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Attitude Scale Toward Game Lesson of the Class Teachers

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ABSTRACT In this study, it has been aimed to develop a scale for determining the attitudes of the class teachers serving in the primary schools to the course of the game and physical activities. The study explains the process of the development of the scale evaluating the attitudes of the class teachers to the course of the game and physical activities. It has been determined that the calculated reliability coefficients take place within the acceptable limits. It has been determined that the scale has internal consistency in the sub-factors with the total score and also, it has test-retest reliability. As a result, it has been determined by the researcher that the scale called as "Scale of Attitude to the Course of Game and Physical Activities for the Class Teachers" (CT-GaPA) is a valid and reliable tool to be used in the field of education.

INTRODUCTION

Both in the world and in Turkey, the researches and discourses made on many education systems are mostly focusing on the planning stage of the implementations. Whereas, being successful with the new implementations in the education is substantially dependent on the evaluation of these implementations in the implementation stage and the realization of the required correction studies in the light of the obtained information.

In Turkey, in the year 2012, with the gradual compulsory education system called "4+4+4", the radical changes were made in the Turkish education system. Within the content of these radical changes, the age of starting to school was decreased to 5 years and this situation has brought up the learning levels of reading and writing of the students at earlier ages. Within the content of this change, a directive called "Harmony and Preparation Studies" has been put into practice by the Ministry of National Education Head Council of Education and Morality. The directive covers the activities required to be realized in the first three months in the schools as oriented for the students who started school as of the education year of 2012-2013 and completed their 60 months. At the same time, again together with the decreasing of the age, the course of game and physical activities, which is for five hours weekly, has taken the place of the course of the physical education and sports (Boz and Yildirim 2014).

With the activities designed within the content of the courses of the Game and Physical Activities, Music and Visual Arts, it has been aimed to develop all of the skills such as the development of the small and big muscles, hand-eye coordination, development of the attention skills, harmony of the colors and creativity, recognizing the sounds, recognizing the rhythm and keeping the rhythm with the game, physical and mental activities (MEB 2012). When the content of all of these courses is considered, it is possible to say that the activities are the intersection point of the preschool and primary school first grade education programs.

In the study that Çögenli and Uçansoy (2013) conducted on the changing education system of Turkey, they have expressed the opinions that the teachers find the activities simple, the duration is insufficient and unplanned, the students have problems, the studies are not very much effective in preparing the students to the other courses, they have difficulties in providing the class management regarding their own roles and regarding the different attitudes of the guardians.

Bringing up the individuals as a whole with the physical, mental, emotional and social as-

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pects is of the fundamental principles of the contemporary education. The realization of the objective in the education as appropriate to the modern understanding is possible with the physical education of the individual in addition to his/her mental education. The physical education is an inevitable part of the general education and it is an ideal area in which the cooperation and competition at the appropriate level and personal and social responsibility are taught. For this reason, the exercises, which are organized as games and in game structure in the primary school age, and which are preparatory for the sport types that will be realized in the future, are extremely important. In this period, the foundations of the movement education enriched with the educational games are laid and the education of the sportive skills should be provided within the form of game (Demirhan 2006).

For the children having education in the primary schools, the benefits of the regular physical activity and also the game are reality accepted by all education systems in the world. In spite of this, unfortunately, in Turkey, many class teachers do not have the qualifications that they can execute this course in an effective way (Yildiz and Güven 2014). The teachers can abstain from the course of game and physical activities due to the lack of trust, education and time or they can reject the addition of the new ideas regarding the physical education to their own information and implementations. The class teachers who are indifferent to the new ideas regarding the execution of the course can still continue the abandoned and non-updated information and implementations (Barnes 2002).

In the Turkish education system, as the class teachers cannot execute the course of game and physical activities effectively, it is mentioned that the giving of this course in the primary school by the physical education teachers will ensure the reaching of the course to its general and special objectives (Yildiz and Güven 2014). In case this is not possible, it is thought that taking the class teachers regularly to the in-service training courses and seminars regarding the course of game and physical activities and that they give the courses in cooperation with the physical education teachers will contribute to the reaching to the objective of the course of game and physical activities in the primary school.

In this study, it has been aimed to develop a scale for determining the attitudes of the class teachers serving in the primary schools to the course of game and physical activities. The study explains the process of the development of the scale evaluating the attitudes of the class teachers to the course of the game and physical activities.

Each variable (psychological trait) examined in the behavioral dimension should be measured primarily at a level that will not give place to any doubts on its own (Crocker and Algina 1986). The attitude is one of the psychological variables which is the subject to the measurement and researches in the behavioral sciences and which is required to be measured accordingly for this reason. The attitude is the tendency to make learned positive or negative reactions to certain object, situation, organization, concept or other people (Tezbasaran 1997).

