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A STUDY OF DEVELOPİNG an ATTITUDES SCALE OF 18-22 AGE ADULTS FOR PLAYING GAMES THAT CONTAIN PHYSICAL ACTIVITY (IMPROVING THE 18-22 AGE PLAYING GAMES SCALE)

ABSTRACT

The objective of this study is to develop a valid and reliable measurement devices regarding the Attitudes among 18-22 YearsAge Adults for Proneness to Play Games that Contain Physical Activity

The "Game Proneness Scale" which is composed of 33 articles (Hazar, 2013), is applied to 533 students who are enrolled to the various departments that report to Gazi University, Faculty of Education among which 287 were females and 266 were males who were selected according to random sampling. Article analysis is performed by using SPSS 22.00 package program, exploratory factor analysis is made by Cronbach Alpha, Pearson Product Moments Correlation and confirmatory factor analysis by using Product Correlation and LİSREL 8.72. Totally, 8 items are deleted from the scales and the remaining 25 items (r=31 and r=57) are shown in 5 factor analysis. The sub-factors are named as: 1. Play compassion, 2. Taking Risks, 3. Social Adjustment, 4. Play wish and 5. To take pleasure.

Cronbach Alfa value is calculated as 0,86for the reliability of Game Proneness scale. "When the alpha coefficient is between 0,60 and 0,79 in scale development, the reliability coefficient is considered as very reliable. (Alpar, 2010)" Therefore, the study can be said to have a high reliability value.

As the result of the procedures which are obtained as shown below, it is considered that the Game Proneness Scale which is used for determining the attitudes of the 18-22 age group towards entering into games which contain physical activity is a valid and reliable measurement device.

Key Words: 18-22 Age, Playfulness, attitude scale.

18-22 YAŞ YETİŞKİNLERİN FİZİKSEL AKTİVİTE İÇEREN OYUNLARI OYNAMAYA YÖNELİK TUTUMLARI (18-22 YAŞ OYUNSALLIK ÖLÇEĞİNİN GELİŞTİRİLMESİ)

ÖZET

Bu çalışmanın amacı; 18-22 yaş grubunun yetişkinlerin, fiziksel aktivite içeren oyunları oynamaya yönelik tutumlarına ilişkin, geçerli ve güvenilir bir ölçme aracı geliştirmektir. 33 maddeden oluşan "Oyunsallık Ölçeği"i (Hazar, 2013) Gazi Üniversitesi Eğitim Fakültesinde öğrenim gören287 kız 266 erkek, toplamda 533 öğrenciye random yöntemiyle yeniden uygulanmıştır. SPSS 22.00 paket programı aracılığı ile madde analizleri, açımlayıcı faktör analizi, Cronbach Alpha, Pearson Momentler Çarpım Korelasyonu ve LİSREL 8.72 kullanılarak doğrulayıcı faktör analizi yapılmıştır. Ölçekten 8 madde çıkarılmış ve kalan 25 madde (r=31 ve r=57) 5 faktörlü bir yapı göstermiştir. Alt faktörler; 1.Oyun tutkusu, 2.Risk alma, 3.Sosyal uyum, 4. Oyun isteği ve 5.Keyif alma olarak adlandırılmıştır.

Oyunsallık ölçeğinin güvenirliği için Cronbach Alfa değeri 0,86 olarak hesaplanmıştır. "Ölçek geliştirmede, alfa katsayısının 0,60 ile 0,79 aralığında olmasının oldukça güvenilirdir (Alpar, 2010)" bilgisinden hareketle oldukça yüksek düzeyde güvenirliğe sahiptir. Elde edilen tüm bu işlemler sonucunda 18-22 yaş grubunun fiziksel aktivite içeren oyunları oynamaya yönelik tutumlarını belirlemede kullanılan Oyunsallık Ölçeğinin geçerli ve güvenilir bir ölçme aracı olduğu düşünülmektedir.

Note: This research was studied at Turkish language and the English items need to conduct languages validity.

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INTRODUCTION

"Game is the activity which is seen in free times in line with a definite objective with physical and mental abilities within limited place and time in accordance with its own rules and which creates groups as a result of voluntary participation, develops social adaptation and emotional maturity and which depends on ability, intelligence, skills and coincidences; which affects the participants and audiences in company with the sense of stress and which does not give any monetary / material interest." (Hazar 2000).

