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The validity and reliability of Turkish version of fair play questionnaire in Physical Education (FPQ-PE) and an implementation

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The study was primarily carried out with the aim of adaptation of Fair Play in Physical Education Questionnaire (FPQ-PE). In addition, the adapted questionnaire was implemented on Turkish children and youth aged between 11 and 18 and the results were presented. The questionnaire originally adapted by Hassandra et al. for Greek students was adapted in four stages. 672 secondary and high school students from 11-18 age group participated in this study. The first stage was translation, the second stage was exploratory factor analysis for the validity of the questionnaire and the third stage was confirmatory factor analysis. At the fourth stage, the reliability was tested. Finally, another implementation was practiced on a new sample formed by 250 students from the same age group and their fair play scores were determined in terms of gender, school and class variables. The results showed that the questionnaire was valid for Turkish children and youths aged between 11 and 18, reliable except for one sub-scale and could be accepted as a practicable questionnaire. Furthermore, it was found that the main effect of gender and class of the students had significant effect on all sub-scales of fair play in favor of girls; at the same time, the class variable indicated a significant effect on gamesmanship and cheating sub-scales in favor of lower class (antisocial).

Key words: Physical Education, Fair Play, Fair Play Questionnaire

INTRODUCTION

Modern sport originated in Great Britain as a cultural product of modernity, emphasizing equality and competition. Fair play was the moral creed of the new sporting ethos, created by 19th century upper and upper-middle class Englishmen (Renson, 2009). Due to gradual increase in commercial and political expectations from sport in 20th century, moral expectations remained in the background, which caused the amateur spirit fell behind in relation to ever strengthening professionalism. Through this period, the fair play perception has been transformed into a virtue of only following the rules from a degree which points out high humanitarian values such as sustaining and protecting equal competition and opportunities, respecting the sportive opponent as an

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equivalent actor like their own as well as his physical and mental privacy, avoiding gamesmanship (Yıldıran, 2007). However, the sport still holds the notion of effecting whole human being as an activity which includes not only tolerance, equality, discipline, virtue, joy, rights, law, happiness, love, respect but also grief, sorrow, stress (Pehlivan, 2004). The philosophy of the sport is sportspersonship and fair play (Yapan, 2007). Fair play is not only an essential element of sport, it has also become a more general philosophy of respect for others and respect for rules, whether on the sporting field or in business or other competitive endeavours. Publications such as Sigmund Loland's Fair play in sport: a moral norm system (2002) and the creation of a wide range of national and international fair play committees, trophies and prizes, underlines the relevance and importance of fair play for sport and society (Renson, 2009). Fair play is doing the sport in an amateur way (Yıldıran, 2004) and a kind of moral code leading the way to the sportive behaviors. Thus, the concept of fair play is the sum of social and moral values delivered to individuals through sport (Hassandra et al., 2007). Fair Play is a world-view that depends on respect to opponent, teammates, spectators and public. This view is based on the philosophy of "not demanding to win no matter what it takes, refusing to be successful if required" (Yapan, 2007; Şahin, 1992; cited by Şebin et al., 2007). Following the rules also includes equal opportunities, avoiding gamesmanship and respect to the authority of the referee (Yıldıran, 1992). The Fair play concept requires players not only to esteem game rules unconditionally and unexceptionally; beyond this, it also requires competitive sports to be played in a particular spirit (Yapan, 2007).

Fair play should be thought as a big life discipline that needs to be taught in primary school. From sportive comment to a very detailed sportive technique, that this main principle should not be left needs to be described to people (Gökçe, 1991; cited by Arıpınar and Donuk, 2011). A central concept within Sport Education is fair play. Fair play represents social skills such as (a) the accomplishment of class expectations, (b) the effort students put forth in terms of their engagement, (c) respecting other students' rights to learn and to participate, (d) being supportive with peers and playing by the rules, and (e) demonstrating respect for the roles of opponents and referees (Vidoni and Ward, 2009). Advocates of Physical Education and Sport (PES) have listed numerous benefits associated with participating in these activities. For example, Talbot claims that Physical Education helps children to develop respect for the body—their own and others', contributes toward the integrated development of the mind and body, develops an understanding of the role of aerobic and anaerobic physical activity in health, positively enhances self-confidence and self-esteem, and enhances social and cognitive development and academic achievement (Bailey, 2006). Siedentop (1994) stressed that in sport education, 'The biggest lesson is to play hard, play fair, honor your opponent, and accept that when the contest is over, it is over. What matters most is taking part fairly and honorably, irrespective of which individual or team wins or loses' (Sidentop 1994; cited by O'Donovan et al., 2010).

The importance of physical education and sports courses in schools in teaching and acquiring Fair play concept for children and youths cannot be ignored. In view of curricula of physical education and sports courses in Turkey from primary school to high school, it can be seen that they include affective objectives as well as cognitive and psychomotor objectives and developing fair play apprehension is underlined. Fair play was described as one of the principals forming the curriculum in "Play and Physical Activities" course curriculum developed for 1^{st} - 4^{th} class in primary school in 2012. It stated that "it is aimed to develop a sporty thought of game and competition" (ME, 2012). Besides, fair play was described as one of the principals forming the curriculum in Physical Education and Sport course curriculum developed for 5^{th} – 8^{th} class in 2013. It also claimed that "it is aimed to develop a sporty thought of game and competition" (ME, 2013). Furthermore, fair play was emphasized in "Sport Culture and National Awareness" course curriculum for 9^{th} – 12^{th} class as "Virtue in Sport".

