnaire reliability and validity have been considered.

Participants

The studied sample of this study included 373 of Pakdasht township high school of first, second, third, and fourth grades students, of whom 197 were girls and 176 were boys selected in cluster sampling method based on academic foursome bases. The statistical society of this study included all the Pakdasht township young athletes.

Measurement tools

The used questionnaire was the complete copy of MSOS. The part related to the sportspersonship in this questionnaire included 25 questions in 5 subscales. The questionnaires were assessed and made ready for distribution after being translated in terms of writing.

Through 25 questions of which a sample has been given in the following, athletes' sportspersonship orientations were assessed.

1. I congratulate my opponent after being defeated in a competition

- 2. I obey the referee during a competition
- 3. I attend a competition with full power, even if I am sure- to some extent- of losing
- 4. In case my opponent falls down, I help him.
- 5. I compete to achieve personal honors, rewards and medal

25 questions of this questionnaire are classified into the following 5 subscales: (1) respecting social conventions (questions 1, 6, 11, 16, 21), (2) respecting rules and authorities (questions 2, 7, 12, 17, 22) (3) respecting full commitment with respect to sports contribution (questions 23, 18, 13, 8, 3), (4) respecting and considering the opponent (4, 9, 14, 19, 24), (5) negative approach towards sports exercises (questions 5, 10, 15, 20, 25).

Cronbach's alpha calculated in this study on respecting social covenants (0.816), respecting rules and regulations (0.742), respecting personal commitment to sport contribution (0.863), respecting and considering the opponent (0.825), and negative approach towards sports exercises (0.721) were obtained.

In order to respond each question, 5 answers (from score 1 (I'm not at all like that) up to score 5 (I am exactly like this) were considered which had to be answered. Therefore, the score range of this clause was between 25 and 125.

Statistical methods

Descriptive statistics were used to brief and classify the raw data and calculation of average, frequency, standard deviation and drawing charts and tables to examine the existence of different in the level of study variables among the athletes, Anova multi variable variance analysis was used, while Cronbach's alpha was used to calculate the reliability of the means while independent t-test was used to determine the difference of the variables present among male and female athletes. Alpha's meaningfulness was considered as 0.05. SPSS software version 16 was used for data analysis.

Findings

Distribution of respondents in terms of status of gender and age

As it may be seen in table 1, from the total 373 people answered to this question and the relevant information is available, 176 people (47%) were men and 197 (53%) were women. From these, 157 (42%) were 15 years, 83 (22%) were 16 years, 86 (23%) were 17 years and 47 (13%) were 18 years of age.

Table 1- distribution of respondents in terms of gender and age status

Status		Frequency (ppl)	Frequency (%)
Gender	Male	176	47.2
	Femail	197	52.8
	Total	373	100.0
Age	15 yrs	157	42.1
	16 yrs	83	22.3
	17 yrs	86	23.1
	18 yrs	47	12.6
	Total	373	100.0

Variable descriptive statistics of sportpersonship

As it may seen from table 2, the sportpersonship score is within 1.00 and 6.20 interval, and also the average of the same is equal to 1.00616 which indicates that sportpersonship in this study is weak.

Table 2- Variable descriptive statistics of sportpersonship

Variable title	Abbreviation	Min	Max	Average	St.dev.
Sportpersonship	MC	1.00	6.20	3.64	1.006

Studying the sportpersonship variable status

In order to examine the study variables status, a society average statistical presumption test, or in other words, single sample T-test has been used, which in fact it tests the difference between the studied sample average with a presumed value. It shall be mentioned that whereas no certain guess may be made relating to the study variables status, questions, and further mutual average test have been used. For instance, it may be said how is the sportpersonship status?

Table 3 indicates the results interpretation and the last column shows the general variable status in this statistical society.