The investigation to be conducted on word structure of "playfulness" which is used in the study will clarify the term. The term "-ful-" is an adjective particle which is used since Turkish Language Revolution which is started in Republican Period. (Temir 1999). The term "-sal" in Turkish, which is the equal of "-ful" in English, gives the meaning of "relevancy, connectivity and belonging" to the names." "Playfulness states everything regarding games. The objective of "-ness" in English, which is the equal one of "-lık in Turkish, is that this particle gives the "qualification, feature" to the names or adjectives by generalizing their meanings." (Zülfikar 1991). In other words, the term "playfulness" generalizes the term "playful" and adds qualification to this word.

The issue of which component of play among competition and entertainment elements are more emphasized in the play, is controversial. However, it is thought that the entertainment element is more emphasized when the plays contain fewer rules. And that if the games contain substantial and stricts rules that should be obeyed, then the contrary is valid.

Regardless of their ages, the tendency of people to play games, their natural abilities in playing games and their personal differences inherent in their game playing skills and abilities have always surprised people. On one hand, the personal sensitivity, wish and game playing style has defined the player so much realistically that such features were accepted as a window opening to their souls. On the other hand the scientific and statistical analysis were required, research were implemented and discussions and mutual criticism about the applicable methods were started.

Doubtlessly, there are several factors that affect games including age, gender, family, environment and etc. However many people tend to emphasize that the main discriminative factor in playing games lays under the layout and personality traits of the player. Their differences in their game playing attitudes lead to the sustainability, preference and pronnes to play games. As the attitudes between 18-21 ages are more determined, the 33 item test questions are reassessed in order to review the factor constructsand reliability scores of the former studies which were performed by(Hökelekli,1998)and (Hazar, 2013).

The objective of this research is to develop a valid and reliable scale to the Game Proneness level of the 18-22 age groups in order to determine their attitudes towards Game Proneness levels.

METHOD
Survey Group

Total of 553 students were included into the survey group who were selected among the samples enrolled to to the various departments of Gazi University, Faculty of Education among the 1.,2.,3.and4.year students within the age interval of 18-22years, who were drawn according to random sampling. The age and gender details of the sample are shown in Table 1.

Table 1.The Distribution of Gender andAge

GENDER		AGE					
		18 Age	19 Age	20 Age	21 Age	22 Age	Total
MALE	n	35	38	56	54	83	266
	% Gender	13,2	14,3	21,1	20,3	31,2	100,0
	% Age	35,0	32,2	48,7	50,9	72,8	48,1
	% Total	6,3	6,9	10,1	9,8	15,0	48,1
FEMALE	n	65	80	59	52	31	287
	% Gender	22,6	27,9	20,6	18,1	10,8	100,0
	% Age	65,0	67,8	51,3	49,1	27,2	51,9
	% Total	11,8	14,5	10,7	9,4	5,6	51,9
Total	n	100	118	115	106	114	553
	%	18,1	21,3	20,8	19,2	20,6	100,0

When the distribution of survey group with respect to gender is reviewed, it is understood that out of the total number of 553 students,51,9% (n=287) are female and 48,1% (n=266) are male students. Also the distrubiton of experimental group with respect to age are; 21,3% (n=118) and 19 Age, 20,8% (n=115) and 20 Age, 20,6% (n=114) and 22 age 19,2% (n=106) and 21 age and18,1 % (n=100) at18 Age.

According to the information in Table 1, the highest age participation of male students both in gender (31,2%) and in age group (72,8%) was the maximum in Age 22, however, among female, they had the highest peak in Age 19 both in gender (27,9%)and also in age group (%67,8%) criteria.

The tools of data collection

Game Proneness Sample which is developed by Hazar (2013) and that was applied to 680 students in 2013 which is composed of 33 items are used in this research. After the ananysis at the end of the application it is decided to delete total of 10 items numbered 9, 13, 14, 16, 22, 23, 27, 28, 29, 30. from the scale. Thereby the number of items in the scale is decreased to 23. Exploratory factor analysis is applied in order to determine the reliability of the scale and it is concluded that the Game Proneness scale has indicated a 2 factor layout and that the CronbachAlpha value is calculated as 0,85.