When we look at the literature, Hassandra, Bekiari and Sakellariou (2007) found that there was a positive relation between teachers' verbal aggression and students' antisocial behaviours; on the other hand, there was a negative correlation among students' acceptable social behaviours. Vidoni and Ward (2009) observed the effect of fair play education during rugby unit in physical education course and found that this education increased active participation in the lessons and reduced the number of aggressive behaviours. Şebin et al. (2007) studied the views on fair play of university students who did sports and identified differences depending on the gender, the branch of sport, and the faculty variables.

Considering a variety of sportive activities in Turkey, fair play thought is not recognized by most of the people and they occasionally demonstrate behaviours inappropriate to fair play in sport events. It cannot be denied that physical education and sport courses are highly important for fair play to be internalized and become behavior. However, there is a need for a new instrument to measure how effective these lessons are on students' fair play thought in Turkey. Because of this reason, the aim of this study is to adapt Fair Play Questionnaire (FPQ-PE) to Turkish, that was originally named "Fair Play in Physical Education Questionnaire" (FPPEQ) and developed by Hassandra et al. (2002), and determine whether it is suitable for Turkish children and youths aged between 11 and 18. Another aim is to carry out an implementation and submit the results. The

permission of Hassandra who is the developer of original questionnaire, was requested by email to translate and adapt the questionnaire to Turkish.

METHOD

Participants

672 secondary and high school students from 11-18 age group studying between 5th and 12th class in 2013-2014 academic year fall semester in Düzce and Bolu provinces participated in the phase of questionnaire development (pilot study). Two different samples were designated for pilot study. 372 students from secondary schools in Düzce and Bolu provinces were reached through convenience sampling method (easy-accessible method) for exploratory factor analysis and 300 students from the same schools were reached for confirmatory factor analysis. First of all, to carry out the pilot study, permission of school principals was taken. Then an interview with PE teachers was made to explain the details of study. This questionnaire was applied by PE teachers to PE classes to get self evaluation of students. That is why consent forms of parents and students were not asked.

It can be seen in the literature that there are different approaches related to sample size for factor analysis in studies of developing and adapting instruments. Worthington and Whittaker (2006) noted that a sample of 300 individuals is enough in order to reveal multi-factor designs for reliability, yet Kline (1994) stated that a sample of 200 individuals is sufficient. Furthermore, Kline (1994) suggested that the subject-item rate needs to be 10:1 in determining sample size. He also stated that this rate can be reduced, but it should be kept minimum 2:1.

Data collection instruments

Fair play in Physical Education Questionnaire – FPPEQ: Based on the conceptual structure of the questionnaire developed by Hassandra et al. (2002), its components (Butcher and Schneider, 2001; cited by Hassandra et al., 2007; M.S.O.S. (Multiscaleal Sports-personship Orientation Scale; Vallerand et al., cited by Hassandra et al., 2007) Fair Play in Physical Education Questionnaire is developed to assess Greek students' conception of Fair play. Scales of fair play and the items representing it were structured in accordance with physical education courses in Greek schools.

The questionnaire consists of 16 items assessing four scales (two pro-social and two antisocial) most applicable in physical education; in particular, respect toward teammates (e.g. "I praise the good efforts of my teammates"), respect for conventions (e.g. "I shake hands with opponents no matter if I lose or win"), cheating (e.g. "I cheat if it helps me win"), and gamesmanship (e.g. "I try to upset the opponents") (Hassandra et al., 2002). The questionnaire is assessed in 5-point Likert scale (1=never, 5=always) (Hassandra et al., 2007).The validity and reliability of the questionnaire was conducted by Hassandra et al. (2007). In this study, the results of factor analysis in 10-12 years old sample supported that the questionnaire had 4 sub-scales; it was filled in three times as pre-test, post-test and retention test, and through this data, it was determined that internal consistency coefficient was between .66 and .89 (Hassandra et al., 2007). These findings showed that the reliability of the questionnaire is at a sufficient level.

Hassandra et al. (2007) suggested 3 ways to calculate the score of the questionnaire: 1. Calculate the means for each factor (4 scores) (suggested for pre-post measurements on interventions) there is no need to reverse any of the items. 2. Calculate the means of all the prosocial items (respect toward teammates and conventions) and then the scores of all the antisocial items (gamesmanship and cheating) 2 scores (suggested for interventions, cross-sectional or longitudinal) there is no need to reverse any items. 3. There is also the possibility to calculate one total score for all items but in this case you need to reverse the antisocial items' answering scale (suggested for interventions (secondary-not the main measure), cross-sectional or longitudinal studies) (Hassandra et al., 2007).

In this study, the first way was chosen for scoring and the assessment was done separately for each scale. For this reason, that the students get higher scores from the first two scales were accepted as positive, yet for the other two scales, it was students getting lower scores what was accepted as positive.

The process of developing the questionnaire (Pilot Study):

The process of the adaptation of the questionnaire in Turkish is presented respectively.