The attitudes have three elements, that is, cognitive, affective and behavioral. The determination of the attitudes to certain activities is important in terms of determining the success in these activities. Only the information is not sufficient in the ensuring of the success. Also an important effect of the attitudes is at issue (Tavsancil 2009). Therefore, the attitudes of the teachers, which are composed of the combination of the affective and behavioral areas, are also effective in the requested success as well as their information in the cognitive field. In light of this information, currently, also, while it has been observed in the research that Yildiz and Güven have realized in 2014 that the class teachers are insufficient in the education of the game and physical activities in the primary schools in Turkey, the attitudes of the class teachers to this course should be determined in the cognitive, affective and behavioral terms and it should be examined with the dimensions such as the self-sufficiency of the teachers, the intentness of teachers and the acquirements of the students for the related course.

It will be discussed whether the scale called the “Scale of Attitude to the Course of Game and Physical Activities for the Class Teachers” (CT-GaPA) and which has been prepared for the purposes of researching the attitudes of the class teachers to the related course is a valid and reliable tool to be used in the field of education.

In case it is proven that it is a valid and reliable scale, the data sets that will be obtained from the class teachers with this scale will help

the class teachers executing this course to reveal their differentiation.

METHODOLOGY

The researchers have developed a 5-point Likert scale that will measure the attitudes of the class teachers to the course of game and physical activities. The processes followed in the development of this scale have been presented below in paragraphs.

While the materials to be used in the study that will measure the attitudes of the class teachers to the course of game and physical activities are prepared, the methods required for developing scale have been implemented respectively. Firstly, approximately 5-minute unstructured interviews have been conducted with 46 class teachers serving in the primary schools located in the Çanakkale city center for the determination of the scale items and their opinions regarding the course of game and physical activities have been requested from these teachers. In these interviews, the conversations have been made with the teachers regarding the experiences that they have acquired in the related courses, their points of view to the courses, acquirements of students and their self-sufficiencies and their attitudes to the course have tried to be understood. The interviews have been recorded with the method of sound recording or note taking according to the requests of the teachers.

The opinions taken from the teachers have been evaluated collectively and their expressions have been arranged and they have been turned into the items. Also, the researchers have tried to develop new items by inspiring from the different opinions that they have evaluated. The researcher has also made the item examination from the similar scales in the education literature. By this way, the number of the test items that will take place in the pre-form to be formed has reached to 33.

In the multidimensional measurement tools composed of more than one sub-factor, it is required by the experts to evaluate whether the items written for the purposes of determining the different dimensions of the structure requested to be measured are related to the dimension that is expected to take place (DeVellis 2003). For this reason, the scale has been presented to the people who are experts in the fields of the physical education and sport training, measurement and evaluation and Turkish language other than the researcher with its raw form composed of 33 items. The items which resemble each other and create ambiguity and which are open to interpretation have been decreased to 26 items as oriented for the purpose that the researcher wants to achieve. With this 26-item form, a scale form has been prepared for being applied to 309 class teachers.

This 26-item scale form, which is prepared as a pre-form has been applied to 309 class teachers serving in the primary schools in the Çanakkale and Manisa city centers and declaring that they can participate to the study voluntarily and this group has been called the study group. The number of the study group has been determined in the direction of the criteria that Tabachnick and Fidell (1996) have given for the factor analysis. According to these criteria, for the factor analysis, 300 persons are evaluated as "good", 500 persons are evaluated as "very good" and 1000 persons are evaluated as "perfect". Also, Cattel (1978) proposes the inclusion of the participants in the number of 3 to 6 times of the number of the items in the scale to the study group in the factor analysis studies and expresses 200 participants as acceptable and 500 participants as extremely good number for the factor analysis. In addition to this, Gorsuch (1983) proposes the availability of at least 5 participants in the working group for each item taking place in the scale in the factor analysis studies and he mentions that it is required that the number of the participants should not be less than 100 (cited by Cramer 2003).

Seven of the data obtained from 309 teachers in the study groups have been cancelled as it is considered that the systematic marking has been made. 176 (58.28%) of 302 class teachers from who the healthy data have been obtained are male and 126 of them (41.72%) are female. One hundred and four (34.4%) of these teachers serve as the first grade class teachers, and 92 (30.6%) of them as the second grade class teachers and 53 (17.5%) of them as the third grade class teachers and again, 53 (17.5%) of them as the fourth grade class teachers (Table 1).