Procedures

Primarily the Game Proneness Scale which is composed of 33 items is applied and the total data belonging to the participants who are between18-22 age group are entered into the computer. Analysis is performed by using SPSS 22.00 package. The expressions that are included in the scale are varied from 5 (Strongly Agree) to 1 (Strongly Disagree) after having graded the the items numbered 9., 22.and30. inversely and the item analysis (item total correlation coefficients and top-bottom independent groups t-test) is applied. Exploratory factor analysis is used in order to calculate the construct validity by using SPSS 22.00 program Cronbach Alpha values are calculated in order to determine the reliability of the scale. In addition Pearson-Product Moments Correlation Coefficient is used to measure the correlation amongt the factors. Confirmatory factor analysis is performed by using LISREL 8.72 in order to test the results that are obtained in the factor analysis again.

FINDINGS
Items Analysis

The correlation coefficients between the score of each item which appeared in the scale developed and the scale

score which is formed from the total of all of the items ® and 27% of the top group (149 pupils) and 27% of the bottom group (149 pupils) and item analysis is applied to the averages of the top-bottom groups difference (independent groups t-test) and the results are found in Table 2 as shown below:

Table 2.Items analiz Results

No of Items	1	2	3	4	5	6	7	8	9*	10
Correlation Coefficient (r)	,48	,53	,44	,52	,45	,31	,37	,40	**,18***	,37
Difference of Means(t)	8,46	10,48	13,59	15,80	13,27	6,10	6,85	9,42	**1,18***	11,33
No of Items	11	12	13	14*	15	16*	17	18	19	20
Correlation Coefficient(r)	,42	,42	,18	**,11***	,37	**,09***	,39	,34	,39	,36
Difference of Means (t)	12,42	9,56	4,95	3,42	10,04	**1,94***	11,43	9,76	12,03	11,00
No of Items	21	22*	23	24	25	26	27	28*	29*	30*
Correlation Coefficient(r)	,39	**,14***	,31	,43	,36	,42	,37	**,11***	,11*	,13*
Difference of Means (t)	7,48	**1,44***	4,80	13,74	10,94	10,17	8,99	**1,05***	3,81	3,86
No of Items	31	32	33							
Correlation Coefficient(r)	,45	,53	,57							
Difference of Means (t)	11,11	10,77	15,12							

*p>.05,*r<0,30

First the Cronbach's Alphavalue is considered preliminarily and the alpha value for 33 itemsis calculated as 0,79. olarakhesaplanmıştır. Whereas in the correlation coefficients of the items numbered m9, m16, m22 and m28 in Table 2 are found as lower than 0.30 which is accepted as the limit value and the results for the independent groups t-test which depends on the average values of top-bottom groups, it is understood that the significance level of the related items are more than 0,05 and it is decided to deleve these 4 items.

On the other hand, them13, m14, and m29 and m30 itemsare found as significance at 0,05 level in the analysis which depended on top-bottom group average values difference. However, it is decided whether or not to delete these items by pursuing the variation in itheir alpha values.

Similar to the results whuch are obtained in item-scale correletaion values, as the items numbered m13, m14, m29 and m30 decreased the reliability of the scale, deletion of these item had an effect towards increasing thein internal consistency, these 4 items are also deleted from the scale. Total of 8 items are deleted from the scale and thereby it is observed that the remaining 25 items showed a variability between r=31 and r=57. As the item discrimination powers are found as meaninfull and high is a proof that the scale can discriminate the items that have positive and negative behavior Cronbach's Alphavalue is ,86and therefore it is found as high(Alpar, 2010, 350).

Factor analysis is applied for the construct validity of the scale which is composed of 25 items.

Construct Validity
Exploratory Factor Analysis

Kaiser-Mayer-Olkin (KMO) Sample Measurement and Barlett's Test are applied in order to test if the data is meaningfull and appropriate for analysis before having started to Explarotry Factor Analysis. The results of KMO sample measurement and Barlett's test are as shown below:

Table 3.Kaiser-Mayer-Olkin (KMO) and Barlett's Test Results

Kaiser-Mayer-Olkin (KMO) Sample Measurement Value Efficieny=,861
Barlett Test Approximate Chi-Square Value = 6415,537, sd =300, p =000

According to Kalaycı (2008), as the KMO value is close to 1 and more than 0,5, and the significant value of Barlett's test statistics is less than 0,05, this indicates that the data is suitable for factor analysis. KMO value is found as 0.861>0.50 and Barletttest is found significant as p=0,00<0,05. By depending on the values shown below, the Game Proneness scale data are found suitable for factor analysis.