Translation stage: For conducting validity and reliability study of the questionnaire, the questionnaire was primarily translated into Turkish from English by two English language experts, three physical education and sport experts who were proficient in English, one measurement and evaluation expert, totally six people. The translations were closely examined and after specifying the main expressions, the questionnaire was prepared in Turkish. Next, this Turkish questionnaire was given to two different English language experts, three different physical education and sport experts who were proficient in English, one measurement and evaluation expert, totally six people and they were asked to translate it from Turkish to English. The translated English version of the questionnaire was compared to the original one and checked whether there were any semantic shifts in the items. An English language and a Turkish language expert contributed at this stage. After the edition, the questionnaire was finalized in 16 items (Table 1).

Pilot Study 1 (Exploratory Factor Analysis – EFA): Students from secondary and high schools in Bolu and Düzce provinces were chosen through convenience sampling method (easy-accessible method) for exploratory factor analysis. The questionnaire was firstly conducted on 372 students for exploratory factor analysis and it took ten minutes to fill in. The profile of the participants is presented in Table 2.

After the pre-check, no lost value was found in data set. Since most value sets could include some extreme value or unexpected observations that were produced by other uncontrollable variables (Çokluk et al., 2010:210), single variable and multi variable extreme values were determined. In order to determine single variable extreme values, it was essential to transform item scores of the questionnaire to standard scores (Tabachnick and Fidel, 2001); therefore, "z score" for each item was calculated. 32 values were described as single variable extreme values which were exclusive of -3 and +3 in standardized scores. There lines were excluded from the data set. Accordingly, the sample size was 340.

Validity study: An expert review was asked for construct validity of the questionnaire, and then exploratory factor analysis was done. It was investigated that whether there is a specific order among the answers given by the participants to the draft questionnaire through factor analysis and it was attempted to confirm whether the items were separated in a single factor or multi factors. In order to find out whether the data collected was appropriate to exploratory factor analysis, Kaiser-Meyer-Olkin (KMO) coefficient and Barlett test of sphericity value were calculated (KMO:.794, x^2=1774.907;p=.000) and it was found that the data was convenient for exploratory factor

Table 1. The process of the adaptation of the questionnaire in Turkish

Process	Duration
1. Translation of FPEQ into Turkish	2 weeks
2. Structuring FPEQ	1 week
3. Translation of FPEQ into English	3 weeks
4. Comparison of Turkish and English versions FPEQ	2 weeks
5. Implementation of FPEQ on Turkish children and youths	4 weeks
6. Calculation of validity and reliability parameters	3 weeks

Table 2. The profile of the participants for exploratory factor analysis.

Variables		f	%
Province	Düzce	115	33.8
	Bolu	225	66.2
Gender	Female	159	46.8
	Male	181	53.2
Class	5	61	17.9
	6	50	14.7
	7	55	16.2
	8	80	23.5
	9	33	9.7
	10	26	7.6
	11	20	5.9
	12	15	4.4

analysis. After that, principal components for factor analysis method was carried out on data collected. In the principal components for factor analysis, eigenvalue, explained variance ratio and Scree Plot line table were taken into consideration. In principal components factor analysis, factor values between .30 and .40 can be accepted as undercut point in the formation of factor pattern (Tavsancil, 2002; Büyüköztürk, 2003; Tabachnick and Fidell, 2001). From this point of view, lower limit in determining factor was .40 in this study. Next, varimax rotation for factor analysis was performed in order to detect under how many factors the items were grouped and they turned out to be grouped under 4 factors, in the same way to the original questionnaire. However, it was found that 13th "I want to cheat" item which was under cheating sub scale in the original questionnaire was with low factor loading and it also fell under two sub scales. For this reason, the item was removed from the questionnaire. The factor loadings and item-total correlations of the items are presented in Table 3.

According to the Table 3, it is seen that the questionnaire related to 15 questions is four scales (factors). There are 4 items each in the 1st, 2nd and 3rd sub-scales and 3 items in the 4th sub-scale. The factor loading of the items forming the first sub-scale (respect toward teammates) are between .411 and .737, the factor loadings of the items of the second sub-scale (respect conventions) are between .793 and .870, the factor loadings of the items of the third sub-scale (gamesmanship) are between .711 and .849 and the factor loadings of the items forming the fourth sub-scale (cheating) are between .792 and .866. After identifying the factor loadings of the 15 items, it was found that the eigenvalue of the first sub-scale was 3.967, the explained variance ratio was 26.444, the eigenvalue of the second sub-scale was 2.644, the explained variance ratio was 17.759, the eigenvalue of the third sub-scale was 1.355, the explained variance ratio was 9.036, the eigenvalue of the fourth sub-scale was 1.273, the explained variance ratio was 8.485 and the variance ratio of the total questionnaire was 61.724. In the questionnaire, minimum score that could be obtained was 15, maximum 75. Minimum score given to the items of the questionnaire that was implemented on the 340 students was 25, maximum 56.

Then mean of first sub-scale "respect toward teammates" was 16.63±2.06, 14.50±4.03 for the second sub-scale "respect conventions", 5.34±2.17 for the third subscale "gamesmanship" and 3.79±1.59 for the fourth sub-scale "cheating". The correlation values of the sub-scales of the questionnaire are given in Table 4.