According to Schumacker and Lomax (1996), the factor analysis is used for the purposes of exploring (exploratory) how the variables are related with the factors or verifying (confirmatory) whether the variables are under a factor (cited by Çokluk et al. 2014). As the fundamental objec-

Table 1: Gender and class distributions of the teachers forming the study group

	1. class	*2. class*	*3. class*	*4. class*	*Total*
Male	56 (31.8%)	58 (33.0%)	32 (18.2%)	30 (17.0%)	176 (100.0%)
Female	48 (38.1%)	34 (26.9%)	21 (16.7%)	23 (18.3%)	126 (100.0%)
Total	104 (34.4%)	92 (30.6%)	53 (17.5%)	53 (17.5%)	302 (100.0%)

tive of this research is to explore a new scale, the exploratory factor analysis has been used.

RESULTS

The analyses made on the data obtained from the teachers whose characteristics have been given in Table 1 have been made for the purposes of determining the items of the CT-GaPA. Removing an item having factor load less than .40 from the scale in some situations can give damages to the scope validity of the scale and can cause the incompleteness of the structure requested to be measured. In these situations, it can be proposed to take value of .30 as a criterion regarding the factor load (Bordens and Abbott 2011; Stangor 2010; Tavsancil 2009). One item whose total points show relation less than 0.30 in the item total correlation from 26 items taking place in the pre-form depending on this requirement has been removed from the study as not being taken to the factor analysis. The factor analysis has been implemented for revealing the most possible structure with the remaining 25 items and their item analyses have been made and they have been prepared.

25 items, which are considered as being related to the attitudes of the class teachers to the course of game and physical activities, have entered to the analysis. For testing the structural validity of CT-GaPA, the "principal components factor analysis", which is a factor analysis technique, has been used. Büyüköztürk (2002) defines the factor analysis as multivariable statistic aiming to find and discover few conceptually significant new variables (factors, dimensions) by combing many variables, which are related to each other. As a previously determined structure has not been available for items, the principal components analysis is appropriate for this study (Tabachnick and Fidell 1996). When the number of the subjects increases in the studies in which this analysis is made, it is observed that the rate of error as a result of the analysis decreases (Hovardaoglu 2000). The explanatory factor analysis has been applied to totally 25 items for the purposes of reaching to a significant structure regarding the attitudes of the class teachers to the course of game and physical activity and revealing the structure or structures called factor or component and which the scale items have measured.

Twenty-five items forming the pre-form have been included in the explanatory factor analysis and the item numbered 19, which does not take place in any factors and the items numbered 12 and 13, which are determined to be comorbid have been removed from the analysis and the analysis has been made once more. In the explanatory factor analysis, these two situations are undesirable situations, because it is requested that either one item should take place on one of the factors or it should measure only one characteristic. The validity is defined as the "degree of the tool to be able to measure the characteristic that it aims to measure as correctly and completely without comparing with the other characteristics" (Çokluk et al. 2014) and these situations do not fit to the definition of the validity. 22 items, which have been obtained by this way, have been collected under three factors and there have not been any items left other than these factors (Table 2).

When the findings of the analysis are examined, it is observed that the first factor measures the course of game and physical activities at the rate of 24.7 percent and the second factor measures it at the rate of 19.1 percent and the third factor measures it at the rate of 13.2 percent. Also, this scale, which is composed of three factors and 22 questions, measures the attitudes of the class teachers to the course of the game and physical activities at the rate of fifty-seven percent. In the multi-factor patterns, it is considered sufficient that the variance explained is between forty percent and sixty percent (Tabachnick and Fidell 1996).

When the items are examined in terms of the content, it has been determined that the first factor can be grouped as the "acquirements of students", the second group can be grouped as the "intentness of teacher" and the third factor can

Table 2: Attitude scale factor analysis information to the course of game and physical activities for the class teachers