Table 4. Factor Analysis (The Analysis of Converted Basic Components) Results

ITEM	COMMON VARIANCE	LOAD VALUES AFTER CONVERSION				
		FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
m20	,704	,818				
m10	,677	,817				
m19	,677	,802				
m11	,506	,633				
m18	,429	,621				
m17	,463	,606				
m3	,792		,882			
m25	,776		,880			
m24	,773		,868			
m4	,737		,812			
m8	,546		,679			
m27	,677			,787		
m6	,622			,773		
m21	,529			,640		
m12	,514			,567		
m23	,460			,566		
m7	,493			,482		
m2	,701				,781	
m1	,705				,742	
m15	,425				,530	
m5	,472				,528	
m31	,644					,760
m32	,714					,747
m26	,582					,741
m33	,697					,720

The values that are higher than 0.40 are included above.

In the factor analysis which is applied for the entirety of the items remained after the item analysis if the sample number of the item factor load value of 100 then it should correspond to 0,51 and if it is 600 then it should be 0,21in order to be considered as sufficient. (Stevans,2003; Altunışık, Coşkun, Bayraktaroğlu, and Yıldırım, 2005). According to it the lowest item load

value of the scale is 0,48 and the other items are more than 0,48. The items that are deleted from scale at the end of

itemanaysis and Confirmatory Factor Analysisare shown in Table 5 below.

Table 5.Items that are excluded from the Scale

9.	**I get bored during playing.**
13.	I prefer to play with my gender.
14.	I quarrel with my friends during playing.
16.	I do not play the games which I don't like.
22.	I give up from playing I cannot win the game.
28.	Playing games bore me.
29.	I do not like obeying the game rules.
30.	I only play a game in order to win.

Thereby the total number of articles in the final scale is determined as 25 and the items are numbered again according to their new rank. The total variance rate of the scale which indicated 5 factors is found as 61,166%.

The six items which are included within the content of first factor that showed high load values of m20=m16, m10=m9, m19=m15, m11=m10, m18=m14, m17=m13 are renumbered in Table 6. The items which comprised to this factor are reviewed and named as "Game Compassion"

Table 6.First Sub-Factors – Game Compassion

16.	I spend most of my time by playing games.
9.	I want to play as soon as I wake up.
15.	I fail to perform my duty in order to play game.
10.	I disrupt my duties in order to play game.
14.	I can not be aware that I am tired during playing.
13.	I am not fed up from playing game.

The item self value of this factor which showed item load value varying between 0,82 and 0,61is 6,085and the variance rate which it indicated is found as 23.34%.

The second factor of the scale is composed of 5 items. The items that

comprised to the factor, namely m3=m3, m25=m20, m24=m19, m4=m4 and m8=m8are renumbered and written in table 7 below. Also the content of the items are reviewed and it is named as "Risk Taking"

Table 7.SecondSub-Factor-Risk Taking

3.	I am not afraid to be injured during playing games.
20.	I play games in outdoor even the weather conditions are not favorable.
19.	I want to play game even if I am ill.
4.	I continue to play even if I am hungry.
8.	I do not mind my clothes to become dirty during playing games.

The item self value of the risk taking factor which indicated a variation between values 0,88 and 0,68 arasındais found as 3,59 and it

explanatory variance rate is found as 14,36%.

The items within the content of third sub-factor as the result of factor analysis namely m27=m22, m6=m6, m21=m17,

m12=m11, m23=m18, m7=m7 are renumbered and written in table 8 below. Also the content of the items are

reviewed and it is named as "Social Adjustment"

Table 8.Third Sub-Factor-Social Adjustment

22.	When play is mentioned my friends come to my ming.
6.	I obey to the rules of the games.
17.	I do not fed up from playing games.
11.	I get pleasure from playing games with my agemates.
18.	I get upset if my friends are injured during playing game.
7.	I share the play tools with my friends.

The item self value of the social adjustment factor which indicated a variation between values 0,79 and 0,49 is found as 2.96 and it explanatory variance rate is found as 11.85%.