Table 4 showed that, there were a positive and negative middle and low level of correlation among the factors. The correlation values among the factors were between 0.56 and .458. According to this result, it can be said that "Fair Play Questionnaire in Physical Education (FPQ-PE)" consists of 15 items with four factors as in the original one and its construct validity is at sufficient level for Turkish children and youths between 11-18 years old.

Pilot Study 2 (Confirmatory Factor Analysis – CFA): The construct validity of the "Fair Play in Physical Education Questionnaire" was also tested by confirmatory factor analysis (CFA). The questionnaire was implemented on different 300 students from the same schools where data was collected for EFA in order to do exploratory factor analysis. The profile of the participants from whom data was gathered for CFA is presented in Table 5.

After the study done with transforming questionnaire items into z scores with the purpose of determining single and multivariable extreme values, 15 items were excluded from the questionnaire that were out of -3 and +3 standard score interval. First level and second level CFA were carried out in order to find whether 4 factorial structures that appeared after exploratory factor analysis were confirmed or not. CFA was implemented on a data group formed by 285 people.

The main objective of the researcher in CFA is to test if a model that has been evidently determined is confirmed or not by the data (Şimşek, 2007). In structural equation models, whether the tested model is in compliance is detected by goodness of fit index (Durak et al., 2012). Widely used fit indexes in confirmatory factor analysis are root mean square error of approximation – RMSEA, goodness of fit index – GFI, normed fit index – NFI, comparative fit index – CFI, standardized root mean square error – SRMR. Fit indexes in relation to Fair Play questionnaire is presented in Table 6.

Lisrell programme was used in the study for confirmatory factor

Table 3. Factor analysis of Fair Play Questionnaire.

Items	Factor loadings	Item-Total Correlation
RESPECT TOWARDS TEAMMATES		
1. I support my teammates.	.737	.272
2. I help my teammates.	.490	.203
3. I reward my teammates' good efforts.	.411	.193
4. I stand by my teammates.	.675	.204
RESPECT CONVENTIONS		
5. I congratulate my opponents when I lose the game.	.798	.369
6. I shake my opponents' hands no matter I win or lose.	.870	.482
7. I congratulate my teammates on their good performance.	.793	.353
8. I shake my opponents' hands when the game finishes.	.835	.476
GAMESMANSHIP		
9. I try to disturb my opponents.	.796	.241
10. I swear to my opponents.	.711	.226
11. I try to demoralize my opponents.	.849	.300
12. I try to get my opponents angry.	.741	.260
CHEATING		
13. I cheat if I am sure that I am not got caught.	.866	.236
14. I cheat.	.852	.267
15. I cheat if it helps me win.	.792	.265

Table 4. Averages, standard deviations and correlation values of the sub-scales of the questionnaire

Subscales	1st Sub-scale	2nd Sub-scale	3rd Sub-scale	4th Sub-scale
1st Sub-scale	1.00			
2nd Sub-scale	.399**	1.00		
3rd Sub-scale	-.056	.149**	1.00	
4th Sub-scale	-.095*	-.136**	.458	1.00
Total	.543**	.745**	.396*	.333**
M	16.63	14.50	5.34	3.79
SD.	2.06	4.03	2.17	1.59

*p<0.05, **p<0.01 N=340.

analysis in order to experiment if the data was in compliance with the model. It was found that the model was in a suitably good compliance. In view of the fit indexes related to CFA, X^2/sd [$X^2_{(84)}$= 168.03; p<.05] ratio was 2.0. Wheaton et al. (1977) and Sümer (2000) pointed out that X^2/sd ratio which provides information if the measurement model is confirmed or not needs to be between 0 and 5.

After CFA, RMSEA, CFI, NNFI, RMR, NFI, GFI and AGFI fit indexes besides X^2/sd were observed. That RMSEA (Steiger, 2007), RMR (Kline, 2005) and SRMR (Hu and Bentler, 1999; Kline, 2005) indexes were below 0.05 indicated a perfect compliance; that GFI (Hooper et al., 2008), AGFI (Hooper et al., 2008), NFI, NNFI and CFI (Steiger, 2007) indexes were above .90 showed that they were at a high compliance level. In view of these statistical results, it can be said that 4 factorial structure acquired by EFA was confirmed and its factorial structure was a valid model.

After the analysis, it can be seen that all the latent variables of the items in the questionnaire delivers statistically meaningful t value and error variances of all the observed variables are below. 90 (Figure 1).

Reliability Study: Cronbach Alpha coefficient of internal consistency was used in this study to determine the reliability of the questionnaire. Cronbach Alpha coefficient of internal consistency

Table 5. The distribution of the students according to some variables

Variables		f	%
Province	Düzce	108	37.9
	Bolu	177	62.1
Gender	Female	161	56.5
	Male	124	43.5
Class	5	53	18.6
	6	63	22.1
	7	80	28.1
	8	44	15.4
	9	12	4.2
	10	17	6.0
	11	10	3.5
	12	6	2.1

Table 6. Fit indexes related to Fair Play Questionnaire.