Item no.		*Factor 1*	*Factor 2*	*Factor 3*	*Percent*	*Group name*
1.	I think that the course of game and physical activities affect the social, emotional and physical development areas of the children positively	.68			24.7	Acquirements of Students
4.	I use the course of game and physical activities for knowing the children and seeing their individual characteristics	.71				
5.	I use the course of game and physical activities for realizing an educational objective.	.67				
8.	I make the previously known games repeat before passing to a new game in the course of game and physical activities.	.59				
9.	I leave the formation of the groups to the children in the course of game and physical activities.	.61				
10.	I ensure that the rules of the game are observed strictly in the course of game and physical activities.	.53				
17.	I question whether the game is appropriate to the development levels of the children after the course of game and physical activities.	.55				
20.	I ask the children whether they have pleasant, enjoyable time after the course of game and physical activities.	.54				
2.	I make the planning of the time, place and the tools-devices to be used of the game before the course of game and physical activities.		.63		19.1	Intentness of teacher
3.	I give place to the course of game and physical activities in my plans every day.	.69				
6	.I consider the objective-acquirements while planning the course of game and physical activities.		.70			
7.	I pay attention to the interest and requirements of the age group of the children in the course of game and physical activities.		.64			
11.	At the end of the course of game and physical activities, I declare the winner-loser and I apply the award-penalty method.	.61				
24.	I examine the sources related to the game activities in terms of quality and quantity and I apply them in the courses.		.58			
14.	I do not need to get assistance from my colleagues for implementing the course of game and physical activities.			.63	13.2	Self-sufficiency of teacher
15.	After the course of game and physical activities, I evaluate all children separately.			.67		
16.	After the course of game and physical activities, I question whether I have the theoretical information regarding the planning and implementation.			.62		
18.	After the course of game and physical activities, I check whether the course achieves its objective.			.74		
21.	I think that I have the information and skill accumulation that can realize the course of game and physical activities.			.51		
22.	I feel myself sufficient in showing of the movements while implementing the course of game and physical activities.			.49		
23.	I know adequate number of games appropriate to the development characteristics of the age groups for the course of game and physical activities.			.59		
25.	I follow in-service trainings related to the game activities and participate to them.			.51		

KMO = 0.8918 Barlett Test = 8861.234; p<.001 percent = 57. 0

be grouped as "self-sufficiency of teacher" (Fig. 1).

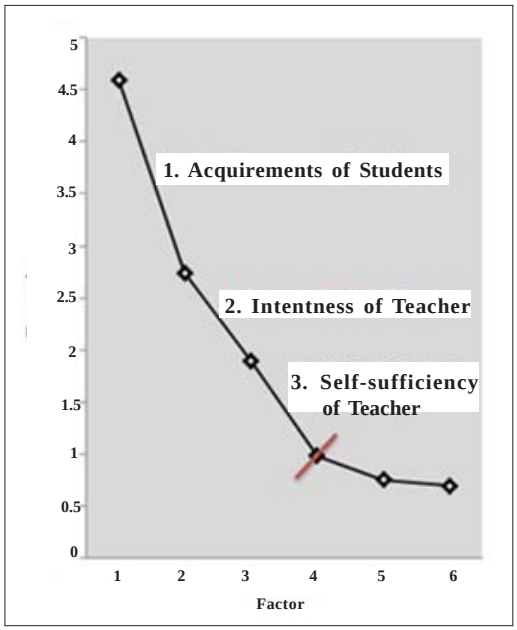

Fig. 1. DFA results; Path diagram, factor-item relation, model-harmony data

For an example to the items taking place in the factors, the item that *"I think that the course of game and physical activities affect the social, emotional and physical development areas of the children positively"* takes place in the first factor group, the item that *"I pay attention to the interest and requirements of the age group of the children in the course of game and physical activities"* takes place in the second factor group and the item that *"I evaluate all children separately after the course of game and physical activities"* takes place in the third factor group. According to these results, it has appeared that the scale can be used both as sub-dimensional and single-dimensional.

The reliability analysis of the scale has been made over these three factors one by one. In the analysis of the 1st factor, it has been found that the alpha is .914, in the analysis of the 2nd factor, it has been found that the alpha is .921, and in the analysis of the 3rd factor, it has been found that the alpha is .919 and for all factors, it has been found that the alpha is .934, any items that will increase the reliability of the factors of the questionnaire scale when it is removed cannot be found according to these results (Table 3). As this information, which is explained at the rate of fifty-seven percent is sufficient for the researchers and statistically (AVE: .811) (Fornell and Larcker 1981; Büyüköztürk 2002; Tezbasaran 1997), there have not been any needs to repeat the study by adding new questions and factors to the questionnaire. According to this, the items have been grouped in a way in which they will belong to the factors to which they are connected and three sub-dimensions have been formed.The compliance of the data to the principal components analysis has been examined with the Kaiser-Meyer-Olkin (KMO) coefficient and Barlett Sphericity test. The KMO coefficient is a statistical method used in determining that the size of the data and sample is appropriate to and sufficient for the analysis (Kalayci 2005). When the KMO coefficient approaches 1, it means that the data is appropriate to the analysis and its being equal to 1 means that there is perfect harmony. As a result of the analysis made, the KMO value has been found to be 0.8918. That this result is less than 0.50 in the factor analysis means that the analysis will not be continued. According to Leech et al. (2005), the values between 0.80 and 0.90 are interpreted as "good" for the