It is understood that the fourth sub-factor of Game Proneness scale is composed for 4 items and the items

within this content are renumbered as the same as shown below (m2=m2, m1=m1, m15=m12 and m5=m5). The content of the items are reviewed and then named as "Game Playing Desire" and the contenct of the factor is written as shown in Table 9 below.

Table 9.Fourth Sub-Factor-Desire to Play Game

2.	Playing games excite me.
1.	I like playing game.
12.	I get excited when I learn a new game.
5.	I prefer to play games instead of watching movies in TV

The item self value of the Desire to play game factor which indicated a variation between values 0,78 and 0,53 is found as 1,49 and it explanatory variance rate is found as 5,95%.

The fifth factor of Game Proneness scale is composed for 4 items and the items within this content

are renumbered as the same as shown belowm31=m23, m32=m24, m26=m21, m33=m25 and it is shown in Table 10 below. The content of the items are reviewed and then named as "To take pleasure from playing game" and the contenct of the factor is written as shown in Table 10 below.

Table 10.FifthSub-Factor- To take pleasure from playing game.

23.	When I play game, I have good day.
24.	Playing games give me pleasure.
21.	I get pleasure from playing games in artificial game halls.
25.	I always want to play games.

The variance rate of this factor regarding the total scale is 4,67% and its itemsself value is 1,17. Item load values showed a variation between 0,76 and 0,72.

Correlation Coefficient is calculated in order to determine the relationship between the factors which comprise to Game Proneness.

Table 11.Correlation Coefficient between the Factors

Factors	Factor1	Factor2	Factor3	Factor4	Factor5
Factor1	1				
Factor2	,16[*]	1			
Factor3	,04	,19[*]	1		
Factor4	,26[*]	,25[*]	,38[*]	1	

| Factor5 | ,32* | ,19* | ,37* | ,40* | 1 |

When the factors that are included in Table 11 are reviewed, it is observed that the correlation coefficients between the factors are low each factor is differentiated from other factors for measuring the qualification which they measured.

Confirmatory Factor Analysis

The Exploratory Factor Analysis is retested by a scale confirmatory factor analysis of which the result indicated a 5 factor layout. Primarily the modification indexes and fit index statistics for the 5 factors are reviewed.

Figure 1 Confirmatory Factor Analysis(without modification)(Estimates)
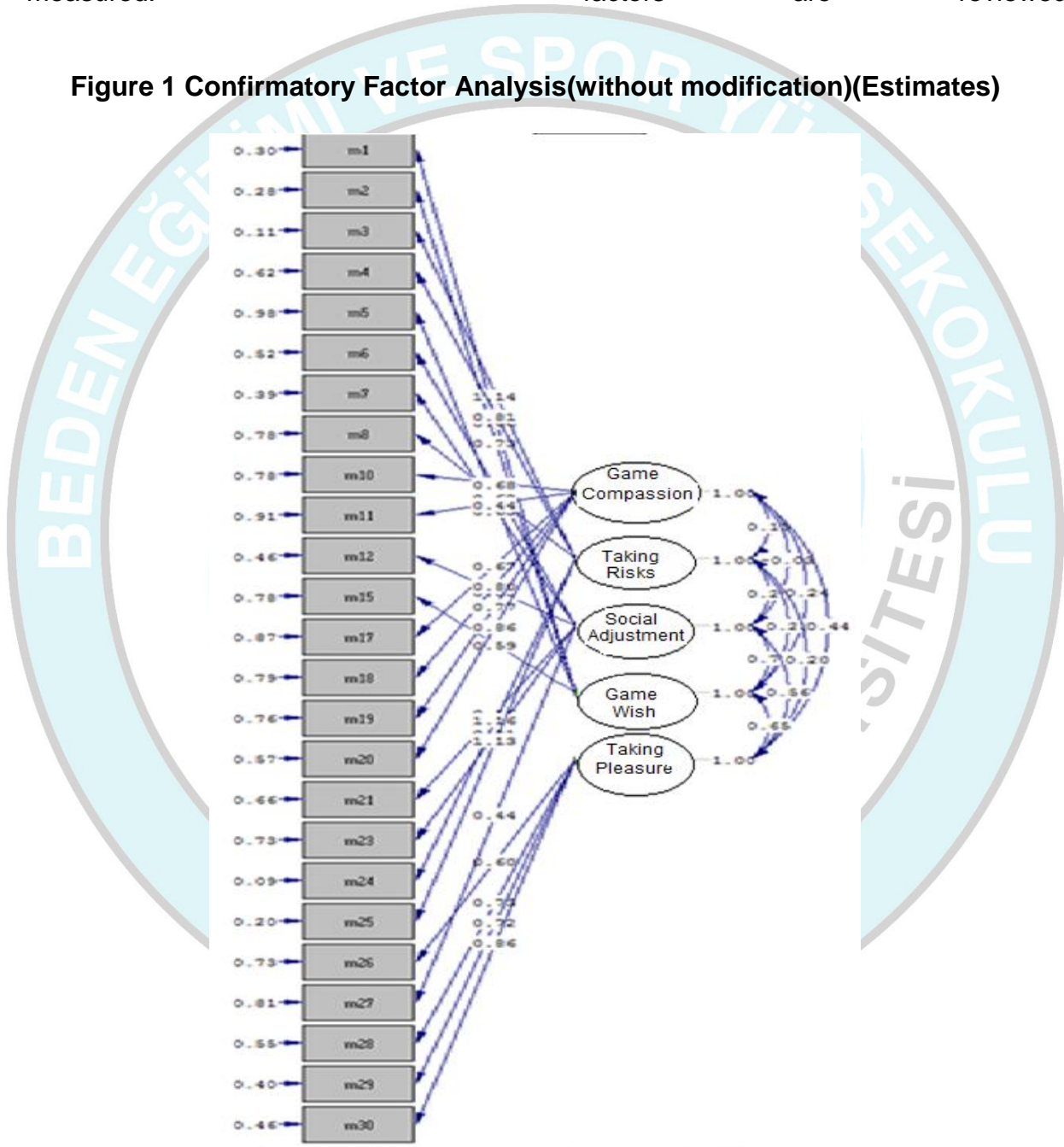
Chi-Square=1158.23, df=265, P-value=0.00000, RMSEA=0.078

