

Character Education Proficiency Scale in Sports

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ABSTRACT The aim of this paper is to develop the assessment instrument for character education proficiency in sports. The research group consisted of 147 volunteer wrestling referees working at the highest levels. Fifty-four of them (36.73%) are of the United World Wrestling while 93 of them (63.36%) were national referees. The data of research have been collected with the character education proficiency scale in sports consisting of 24 items suitable to quality standards and the principles of character education in accordance with expert opinion and literature review. After doing exploratory factor analysis on this data, 19 items providing construct validity have constituted the last scale. The scale has been grouped under four factors in total as self-confidence, loyalty, sincerity of behavior and tolerance. Cronbach Alpha internal consistency coefficient of the scale taking its final shape has been calculated. The construct validity of the scale with four factors obtained as a result of the exploratory factor analysis has been tested by the confirmatory factor analysis. According to reliability and validity studies, the scale has usable qualifications.

INTRODUCTION

Due to ongoing changes in family life and social patterns, it has become obligatory to teach the social values that are not usually taught in sports education programs and by sports organizations in schools and elsewhere. Sports have become an important part of youth activities because of the social interaction, discipline, training, and other advantages they tender (Bredemeier and Shields 1994). Sports education has an important role in teaching children to separate what is good from what is bad and in shaping their character.

Character is a concept from the literature of psychology. It was a popular term early in the last century. At that time, it was thought that a person had character to the extent that they possessed a set of virtues or moral personality traits such as honesty, integrity, generosity, and trustworthiness (Bredemeier and Shields 2006). The benefits of sport for society include public solidarity, good public behavior, business enthusiasm, the search for superiority, social equity, health awareness, personal qualities that make up a person's character, and job opportunity (Zhang et al. 1995).

There has been more research on the ethics of sports in recent years. Is it really a good character to provide to sports participants? For more than a century, the argument that sports build character has been popular among educators.

The idea that competitive sport helps in the development of the character has become more popular in today's modern age. Today the idea that sports build character is widely held in educational institutions. Sport builds character has become a popular cultural saying providing the rationale for including sports programs in a wide range of educational institutions (Bredemeier and Shield 2006). Moreover, the belief that sport builds character is firmly entrenched in popular opinion in spite of examples of bad behavior of athletes (Heather 2007: 34).

A sporting experience can build character, but only if the environment is structured and the stated and planned goal is to develop character. The informal process of moral character development is highly influenced by the environment which begins with our immediate families, family traditions, family values, religious training, as well as television, newsprint, sports, and movies (Stoll and Beller 1999: 2). Such is the environment in which stakeholders of sport should include all participants as coaches, sports managers and parents (Doty 2006: 6). A sport exercise can be an interactive environment that has the potential to engage students personally and socially in character development promoting activities (Destani et al. 2014).

These developments can be clearly seen in wrestling sport. In wrestling, shaking hands with the opponent before the match has become a habit. Likewise, wrestling participation offers

unique moral development experiences, such as maturity in terms of self-esteem, decision making, self-control, and sportsmanship. More specifically, through the concept of fair play, students can learn to obey rules and develop personal and social responsibility for their behavior (Gibbons et al. 1995; Solomon 1997).

Sportsmanship and fair play mean participating as a good sport and following the moral values of honesty and justice (Lumpkin et al. 2002). The player plays by the rules and is fair and honest to his opponents. Sportsmanship and the development of positive character have long been explicit goals of school sports. A strong belief exists that sport programs have the power to promote the development of "...sportsmanlike behaviors, ethical decision-making skills, and a total curriculum for moral character development" (Stoll 1995: 335). Character education relates to the deliberate and intentional activity of cultivating, modeling, and teaching moral growth and moral judgment (Stoll 2000: 3). Metzler (2012) stated that the effective learning domain, which is directed at promoting feelings, attitudes, emotions, and social behavior, has been an educational objective of physical education for nearly a century.

Objectives

The aim of the paper is to develop a scale that will determine the level of suitability of the sports programs in place in educational institutions and sports clubs giving sports education along with character education and to highlight the basic deficiencies. Another aim of the research can be stated as developing an assessment instrument to provide opportunity for sports educators to observe their situation institutionally and for sports, trainers, coaches, referees and administrators to evaluate the sportsman in terms of character in stated aspects.

METHODOLOGY

The research has been figured according to the screening model, the screening model being one of quantitative research techniques. The character education proficiency scale in sports (CEPSS) is a descriptive screening model since it is aimed at determining the current situation with quantitative analysis of the data that have been

gathered. All statistical analyses were performed with the SPSS package program.