Table 3- examining the sportpersonship variable status in the current statistical sample (test value= average- 3)

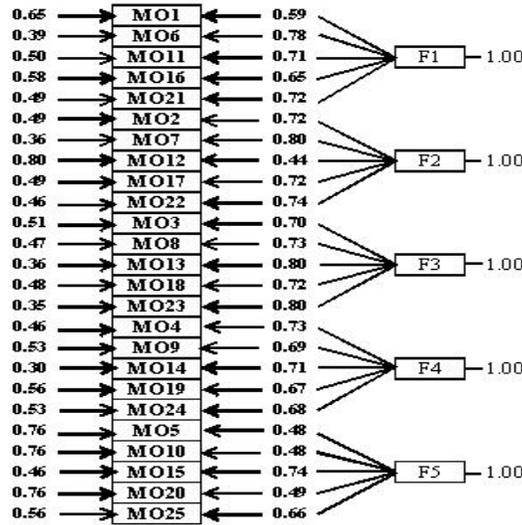
Study variable	SIG	T	Average	Status
Sportpersonship	0.00	12.35	3.64	Partly High

Sportspersonship factor analysis

Fig. 1 shows the sportspersonship variables measurement model in standard estimation state. The model factor loads in the standard estimation state shows the level of effect of each of the variables and/or items in explanation and clarification of the main variable or factor grade variance.

Considering figure 1, the factor loads of each of the study questions may be seen. For instance, 1st question factor load in respecting social covenants aspect is 0.59. In other words, 1st question approximately 35% of the variance of the respecting social covenants aspect is clarified. Also 0.65 is error value.

Fig. 1. Sportspersonship measuring model in standard estimation state



Model fitting indicators for study variable were obtained as per table 4.

Table 4- sportspersonship variable model fitting indicators

Indicator	Standard value	Obtained value
X2/df	<3	2.03
RMSEA	<0.1	0.074
AGFI	>0.8	0.87
GFI	>0.9	0.90
NFI	>0.9	0.94

Analysis and description of the study variable in terms of anthropological variables

In order to investigation of role of study variables, average tests of two societies and variance analysis were used. In variance analysis, in case there is a meaningful difference between the two groups, Toki test has been used; otherwise, merely groups' average has been presented.

Comparison of sportspersonship detailed as per gender and age status

Based on t-test, of conducted independent samples, it may be said that sportspersonship variable has no meaningful difference in terms of men and women. Additionally, based on the conducted variance analysis, it may be said the sportspersonship variable has also no meaningful difference in terms of age groups (table 5).

As sportspersonship average is shown detailed as per the gender and age in table 5, there is no meaningful difference in sportspersonship variable in men and women and different age ranges.

Table 5- results of meaningfulness and average of study variable detailed in terms of gender and age

Status	Sig	Study variables	Sportspersonship
Age	0.258	Male	3.58
		Femal	3.70
Gender	0.123	15 yrs	3.57
		16 yrs	3.58
		17 yrs	3.87
		18 yrs	3.59

Discussion on the Present and Past Findings

Based on study findings, sportspersonship measurement questionnaire in each 5 subscales have quite suitable internal stability (0.721 to 0.863). This finding was along with the studies conducted by Amandes et al

(2001), Chantal et al (2003), Monasis and et al (2013), Mizzen et al (2012), Miller et al (2003), Chantal et al (2013), Barcokis et al (2011) and Claude Galt et al (2010) (while Cronbach's alpha of the questionnaire used in their studies have been reported in table 1). The interesting point is the value of Cronbach's alpha obtained regarding negative approach subscale, while in most of the reported studied, it has been discarded from the study due to low level of internal stability considering the low value of Cronbach's alpha, while here, although a smaller value has been obtained with respect to the other 4 subscales, it is still significant and acceptable (0.721). Meanwhile, the fitting indicators found for the questionnaire used herein, is in conformity notwithstanding acquiring the permitted values with the values reported in small number of studies (in most of the studies, merely Cronbach's alpha has been given).