(Game Compassion, Taking Risks, Social Adjustment, Game Wish, Taking Pleasure)

According to the results of first calculation:C^2=1158 (n=553, sd=265, p>0.00). GFI=0,86 AGFI=0.82, StandardisedRMR=0,08, RMSEA=0,07.

It appears from the fit index statistics that GFI=0,86 and AGFI=0,82 indexes are not low and that they are in an acceptable level.

On the other hand the NNFI value Game Proneness scale is 0,92 and its CFI valueis found as 0,93 and it is observed that these values is an indicated of a perfect fit.

The t values belonging to the scale is also considered. The minimum and maximum values of the items that are related with Game Proneness are found as m24=8,99and m8=16,38 respectively. Therefore it is observed that the items are varied between these two values. If the t values of items

exceed 1,96 they they are significant at 0,05 level and if they exceed; 2,56, then they are significant at 0,01 level and the t values which are not found as significant should be excluded from analysis during analysis which are performed with the frame of structural equality. (Çokluk, Şekercioğlu, Büyüköztürk; 2012).In this regard, all of the items are found significant at 0,01level and that no item is excluded.

The process is repeated in order collect information about the significance level of the expected and estimated values of the scale (X^2value) and the results are seen in Figure 2.

Figure 2. Confirmatory Factor Analysis – (Standardized Solution)
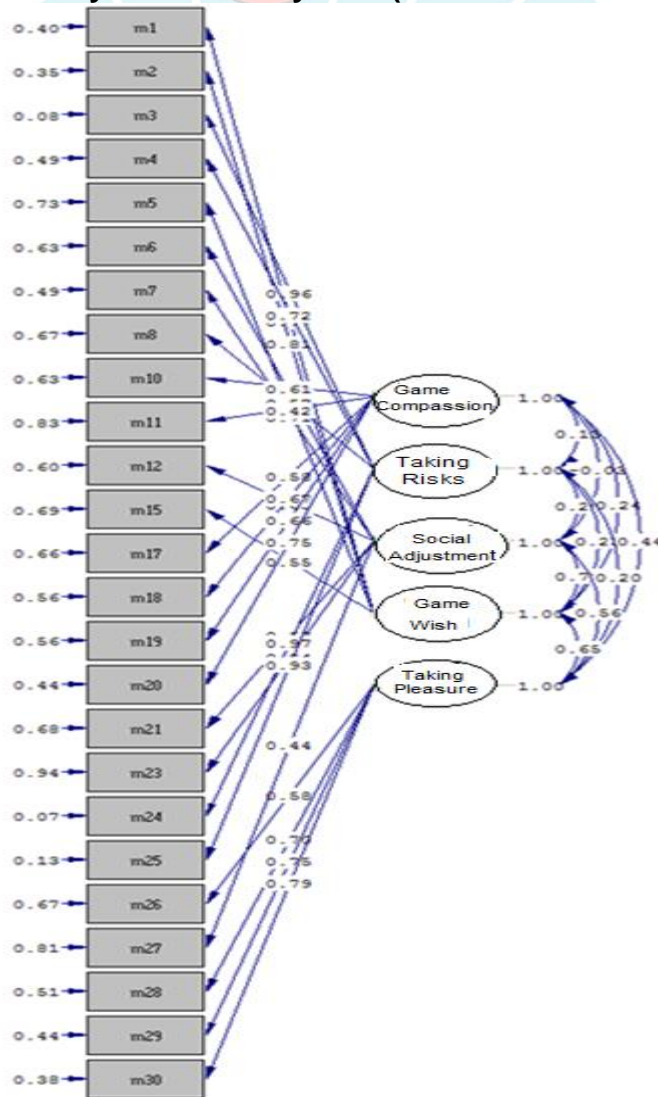
Chi-Square=1158.23, df=265, P-value=0.00000, RMSEA=0.078

(Game Compassion, Taking Risks, Social Adjustment, Game Wish, Taking Pleasure)

According to Kline (2005) and Sümer(2000) if the X^2/sdrate in large samples is less than 3 it indicates perfect fit, and if it is less than 5, then it implies moderate fit(Çokluk et al.2012). According to it it is calculated that **X^2/sd** =1158/265 = 4,3. This rate corresponds to moderate level fit. On the other hand in Game Proneness scalethe RMSEA(fit index)valueis found as 0,07. As this value is less than 0,08, this indicates that the fit level is good.

Reliability

Cronbach Alfa valueis calculated for the reliability of Game Proneness scale. IF the Alfa coefficient is between 0,60 and 0,79, then the scale that is develop is considered as quite reliable. (Alpar, 2010).The respective alfa values for the factors that are found in the calculations are observed to be as shown below: firstfactor 0,83, secondfactor 0,86, thirdfactor0,79, fourthfactor 0,72 and fifthfactor0,81. For the remaining 25 items the alfa value is found as 0,86 and this rate is considered as quite high.