Table 3 : Item total correlations and reliability (Cronbach alpha) values

Item no.	*Factor 1*	*Factor 2*	*Factor 3*	*Total*
1	.53			.53
4	.61			.56
5	.61			.59
8	.54			.57
9	.56			.61
10	.53			.58
17	.42			.60
20	.48			.51
2		.49		.59
3		.53		.60
6		.49		.53
7		.55		.62
11		.57		.54
24		.61		.58
14			.49	.56
15			.51	.60
16			.46	.57
18			.48	.44
21			.51	.59
22			.52	.56
23			.49	.53
25			.53	.61
Cronbach Alpha	.914	.921	.919	.934
AVE	.866	.823	.844	.811

sample size. For using the parametric method, it is required that the characteristic measured should show normal distribution in the population. The Barlett Sphericity test is a statistical technique, which will be used for controlling whether the data come from the multivariable normal distribution. That the chi-square test statistic obtained as a result of this test is significant is an indicator that the data come from the multivariable normal distribution (Alpar 2001). As a result of the analysis made within the study, the Barlett sphericity test has been found to be significant (χ^2=8861.234; p<.001). In this direction, it has been accepted by the researchers that the data come from the multivariable normal distribution.

The attitude scale of the class teachers to the course of game and physical activities (CT-GaPA) is a Likert type scale, which has been formed with 22 articles and in which the responder marks one of the five options, which is appropriate to him/her. The minimum score to be taken from the scale is 22 and the maximum score is 110. The highness of the score indicates that the attitudes of the class teachers to the course of game and physical activities are positive. While all items in the scale have been scored positively, the reverse application has not been made in the scoring of any items. Turgut and Erden (2013) have examined the results of using the negative expression in the scales in their studies that they made in 2013 and they have reached a general conclusion with the studies realized in the related area. According to this, they have explained that the negative expressions decrease the reliability of the scale and deform the structure of the concept as they probably impose burden on and intervene to the mental transactions. Therefore, it is proposed that the negative expressions should not be used.

Each item entering the factor analysis shows significant correlations with the total score and the total of factor in which they exist. In the studies related to the reliability, it is asserted that the coefficients of 0.65 and more are sufficient (Cronbach 1990). From this angle, it can be said that the reliability coefficients obtained from the subdimensions of this scale are sufficient and high. These results show that the scale can be used as both having single-factor and multi-factor.

For determining the item distinctiveness of the attitude scale to the course of game and physical activities for the teachers (CT-GaPA), the item-total correlation and twenty-seven percent sub-upper group comparisons have been made. As seen in the Table 4, it is observed that the

Table 4: Comparison of sub and upper groups for each item

Item no.	*N*	*Upper group*		*Sub- group*		*Item total correlation*	*t*
		X	*S*	*X*	*S*		
1	98	4.43	0.75	2.17	1.28	.53	15.35*
4	98	4.26	0.81	3.28	1.28	.56	16.46*
5	98	4.65	0.59	2.81	1.35	.59	17.73*
8	98	4.32	0.63	2.37	1.30	.57	14.21*
9	98	4.46	0.51	1.46	1.29	.61	15.66*
10	98	4.56	0.57	2.28	1.39	.58	16.91*
17	98	4.34	0.46	2.51	1.21	.60	18.51*
20	98	4.76	0.92	3.17	1.30	.51	12.57*
2	98	4.53	0.84	2.03	1.34	.59	15.09*
3	98	4.61	0.42	2.74	1.29	.60	16.11*
6	98	4.73	0.67	2.26	1.31	.53	18.45*
7	98	4.62	0.63	1.99	1.25	.62	15.94*
11	98	4.56	0.47	1.71	1.31	.54	16.30*
24	98	4.61	0.59	2.30	1.29	.58	17.72*
14	98	4.34	0.76	2.04	1.38	.56	12.60*
15	98	4.67	0.91	1.79	1.24	.60	15.58*
16	98	4.91	0.92	3.61	1.36	.57	17.69*
18	98	4.19	0.51	1.29	1.44	.44	12.72*
21	98	4.34	0.53	2.72	1.31	.59	15.74*
22	98	4.68	0.69	1.94	1.30	.56	12.69*
23	98	4.69	0.72	2.00	1.19	.53	15.56*
25	98	4.53	0.64	2.61	1.51	.61	17.82*

*p<.001

results for the item total correlation vary between 0.44 and 0.62. It can be said that when it is considered that the items having value of 0.30 and more in the interpretation of the item total correlation are regarded to be sufficient (Büyüköztürk 2004) in terms of distinguishing the characteristics to be measured, the item total correlations are sufficient. In the comparison of the item scores of the twenty-seven percent sub-upper groups related to the scale, the t test has been used. It has been observed that the t values regarding the differences in the item scores of the twenty-seven percent sub and upper groups vary between 12.57 ($p<.001$) and 18.51 ($p<.001$) as seen in the Table 4.