Fit Indexes	Values
X^2	168.03 (p=.000)
Sd	84
X^2/Sd	2.00
RMSEA	0.060
RMR	0.033
SRMR	0.046
CFI	0.97
NFI	0.94
NNFI	0.96
GFI	0.93
AGFI	0.89

was .37 for the first sub-scale, .86 for the second sub-scale, .81 for the third sub-scale, .83 for the fourth sub-scale and .65 for the whole questionnaire. That reliability co-efficient is .60 and above is acceptable (Nunnally and Bernstein, 1994). According to the findings, it was verified that the reliability co-efficient for the first sub-scale was lower than the acceptable level; whereas the second, third and fourth sub-scales were acceptable.

Data analysis

In this study, expert opinion was asked, exploratory factor analysis, confirmatory factor analysis were done for validity. For reliability, Cronbach Alpha coefficient of internal consistency, descriptive statistics, one way variance analysis and two way variance analysis were used. The model including single factorial solution in confirmatory factor analysis was tested by using Lisrell programme. The significance level was 0.05.

FINDINGS

After the questionnaire was developed, it was implemented on 250 students chosen randomly and comparisons were made according to some variables. The data about the sample are given in Table 7.

Two-way variance analysis was done to compare the scores that students obtained from the sub-scales of the questionnaire depending on the school and gender variables (Table 8).

The mean of the secondary school students in “respect toward teammates” sub-scale was 16.58±2.12 and the mean of high school students was M=17.18±1.80. There was no significant difference of these groups among the scores in “respect toward teammates” sub-scale [$F_{(1,246)}$ =.060,p>0.05]. Accordingly, different levels of schools did not lead to significant difference in “respect toward teammates” sub-scale.

There was also no significant difference in the mean of male and female students in this scale [$F_{(1,246)}$ =.851, p>0.05]. In this scale, the mean of the female secondary school students was 17.07±1.92 while the mean of the female high school students was 16.68±1.45. The mean of the male secondary school students was 16.14±2.20, yet the mean of the male high school students was 17.51±1.93. Thus, it can be said that there was a similarity between the scores of respect toward teammates of male and female students. However, it was observed that there was a significant difference in the scores of respect toward teammates of the female and male students at different school level [$F_{(1,246)}$ =11.536,p<0.05]. It was figured out that the main effect of school and gender led to significant difference in “respect toward teammates” sub-scale (Table 9).

The mean of the “respect conventions” sub-scale of secondary school students was 14.34±4.01 while it was 14.70±4.40 for the high school students. There was no significant difference in the scores of these groups in “respect conventions” sub-scale. [F(1,246) =.046,p>0.05]. According to this result, it can be said that different school levels did not lead to significant difference in “respect conventions” sub-scale.

There was also no significant difference in the means of male and female students in this scale [F(1,246) =8.435,p<0.05]. The mean of the female secondary school students was 14.92±3.93, the mean of the female high school students was 12.19±4.05, the mean of the male secondary school students was 13.83±4.03, the mean of the male high school students was 16.33±3.85. Consequently, it can be claimed that gender has a significant influence on the scores of “respect conventions”. Similarly, it was found that there was a significant difference in the means of the male and female students at different school levels in the “respect conventions” sub-scale [F(1,246) =24.846,p<0.05]. According to this result, it was determined that the main effect of school and