The Preparation Process of the Scale

In this stage, the conceptual framework has been presented by doing literature review and a pool including 33 items related to the sub-dimensions of CEPSS has been created with the purpose of organizing the structure of the scale, making it suitable and providing content validity. Academicians, consisting of one educational specialist and one psychologist and one specialist working at assessment and evaluation department, have been asked their opinions. Nine items that are not considered suitable have been removed from the pool consisting of 33 items created before as suitable to quality standards and the principles of character education in accordance with expert opinions. The pre-testing form of character education efficacy scale in sports with 24 items determined after making the necessary corrections by experts has been composed with these items that the experts have approved of for validity. Five point Likert grading scale (1 "strongly disagree", 2 "disagree", 3 "undecided", 4 "agree", and 5 "strongly agree") has been used expressing the participation level regarding the items of CEPSS. There are four intervals in the scale between 1 and 5, and the score for each interval has been obtained by dividing the number of intervals by the number of items. The operation has been formularized as $4:5=0.80$ and each interval needs to contain 0.80 score based on the obtained result. The score interval has been demonstrated on the following: 1 strongly disagree = 1.00-1.80, 2 disagree = 1.81-2.60, 3 undecided = 2.61-3.40, 4 agree = 3.41-4.20, 5 strongly agree = 4.21-5.00.

Research Group

The research group consists of 147 volunteer subjects. They are United World Wrestling (UWW) and national level wrestling male referees working in the highest level, as 54 of them (36.73%) are international wrestling male referees and 93 of them (63.36%) are national wrestling male referees whose average refereeing tenure is 14.8 (6-35) years, average of age is 42.01 (31-60) and 13 of them (8.89%) are high school students, 102 (69.38%) are university students and 32 (21.76%) are postgraduate students. The

participants were given the data collecting tool by the researcher and they were asked to fill it in 15 minutes. The researcher gave sufficient and comprehensible information when there was a problem related to the questions coming from the participants. When it comes to the literature review about the proficiency of the research group, Preacher and MacCallum (2002) have suggested that the size of the sample should be between 100 and 250 or between threefold and tenfold; according to Hatcher (1994) it should be 5:1 or number 100; Nunually (1978) has proposed that it should be 5 times more, at least for the validity of the test, and 7 or 8 times more to increase the reliability; Osborne and Costello (2004) have suggested that the number of items should be 10 times more. The sample size is approximately 8 times more than the variable; that is, the number of items.

Practices for Ensuring Reliability and Validity of the Scale

The validity and reliability study of the CEPSS scale used in research, which includes 24 items in total, has been conducted on 147 wrestling referees. The data have been subjected to the analysis of validity and the test of internal consistency and the validity and reliability of the test have been determined. The 5 items of which factor load is low and decreasing the Cronbach Alpha internal consistency have been eliminated from the scale. Consequently, CEPSS has consisted of 19 items and 4 factors. After establishing the factors constituted, the scale has been determined, a suitable title for each factor has been tried for determination based on the statements related to the items in each factor.

Data Collection Instruments

CEPSS consists of 19 items and 4 factors. Scale fields:

1. **Factor: the aspect of self-confidence:** consists of 8 items and expresses the confidence of the sportsman to themselves and their abilities. ($\alpha=0.86$),
2. **Factor: the aspect of loyalty:** consists of 3 items and related to the loyalty of the sportsman towards their coaches, friends and countries ($\alpha=0.80$),
3. **Factor: the aspect of sincerity of behaviors:** consists of 4 items and expresses that the

sportsman behave honestly and sincerely towards the referee and the other sportsmen during the competition in the cases of stalling in the competition, etc. ($\alpha=0.79$),

4. **Factor: the aspect of being tolerant:** consists of 4 items and is related to the sportsman being helpful, tolerant of his competitors, having the humane sentiment towards others and having a conscience ($\alpha=0.74$).

Procedure

Factor analysis is a technique providing an empirical basis to obtain independent variable clusters in a limited number by joining the variables at medium level or at relative relevance with each other. Thus, it becomes possible to reduce many variables to several clusters or aspects. These aspects or clusters have been named factor (Borg and Gall 1989). Many researchers use factor analysis techniques to develop theories Exploratory Factor Analysis (EFA) and test theories Confirmatory Factor Analysis (CFA) (Rennie 1997).

Data Analysis

Construct validity has been examined as validity paper of CEPSS in the research. Explanatory factor analysis (EFA) has been done for the construct validity of CEPSS. EFA aims at reaching meaningful structures that can be defined in limited number and can be explained together with these variables from a lot of variables (items).