Through viewing the questionnaires used in the studies, and the time process of compilation of sportpersonship questionnaires and even considering the fact that EMSOS questionnaire (Storner and Bro 2002) has been presented after MSOS questionnaire (Valerand and LOzir 1997), the questionnaire obtained by the latter has a special place in measuring sportpersonship orientations and in most of the studies in the field of sportpersonship this questionnaire (complete edition, summarized, modified and/or localized editions) have been used. The interesting point is the low number of the only negative subscales of this questionnaire (negative approach) which results in removal of the same in most of the studies. It seems that subscales with negative loads (negative approach in MSOS and negative approach and instrumental quarrel in EMSOS) in most of the studies did not enjoy proper internal creditability.

The results relating to fitting wellness test also indicated that the indicators are in the good state and within standard region, so that the calculated values for the AGFI, GFI and NFI wellness indicators were always within the standard region. Meanwhile, the calculated values for the badness indicators X2 to freedom degree ratio and RMSEA are also within the standard values which approve the model suitability. Additionally, the sportpersonship questionnaire is sensitive to the gender differences. In the reports given in the studied studies, girls have been considered as having higher sportpersonship. For instance, (Proios, M., Doganism, G., & Proios, M. 2006) indicated that: gender, level of competition and school environment was the factors related to the sportpersonship motivations. By studies using MSOS for physical education students, recreational and inter-school sports have been performed which indicate that: in the subscales related to commitment, social rules and rules and regulations and authorities and opponents, girls had higher sportpersonship. Generally speaking, the previous studies indicated that men, unlike women, contact sports against non contact sports, team sports against individual sports and competitive sports against recreational sports indicated lower level of sportpersonship good behavior. This is while in this study and unlike the presented results, in terms of sportpersonship in girls and boys athletes, no meaningful difference was seen. The average total score of sportpersonship in boys and girls were obtained as 3.5811 and 3.6993, respectively which indicate the almost equal value of this issue for both genders.

Level of sportpersonship in young athletes in the different age groups examined in this study (15-18 yrs of age) did not show meaningful difference with each other, unlike some of the results presented herein which considered sportpersonship to be as a factor related to the sportpersonship.

CONCLUSION

Measuring reliability and validity of these measuring instruments of sportpersonship was assessed in a study on the US college athletes. In another study conducted by Storner and Bro (2002) with teenage handball players, also the instrumental quarrel aspect was added. They understood that it is possible that anti-social behavior such as instrumental quarrel, which is often manifested in the form of threat, is common in sports. Several studies have focused on various factors which may affect the good sport behaviors. Scholars have also focused the different aspects such as gender, competitive aspects, team culture, physical contact level through emphasizing winning which may be related to the sportpersonship behaviors of the participants.

The available literature clearly reveals the multi-aspect nature of sport behavior, complexity of studying sportpersonship. Up to now several tools have been used to measure the sports behavior. Prior to 1979, many tools have been developed to measure sportpersonship, of which most have not been extensively used. Meanwhile, psychoanalysis has always been the missed tools.

The current study regarding reliability and validity of the MSOS sportpersonship questionnaire were obtained as quite acceptable values, as in comparison with the values reported for the questionnaires used in other studies, not only lower values have been obtained, but also they face significant increase, e.g. regarding Cronbach's alpha and the relevant values were obtained as (0.721~ 0.863), especially regarding the negative approach subscale which was discarded from the studies due to lack of acquiring proper internal stability. Studying the confirmatory factor analysis and the indicators related to the same out of the wellness and badness indicators all show the standard nature of the values. Regarding sportpersonship and its relevance to the age and gender conditions of the young athletes, the found results were not in conformity to the results of most of the examined studies, i.e. there was no direct relation between sportpersonship and age and gender of the young

athletes, while in several studies, sportspersonship in girls was meaningfully different from and higher than the boys, while also sportspersonship was related to age.

Therefore, it seems that considering the found results, first of all this questionnaire has a good capability for being used in similar issues; second, it is suggested that the same study is repeated in the same age or even younger age group (secondary school) and in different communities; third, what is highly important is studying the relevant effective factors in increasing sportspersonship which may be focused in several studies and communities, so that by using their results practically, we may see significant increase in this feature among the athletes and approach the healthy sport continuously in the future.

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