The reliability regarding the stability of the score according to the time of the attitude scale to the course of game and physical activities for the teachers (CT-GaPA) has been measured with the test-retest method and the result obtained has been shown in the Table 5.

Table 5: Reliability study test-retest implementation results

Implementation	*N*	*á*	*X*	*Std. dev.*	*r*
First Implementation	44	0.89	84.12	12.62	0.91*
Last Implementation	44	0.81	85.91	13.72	

*$p<.001$

The 22-item last form of the scale has been applied twice with 4 weeks of interval to the group that 44 class teachers serving in the primarily schools, which have been randomly selected form as different from the study group. The correlation coefficient (r= .91) obtained as a result of the comparison of two implementation scores also gives the reliability of the test. Also, the Cronbach Alpha values calculated for these two implementations separately have been found as .89 and .81, respectively.

DISCUSSION

In the research, the confirmatory factor analysis has also been realized for the purposes of testing the correctness of the appearing factors in addition to the explanatory factor analysis. While in the explanatory factor analysis, the factor structure of the data is determined on the basis of the factor loads (weighs) without certain preliminary expectations or hypotheses, the confirmatory factor analysis is based on the testing of a foresight in a way that certain variables will take place as weighted on the previously determined factor on the basis of a theory (Dogan 2010).

For the determination of the model of data harmony in the statistical terms (Yilmaz and Çelik 2009; Simsek 2007), in this analysis including the different harmony indexes, χ^2, RMSEA, SRMR, NFI, CFI, GFI and AGFI indexes have been taken as the criteria. According to Jöreskog and Sorbom, when the calculated χ^2/df rate is less than 5, the GFI and AGFI values are higher than 0.90, that the RMR and RMSEA values are found to be less than 0.05 show the model-data harmony and together with this, that the GFI is found to be more than 0.85 and AGFI is found to be more than 0.80, that RMR and RMSEA values are found to be lower than 0.10 are accepted as the acceptable lower limits for the model data harmony (cited by Duyan and Gelbal 2008). For the GFI, AGFI, NFI and CFI indexes, it is accepted that the acceptable harmony value >0.90 and the perfect harmony value >0.95 (Marsh et al. 2006). The data related to this study is within the acceptable limits of the mentioned harmony criteria (see Fig. 2).

The validity and reliability of the measurement tool, which has been obtained as a result of the explanatory and confirmatory factor analysis, are composed of proven 22 items and 2 subdimensions. The minimum total score to be taken from the measurement tool I 22 and the highest total score is 110.

CONCLUSION

This study, which is realized for developing a scale having the attributions of measuring the attitudes of the class teachers serving in the primary schools to the course of game and physical activities, has become an applicable scale with the appropriate number of participants and the statistical analyses realized. For determining the items entering to the factor analysis, 302 class teachers whose ages vary between 28-53 and serving in the primary schools in the Çanakkale and Manisa city centers have been reached and the prepared pre-forms have been filled by these teachers.

As a result of the factor analysis made, the attitude scale to the course of game and physical activities for the teachers (CT-GaPA) has gained both single-dimensional and three-dimensional structure. As a result of this analysis, it has been determined that the scale also contains