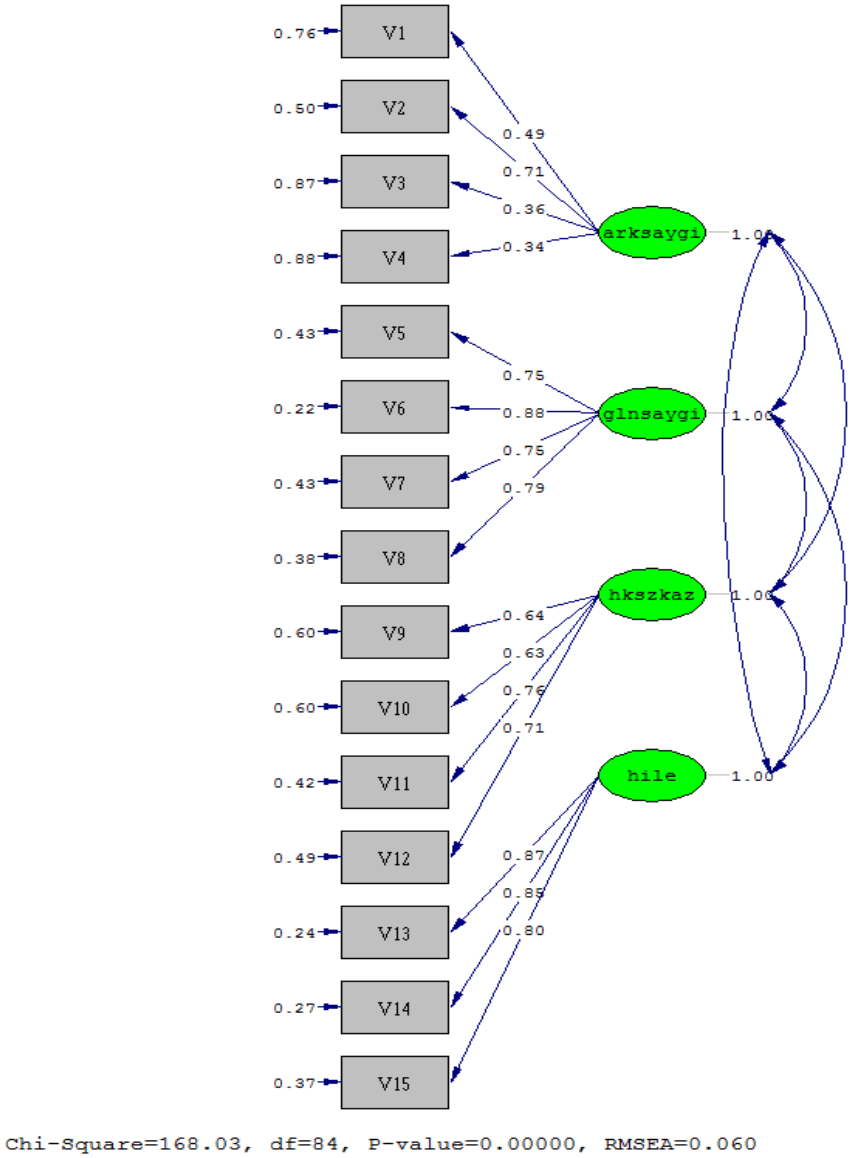

Figure 1. DFA results and error variances regarding the Fair Play Questionnaire.

Table 7. Demographic profiles of the sample.

	Male		Female		Total	
Class	**f**	**%**	**f**	**%**	**f**	**%**
5	17	6.8	16	6.4	33	13.2
6	12	4.8	16	6.4	28	11.2
7	19	7.6	23	9.2	42	16.8
8	27	10.8	26	10.4	53	21.2
9	6	2.4	27	10.8	33	13.2
10	19	7.6	7	2.8	26	10.4
11	7	2.8	13	5.2	20	8
12	5	2	10	4	15	6
Total	112	44.8	138	55.2	250	100

Table 8. Comparison of "respect towards teammates" scores according to gender and school variables.

Source	Type III Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Gender	.136	1	.136	.035	.851	.000
School	13.726	1	13.726	3.575	.060	.014
GxS	44.293	1	44.293	11.536	.001*	.045
Error	944.527	246	3.840			
Total	71642.000	250				

Table 9. Comparison of "respect conventions" scores according to gender and school variables.

Source	Type III Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Gender	132.533	1	132.533	8.435	.004*	.033
School	.718	1	.718	.046	.831	.000
GxS	390.406	1	390.406	24.846	.000*	.090
Error	3865.443	246	15.713			
Total	56751.000	250				

Table 10. Comparison of "gamesmanship" scores according to gender and school variables.

Source	Type III Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Gender	1.005	1	1.005	.223	.637	.001
School	64.9986	1	64.9986	14.436	.000*	.055
GxS	70.802	1	70.802	15.728	.000*	.060
Error	1107.403	246	4.502			
Total	8595.000	250				

gender caused significant difference in "respect conventions" sub-scale (Table 10).

The mean of the "gamesmanship" sub-scale of secondary school students was 5.08±1.90 while it was 6.00±2.59 for the high school students. There was a significant difference in the mean of these groups in "gamesmanship" sub-scale. [$F_{(1,246)}$ =.14.436,p>0.05]. Therefore, it can be said that different school levels led to significant difference in "gamesmanship" sub-scale.

There was also no significant difference in the scores of male and female students in this scale [$F_{(1,246)}$ =.223,p>0.05]. In this scale, the mean of the female secondary school students was 4.57±1.34 while the mean of the female high school students was 6.76±3.02. The mean of the male secondary school students was 5.56±2.20, yet the mean of the male high school students was 5.51±2.15. Thus, it can be said that there was a similarity between the scores of gamesmanship of male and female students. However, it was observed that there was a significant difference in the scores of gamesmanship sub-scale of the female and male students at different school level [$F_{(1,246)}$ =15.728,p<0.05]. It was figured out that the main effect of school and gender led to significant difference in "gamesmanship" sub-scale (Table 11).

The mean of the "cheating" sub-scale of secondary school students was M=3.53±1.11 while it was M=4.27±2.17 for the high school students. There was a significant difference in the scores of these groups in "cheating" sub-scale. [$F_{(1,246)}$ =18.597, p>0.05]. In view of this result, it can be said that different school levels led to significant difference in "cheating" sub-scale.

There was also a significant difference in the scores of male and female students in this scale [$F_{(1,246)}$ =4.493,p<0.05]. The mean of the female secondary school students was 3.31±.93, the mean of the female high school students was 5.05±2.62, the mean of the male secondary school students was 3.74±1.22, the mean of the male high school students was 3.75±1.65. Consequently, it can be claimed that gender has a significant influence on the scores of "cheating". Similarly, it was found that there was a significant difference in the scores of the male and female students at different school levels in the "cheating" sub-scale [$F_{(1,246)}$ = 18.025,

Table 11. Comparison of "cheating" scores according to gender and school variables.

Source	Type III Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Gender	10.666	1	10.666	4.493	.035*	.018
School	44.146	1	44.146	18.597	.000*	.070
GxS	42.788	1	42.788	18.025	.000*	.068
Error	583.956	246	2.374			
Total	4286.000	250				

Table 12. Comparison of fair play scores according to class (5-12).