RESULTS

The data gathered in accordance with the analysis have been given under the titles of the evaluation of the data in terms of suitability to the factor analysis, confirmatory factor analysis (CFA).

The Evaluation of the Data in terms of Suitability to the Factor Analysis

In the EFA to test the construct validity of CEPSS, first the correlation matrix between all the items was examined to check whether there are significant correlations between items and significant correlations were found which suggests suitability for factor analysis. Next, whether the data obtained from the research group are

suitable to exploratory factor analysis or not has been determined by the Kaiser-Meyer-Olkin (KMO) and Bartlett test. That the value of Kaiser-Meyer-Olkin is high means that each variable in the scale can be perfectly estimated by other variables. Field (2000) has indicated that 0.50 value should be the lower limit for the Kaiser-Meyer-Olkin test and data set cannot be factored for $KMO \leq 0.50$. Accordingly, it is expected that the Bartlett Test is meaningful and Kaiser-Meyer-Olkin Test is bigger than 0.50. The results of the Bartlett Test and the Kaiser-Meyer-Olkin Test have been given in Table 1.

KMO value has been detected as 0.816 as seen in Table 1 and this value can be interpreted as very good for the factor analysis of the sample size. Besides, chi-square has been found : ($\chi^2 = 1.219E3$), $p = 0.000$ when the results of Bartlett sphericity test has been examined. Since the value of Total cronbach alpha is 0.861, it can be said that the reliability of the data is high. The experts have stated that it is sufficient that the factor load value is 0.70 or above. Thus, it can be inferred that the research data have shown multi-

variate normal distribution and there has been a sufficient relation to do factor analysis among variables.

As seen in Table 2, 0.859 for Factor 1, 0.798 for Factor 2, 0.785 for Factor 3 and 0.740 for Factor 4 and 0.861 for the whole of the scale was calculated. Considering the fact that it is sufficient that the value of Cronbach Alpha is above 0.70 for reliability, it can be said that the reliability of the scale is high.

Table 2: Statistics of reliability

<i>Factor</i>	<i>Cronbach's alpha</i>
Factor 1	.859
Factor 2	.798
Factor 3	.785
Factor 4	.740
Total	.861

Confirmatory Factor Analysis

There is some goodness of fit indices commonly used for CFA. Construct validity as a re-

Table 1: Findings about factor loadings and the variance rates it explained

<i>Items</i>	<i>1. Factor: Self confidence</i>	<i>2. Factor: Loyalty</i>	<i>3. Factor: Sincerity in behavior</i>	<i>4. Factor: Being tolerant</i>
23	.817			
24	.784			
15	.675			
13	.627			
16	.607			
18	.602			
20	.599			
22	.545			
Cronbach Alpha	.859			
9		.866		
10		.828		
8		.757		
Cronbach Alpha		.798		
4			.910	
5			.877	
3			.800	
11			.394	
Cronbach Alpha			.785	
14				.720
19				.688
21				.584
7				.518
Cronbach Alpha				.740
Total Cronbach Alpha	.861			
Explained Variance	60.982%	31.618%	12.733%	10.921%
Kaiser Mayer Olkin (KMO):	.816			
Barlett Sphericity: ($\chi^2 = 1.219E3$), $p = 0.000$				

sult of exploratory factor analysis has been tested by confirmatory factor analysis. The suitability of the model was tested by CFI, GFI and RMSEA cohesion criterion. At the end of analysis, it was determined that CFI is 0.92, GFI is 0.88 and RMSA is 0.049. The table of the model emerging after the analysis was given in the Table 3.

Table 3: CEPSS' fitness for four-factor and Chi-square analyses

<i>Chi-Square (χ^2)</i>	<i>p</i>	<i>χ^2/Sd</i>	<i>CFI</i>	<i>GFI</i>	<i>RMSA</i>
1.219E3	.000	1.22	.92	.88	.049

DISCUSSION

Sports psychologists usually express the view that sports play an important role in shaping the character. The purpose of this paper was to develop CEPSS and to examine its behavior properties. An assessment instrument was developed to identify the situations of the sportsman towards character education in this paper. The scale has consisted of 19 items. In the study, Turkey's 93 national and 54 international wrestling referees participated. The factor analysis technique was used to develop EFA and CFA.

At the end of the factor analysis, it was determined that the scale be grouped under 4 factors and it was tested by confirmatory factor analysis. The first factor has been named for the aspect of self-confidence of character education (S23, S24, S15, S13, S16, S18, S20 and S22); the second factor for the loyalty aspect (S9, S10, S8); the third factor for the aspect of sincerity of behavior (S4, S5, S3, S11); the fourth factor has been named for the aspect of being tolerant (S14, S19, S21, S7) in Table 1 and appendix.