DISCUSSION

The validity and the reliability study of the Game Proneness scale in this research which is developed by Hazar that was composed of 33 items in the beginning is applied.

Primarily the Item Analysis is performed in order the measure the validity of the scale. The item-total correlation coefficient and top-bottom groups (27%) t-test results are obtained within the content of item analysis. As the items numbered 9.,16.,22.and28. which were present in the scale are found to have low values and did not have significant differences in both of the measures, they are excluded from the scale in both of the analysis. As it is observed that the articles numbered 13, 14, 29 and 30 have decreased the reliability of the scale they are observed and they are decided to be excluded from the scale after it is determined that

the correlation coefficients of these items have values that are are less than r<0,30. Büyüköztürk (2006) states regarding the item-scale correlation that the items having more than 0,30 and higher values could discriminate the individuals satisfactorily and the items that are between 0,20-0,30 may be included only if they are found obligatory, and those which are less than 0,20 should not be included into the scale. In this context, total of 8 items are excluded from the scale and the correlation coeffient of the items have shown a variability within the range of r=31 and r=57. In other words, it can be said that the remaining 25 items could discriminate the individuals significantly.

Before starting to the construct validity of the scale the sample size and the detail if the data collected are appropriate and statistically significant or not are considered. It defined byTavşancıl (2006) about the sample size that 300 subjects are "good, 500 subjects are "very good" and 1000 subjects are "perfect" for factor analysis. According to this information the total of 553 subjects are considered as very good for performing factor analysis.

In addition Kaiser-Mayer-Olkin (KMO) Sample Measurement and Barlett's Test are applied in order to determine the consistency and meaningfulness. KMO value is found as high 0.861>0.50 and Barlet test is found significant at p=0,00<0,05.According to Kalaycı (2008) the conditions that the KMO valueninis close to 1 and higher than 0,5 and the level of significance in Barlet test is less than 0,05 indicate that the data are suitable for factor analysis. Therefore it is concluded that tha data collected are suitable for factor analysis and exploratory factor analysis is applied.