Scales	Variance source	Sum of squares	df	Average of squares	F	p	Source of difference
Respect Towards Teammates	*Between Groups*	*83.857*	*7*	*11.980*			
	In Group	930.927	242	3.847			5-12
	Total	1014.784	249		*3.114*	.004*	7-12
Respect Conventions	*Between Groups*	96.250	7	13.750			
	In Group	4208.186	242	17.389	.791	.596	
	Total	4304.436	249				
Gamesmanship	*Between Groups*	83.047	7	11.864			5-11
	In Group	1146.157	242	4.736			
	Total	1229.204	249		2.505	.017*	
Cheating	*Between Groups*	81.512	7	11.645			5-11
	In Group	579.272	242	2.394			6-11
	Total	660.784	249		4.865	.000*	7-11
							8-11
							8-12
							9-11
							10-11

$p<0.05$]. According to this result, it was determined that the main effect of school and gender led to significant difference in "cheating" sub-scale (Table 12).

According to the Table 12, there was no significant difference among the students' scores in "respect conventions" sub-scale [$F_{(7,249)} = .791, p>0.05$], whereas there was significant differences in respect towards teammates [$F_{(7,249)} = 3.114, p<0.05$], gamesmanship [$F_{(7,249)} = 2.505, p<0.05$] and cheating [$F_{(7,249)} = 4.865, p<0.05$]. It can be understood that the differences were caused by the scores of 12th class (M=18.00), 5th class (M=16.09) and 7th class (M=4.64) in respect towards teammates sub-scale; 11th class (M=5.35) and 5th class (M=3.97), 6th class (M=3.36), 7th class (M=3.55), 8th class (M=3.34), 9th class (M=3.76), 10th class (M=3.81) in cheating sub-scale and the different means of the 12th class (M=4.73) and 8th class (M=3.34). The difference in the "respect towards teammates" sub-scale was in favor of 12th classes while the differences in the "cheating" and "gamesmanship" sub-scales were opposed to 11th and 12th classes.

DISCUSSION AND CONCLUSION

One of the aims of this study was to adapt Fair Play Questionnaire (FPPEQ) to Turkish, and determine whether it was applicable to Turkish children and youths aged between 11 and 18. For this reason, exploratory factor analysis for the reliability of the questionnaire was done on 340 secondary and high school students and the mean of the students was 40.26±9.85. It can be concluded from this result that the fair play conception of the students who participated in this study was at medium level.

According to the results of EFA and CFA for the validity

of the questionnaire, it was found that the questionnaire for Turkish children and youths was four factorial consisting of 15 items. The eigenvalue of the first sub-scale of the questionnaire was 3.967, explained variance ratio was 26.444; the eigenvalue of the second sub-scale was 2.644, explained variance ratio was 17.759; the eigenvalue of the third sub-scale was 1.355, explained variance ratio was 9.036; the eigenvalue of the fourth sub-scale was 1.273, explained variance ratio was 8.485; the variance ratio of the total questionnaire was 61.724. In view of the literature about this topic, it can be said that the higher the variance ratio is, the stronger the structure of the factor is. Tavşancıl (2006) stated that the variance ratio between 40% and 60% is acceptable in social sciences. For this reason, it can be said that the variance ratio of this study is acceptable.

Based on the confirmatory factor analysis, FPQ-PE was in good compliance with four sub-scaled model. It is claimed that there is a good model fit if the approximate mean square error (χ^2/df) value is 3 or below (Meydan and Şeşen, 2011). This value was found 2.00 in this study. Furthermore, the CFI value was found .97, NNFI value was found .96. That comparative fit index (CFI) and normed fit index (NFI) are above .90 indicates a good compliance in the model. The NFFI values above .95 mean perfect compliance; above .90 mean good compliance (Meydan and Şeşen, 2011). Therefore, it can be said that the results supported the four scale structure for Turkish children and youths between 11 and 18.

Cronbach Alpha coefficient of internal consistency was applied in order to test the reliability of the questionnaire. The results were .37 for the first sub-scale, .86 for the second sub-scale, .81 for the third sub-scale, .83 for the fourth sub-scale and .65 for the entire questionnaire. These values, except the first one, were considered quite reliable as they were between .60 and .80 (Alpar, 2001). It was reported that the reliability coefficient of the original questionnaire was between .66 and .89 (Hassandra et al., 2007). As a result, it was determined that the construct validity of the fair play in physical education questionnaire for Turkish children and youths was found adequate and its reliability was acceptable except for the first sub-scale. Within this context, it is suggested that a new reliability study can be done on different samples in future studies.

A new implementation was carried out after deciding the validity and reliability studies of FPQ-PE for Turkish children and youths. In this study, students' scores of fair play sub-scales were compared to their school level, gender and class. According to the two-way variance analysis result, it was found that the main effect of school level and gender led to significant difference in all sub-scales. When examined the sub-scales separately, it was figured out that the thoughts of the students from different school levels related to the "respect towards teammates" sub-scale were similar. Likewise, there was no significant difference among the scores of the male and female students in this sub-scale. Therefore, it can be claimed that the scores of respect towards teammates of both male and female students were similar to each other. There are other studies that support this finding (Şebin et al., 2007; Vidoni and Ward, 2009). Şebin et al. (2007) studied the university students' thoughts on fair play who did sports and found significant difference in favor of female students according to "following the rules every time", "obeying the referee's decisions every time", "it is more important to follow the rules every time than to obey the referee's decisions" and "I break the rules in order to win" variables. In the same study, there was no significant difference according to gender in "referee's decisions are always true", "I react to breach of rule in the same way". As this age period (11-18) is a time when the friendship is highly valued, there was no difference in terms of gender.