This paper evaluated the internal consistency Cronbach's alpha internal consistency coefficient of efficacy scale and a value that indicates it is quite a good level of internal consistency as 0.86 in the Table 2. The expected level of reliability for the measurement tools that can be used in research is a minimum of 0.70 (Tezbasaran 1996). The presence of high internal consistency coefficient of the scale is proving to be suitable. This high internal consistency coefficient obtained indicates an adequate level of homogeneity of this scale.

As such, it can be said that the scale is of adequate levels of reliability in all dimensions. In the literature, the confirmatory factor analysis

χ^2 , RMSEA, CFI and GFI criteria are stated as determining the appropriate model (Tabachnick et al. 2001; Özabacı 2011; Baydur and Eser 2006).

The researcher now looks at the fundamental characteristics of a good measuring tool's reliability and validity. Reliability is stability between the same independent measurements. In other words, it involves monitoring the same process using the same criteria and receiving the same results. It is free from random measurement of the judiciary (Karasar 1995).

A value that reflects the reliability of a scale is a measure of internal consistency. Cronbach's alpha reliability coefficient is most preferable to assess the internal consistency (Karasar 1995; Firat 1995).

All items of the scale as a result of analyses, for a value of item-total and item-remaining, were found to be sufficient (Büyüköztürk 2003; Tavşancıl 2002). According to reliability and validity studies, the scale has usable qualifications.

CONCLUSION

As a result of the findings in this paper, the EFA and the CFA of four factors on behavior and self-confidence, loyalty, sincerity and tolerance related subscales were determined in Table 1. It has been detected that the total Cronbach Alpha value of the scale is 0.86 and the first factor among sub-dimensions is 0.86. The second factor is 0.80 and the third factor is 0.79 and the fourth factor is 0.74. The results have demonstrated that the reliability of the scale is high.

The sub-dimensions of the developed scale have shown positive meaningful relationships with each other and with the total scale. It is an indicator of the construct's validity.

RECOMMENDATIONS

This scale can be used in the determination of the state of character education in sports, the determination of the variables effective in the studies of the sportsman education centers, and the determination of the differences between the ones taking sports education and the ones not taking sports education within the context of character formation in the studies that will reveal the effect of the changes towards sports education programs.

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APPENDIX

Distribution of items according to factors of CEPSS

<i>Character education proficiency scale in sports</i>		<i>Strongly disagree</i>	<i>Disagree</i>	<i>Undecided</i>	<i>Agree</i>	<i>Strongly agree</i>
<i>Factor 1 Self Confidence</i>	23- Athletes are diligent and determined.	[1]	[2]	[3]	[4]	[5]
	24- Athletes are people who have self-esteem.	[1]	[2]	[3]	[4]	[5]
	15- Athletes gain the ability to move with the group.	[1]	[2]	[3]	[4]	[5]
	13- It has developed a sense of confidence in athletes.	[1]	[2]	[3]	[4]	[5]
	16- Athletes love to share.	[1]	[2]	[3]	[4]	[5]
	18- Athletes gain self-management skills.	[1]	[2]	[3]	[4]	[5]
	20- Athletes are individuals who will perform them.	[1]	[2]	[3]	[4]	[5]
	22- Athletes can easily establish empathy.	[1]	[2]	[3]	[4]	[5]
<i>Factor 2 Loyalty</i>	9- Athletes show loyalty to the coach.	[1]	[2]	[3]	[4]	[5]
	10- Athletes are loyal to their country.	[1]	[2]	[3]	[4]	[5]
	8- Athletes are loyal to your friends.	[1]	[2]	[3]	[4]	[5]
<i>Factor 3 Sincerity in Behavior</i>	4- Athletes do not make disability tricks.	[1]	[2]	[3]	[4]	[5]
	5- Athletes spend time, not exhibit the behavior.	[1]	[2]	[3]	[4]	[5]
	3- Athletes attempt to deceive the referees.	[1]	[2]	[3]	[4]	[5]
	11- Athletes are respectful towards foreign cultures.	[1]	[2]	[3]	[4]	[5]
<i>Factor 4 Being Tolerant</i>	14- Athletes are helpful to others	[1]	[2]	[3]	[4]	[5]
	19- Athletes are people of good conscience	[1]	[2]	[3]	[4]	[5]
	21- Athletes carry the hurt feelings against competitors and others.	[1]	[2]	[3]	[4]	[5]