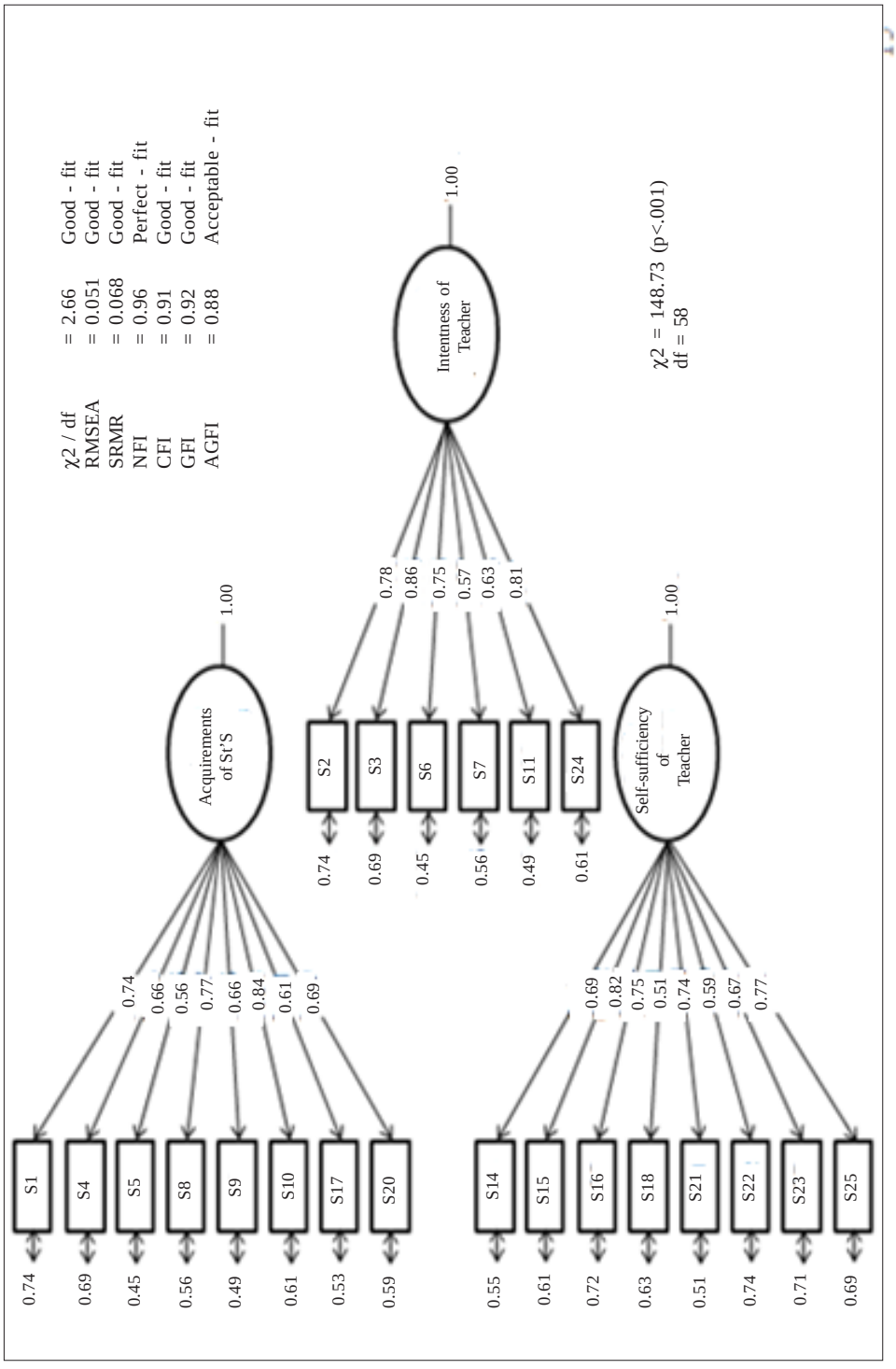

Fig. 2. DFA results; Path diagram, factor-item relation, model-harmony data

The validity and reliability of the measurement tool which has been obtained as a result of the explanatory and confirmatory factor analysis are composed of proven 22 items and 2 sub-dimensions. The minimum total score to be taken from the measurement tool I 22 and the highest total score is 110.

the structural validity at the same time. Also, it shows that the reliability test measured is also ready for the usage of CT-GaPA. In the reliability test, the test-retest method has been used in which the correlation between two implementations is found to be 0.91. By this way, the scale has become valid and reliable as being ready to be used in the researches in this format.

The obtained results will determine the attitudes of the class teachers to the course of game and physical activities and they will assist to reveal the characteristics of caring the course acquirements of the students, the characteristics of intentness to teaching of the class teachers who are the most important factor in the healthy execution of this course and their self-sufficiency characteristics. It has been determined by the researchers that the scale called "the attitude scale to the course of game and physical activities for the teachers (CT-GaPA)" is a valid and reliable tool that can be used in the field of education.

RECOMMENDATIONS

As a result of this study in which it is approved that the CT-GaPA is a valid and reliable scale, the data set that will be obtained over the class teachers with the scale will be made related with the other valid and reliable scales, and they will assist to reveal the differentiation of the class teachers who are in the center of the education in the course of game and physical activities.

REFERENCES

Alpar R 2001. *Applied Statistic in the Sport Sciences*. Ankara: Nobel Publications.

Barnes KC 2002. *A Model Health-Related Elementary Physical Education Program for Saipan: Teachers' Knowledge, Attitudes, and Practices*. PhD Thesis, Unpublished. California: University of San Diego.