In the results of the second "respect conventions" sub-scale, there was no significant difference in school level, whereas there was a significant difference in gender and the main effect of the school level and gender. The means of the female secondary school students were higher than the female high school students in this sub-scale while the means of the male high school students was higher than the means of the male secondary school students. High school students may tend to resist and oppose to the rules because of their age period. However, it can be assumed in the younger groups (secondary school) that it is more important to respect the authority and obey the rules (McLeod, 2013). For this reason, it might be possible for female secondary school students to behave accordingly. On the other hand, the reason why male high school students achieved higher scores in "respect conventions" scale can be that males go through their adolescence during high school years. Conversely, it can be understood that secondary school and high school students have similar thoughts in this sub-scale; therefore, their scores are at acceptable level. In particular, it is a known fact that Turkish society display sensitivity towards traditions; as a result, it can be understood that there was no difference in terms of school level.

There was no significant difference in the scores of gamesmanship of the students in different gender. However, significant differences were reached in school levels and the main effect of school level and gender. Accordingly, the thoughts of male and female students about the gamesmanship were similar, whereas it was found that the scores of the secondary school students were more positive than the ones at high school. In their study, Şebin et al. (2007) reported that university students thought that following the rules were more important than winning and it was found that gender and school variables caused significant differences. The reasons for this can be that youths at high school become more competitive and children and youths at secondary school

are at the period of playing together rather than winning or losing. Hence, it can be understandable that secondary school students achieved more scores than high school students particularly in gamesmanship and cheating sub-scales. High school students may think that gamesmanship and cheating to win are acceptable as long as they are in compliance with the rules because of their age period. Similarly, it was seen that the scores of female secondary school students in main effect of school level and gender were more positive than the ones at high school.

Similar to others, there was a significant difference in gender, school level and the main effect of the school and gender depending on the scores of the participants of the “cheating” sub-scale. In cheating sub-scale, males had higher scores than females. As in other sub-scales, secondary school students got more positive scores than high school students. At the same time, female secondary school students had higher scores than female high school students in the main effect of school and gender. . Likewise, Hyland (2001) points out that it is easy to automatically condemn cheating in sport as morally indefensible, but it is a much more complex phenomenon. It is suggested that while athletes are competing they are protected by a type of moral immunity that differs from the morality that is the norm outside the sport context. Although sport is seen as a "world within a world", it cannot separate itself completely from the real world. Game reasoning must therefore continue to consider basic moral understandings (Potgieter, 2013).

Comparing the fair play scores of the students to class variable, it was found that there was a significant difference in respect toward teammates, gamesmanship and cheating sub-scales. The difference in the first sub-scale was in favor of 12^{th} class students, yet the differences in the third and fourth sub-scales were in favor of 5^{th}, 6^{th}, 7^{th}, 8^{th}, 9^{th} and 10^{th} class students. The first sub-scale is related to teammates and the reason why 12^{th} class students got more scores can be explained that they value friendship more than winning or losing. On the other hand, the third sub-scale is about gamesmanship and the fourth one is about cheating. The reason why lower classes got more scores in these sub-scales could be that they tend to follow the rules and they are not in competitive period yet.

In physical education the most relevant social behaviors are fair play behaviors such as showing respect to opposing teams and officials, and accepting losses without complaint, or victory without gloating. These fair play behaviors are important social skills for students to acquire in physical education and they are important skills for students to learn to use in sport-related activities outside of school (Vidoni and Ward (2009). Particularly, fair play education in early ages can prevent antisocial behaviours that might appear in the following years. The message here is important. You get what you teach and value. We believe that social skill instruction should be integrated into curricula as a core outcome in physical education. Sport Education as a curriculum is ideally suited and was designed to facilitate this outcome.

Finally, the “Fair Play in Physical Education Questionnaire (FPPEQ)” that was adapted to Turkish in this study was found valid and reliable for the Turkish children and youths between 11 and 18. According to the results obtained by the last implementation using the scale, the main effect of gender and school level was in favor of girls in all sub-scales of fair play. However, it was concluded that school and gender did not influence significantly the respect to teammates sub-scale. It was seen that level of school did not have a significant effect in respect conventions sub-scale; however, the main effect of gender and school level were in favor of female secondary school students and male high school students. On the other hand, it was observed that gender was not the only factor in gamesmanship sub-scale, but the main effect of school and gender posed an important role in favor of secondary school students. For the cheating sub-scale, it was understood that gender and school variable separately and their main effect were important variables in favor of male high school students and female secondary school students. Similarly, it was found that class variable was in favor of lower classes in gamesmanship and cheating sub-scales.

In this study, the sample was chosen from secondary school and high school students in two provinces for pilot study and model practice. It can be helpful to study on different samples from different schools and cities in order to re-test the reliability of the questionnaire. In conclusion, this questionnaire and its results can source and contribute to future studies questioning the relationship between PE class and fair play. Also results of this study can provide PE teachers a new viewpoint about the importance of fair play in PH classes.

Conflict of Interests

The author has not declared any conflict of interests.

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