Bordens KS, Abbott BB 2011. *Research Design and Methods: A Process Approach*. New York: The McGraw-Hill Companies.

Boz T, Yildirim A 2014. Difficulties that the first grade teachers encounter in the 4+ 4+ 4 education system. *Baskent University Journal of Education,* 1(2): 54-65.

Büyüköztürk S 2004. *Data Analysis Manual*. Ankara: PegemA Publications.

Büyüköztürk S 2002. Factor analysis: Principal concepts and its usage in the scale development. *Journal of Education Management in the Theory and Applications,* 8(4): 470-483.

Cattell RB 1978. *The Scientific Use of Factor Analysis in Behavioral and Life Sciences.* New York: Plenum.

Çögenli AG, Uçansoy A 2013. Opinions of teachers about orientation and preparation activities. *Pegem Journal of Education and Instruction,* 4(1): 01-26.

Çokluk Ö, Sekercioglu G, Büyüköztürk S. *Multi Variable Statistics for Social Sciences: SPSS and LISREL Applications.* 3rd Edition. Ankara: Pegem Academy.

Cramer D 2003. *Advanced Quantitative Data Analysis*. Philadelphia: McGraw-Hill Education.

Crocker L, Algina J 1986. *Introduction to Classical and Modern Test Theory.* New York: Holt, Rinehart and Winston, Inc.

Cronbach LJ 1990. *Essentials of Psychological Testing.* 5th Edition. New York: Harper Collins Publishers, Inc.

Demirhan G 2006. *Bases of Sport Education*. Ankara: Spor Publishing House and Publications.

Devellis RF 2003. *Scale Development: Theory and Applications.* Newbury Park: Sage Publications.

Dogan T 2010. Adaptation of the Social Appearance Anxiety Scale (SAAS) to Turkish: A validity and reliability study. *H. Ü. Egitim Fakültesi Dergisi (H. U. Journal of Education),* 39: 151-159.

Duyan V, Gelbal S 2008. The adaptation study of Barnett Liking of Children Scale to Turkish. *Education and Science,* (33):148.

Fornell C, Larcker D 1981. Structural equation models with unobservable variables and measurement error. *Journal of Marketing Research,* 18(1): 39-50.

Hovardaoglu S 2000. *Statistics for Behavioral Sciences.* Ankara: Hatipoglu Publications.

Kalayci S (Ed.) 2005. *Factor Analysis: SPSS Applied Multi-variable Statistic Techniques.* Ankara: Asil Publication Distribution.

Leech NL, Barrett KC, Morgan GA 2005. *SPSS for Intermediate Statistics: Use and Interpretation*. Mahwah, New Jersey: Psychology Press.

Marsh HW, Hau KT, Artelt C, Baumert J, Peschar JL 2006. OECD's brief self-report measure of educational psychology's most useful affective constructs: Cross-cultural, psychometric comparisons across 25 countries. *International Journal of Testing,* 6(4): 311–360.

MEB 2012. Adaptation and Preparation Studies Teacher Book: Primary School 1. Grade. From <http://ttkb. meb. gov.tr/dosyalar/kitaplar/1sinif_ ogretmenkitabi. pdf> (Retrieved on 12 October 2012).

Simsek ÖF 2007. *Introduction to the Structural Equilibrium Modeling: Fundamental Principles and LISREL Applications.* Istanbul: Ekinoks Publications.

Stangor C 2010. *Research Methods for the Behavioral Sciences*. Tennessee: Wadsworth.

Tabachnick BG, Fidell LS 1996. *Using Multivariate Statistics.* 3rd Edition. New York: Harper Collins College Publishers.

Tatlidil H 1992. *Multi-Variable Statistical Analysis.* Ankara: Hacettepe Uni. Publications.

Tavsancil E 2009. *Measurement of the Attitudes and Data Analysis with SPSS.* Ankara: Nobel Publication Distribution.

Tezbasaran A 1997. *Likert Type Scale Development Guidebook. Ankara: Turkish Psychological Association Publications.*

Turgut T, Erden NS 2013. Effects of the negative test expressions to the internal consistency and factor structure. *Journal of the School of Business Administration, Istanbul University,* 42(2): 319-332.

Yildiz Ö, Güven Ö 2014. Expectations of the class teachers from the course of game and physical activities. *Kastamonu Education Journal,* 22(2): 525-538.

Yilmaz V, Çelik HE 2009. *Structural Equilibrium Modeling with LISREL– I.* Ankara: Pegem Academy.

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