In the exploratory factor analysis, it is observed that there are not items which have more than one load value and that it indicated a 5-factor construct. When

the lowest item load value of the scale is 0,48, the highest value is 0,82.

The contents of the items are reviewed and names of the items are decided to be titled as firstfactor "gale compassion", secondfactor "risk-taking",thirdfactor "social adjustment", fourthfactor "wish to play game" and fifthfactor "to take pleasure". The variance rates of the 5 factors obtained is 61,166%olduğu, and that said rate is found in the firstfactoras 23.34%, in the secondfactor 14,36%, in thee thirdfactor 11.85%, in the fourthfactor5,95% and in the fifthfactor4,67%. As it is accepted sufficient in the multi-factor designs the variance that is calculated is accepted as sufficient if it is within the range of 40% and 60%(Çokluk and ark.;2012). Therefore, the results that are obtained for variance rate are qualified as a positive indicater for the construct validity of the scale.

Confirmatory factor analysis is applied in the 5 factor scale which is composed of 33 items which are determined in the exploratory factor analysis. The adjustment statistic in the confirmatory factor analysis are reviewed. Said value is found in the first analysis as GFI=0,86 AGFI=0.82, and in the standardized analysis as RMR=0,08, RMSEA=0,07. The researchers expressed (Akt. BüyükÖztürk, Akgün, Özkahveci and Demirel,2004)that the condition of the GFI and AGFI indexes to be higher than 0,95 indicates perfect adjustment and that if they are more than 0,90, this indicates good adjustment (Hooper, Caughlan and Mullen, 2008 Akt. Çokluk, Şekercioğlu, Büyüköztürk; 2012:304) and if they are higher than 0.80, then is an acceptable value for adjustment. (Anderson and Gerbing,1984 Cole,1987, Marsh, Balla and McDonald,1988). Accordingly, the GFI=0,86 and AGFI=0,82 indexes are not low and that they are at acceptable levels. Furthermore if NNFI and CFI adjustment indexes are higher than

0,95, this indicates perfect adjustment and if they are higher than 0,90, this indicates good adjustment. (Sümer,2000Akt. Akt.Çokluk and ark.; 2012). Accordingly as the NNFI valueof the Game Proneness scale is measured as 0,92 and that of the CFI value, as 0,93 and said values are observed as the indicated of perfect adjustment.

The t values are reviewed in the confirmatory factor analysis and the lowest t value is found as m24=8,99and the highest value is found as m8=16,38. Therefore it is observed that the t values of the items varied between these two values. As the t values of the items exceeded 2,56, they are found significant at 0,01 level (Çokluk, Şekercioğlu, Büyüköztürk; 2012) and therefore no item is excluded.

The process is repeated in order to obtain information about the significance of the expected and anticipated values of the scale(X^2value). According to itis calculated that: **X^2/sd** =1158/265 = 4,3. This rate corresponds to moderate level adjustment. (Kline (2005) and Sümer (2000) ,Çokluket al. 2012).

On the other hand, if RMSEA is less than 0,05, this indicates perfect and if it is less than 0,08, this indicates good adjustment (Jöreskog and Sörbom,1993) and if it is less than 0,10, this indicates poor adjustment. (Tabachnick and Fidel, 2001; Çokluket al.;2012). The RMSEA(fit indices) valueis found as 0,07in the Game Proneness scale. As this value is less than 0,08 it is an indicator that the fit level is good.

According to the results of both of the two analysis reports, it can be said that the construct validities of the 5 factor Game Proneness scale is consistent and in other words, they measure what they intend to measure.

The reliability value of Game Proneness scale is determined as 0,86 in Cronbach Alfa. By starting from the knowledge that if the alfa coefficient about the scale in general is between

0,60 and 0,79, then the scale that is developed is considered as quite reliable (Alpar, 2010), it can be said that it has a quite high level of reliability.

As the result of all these calculations that are obtained, it is considered that the validity and reliability of the Game Proneness Scale which is used to observe the attitudes of the 18-22 age group towards playing games which contains physical activity it concluded that said device is a valid and reliable measurement tool.

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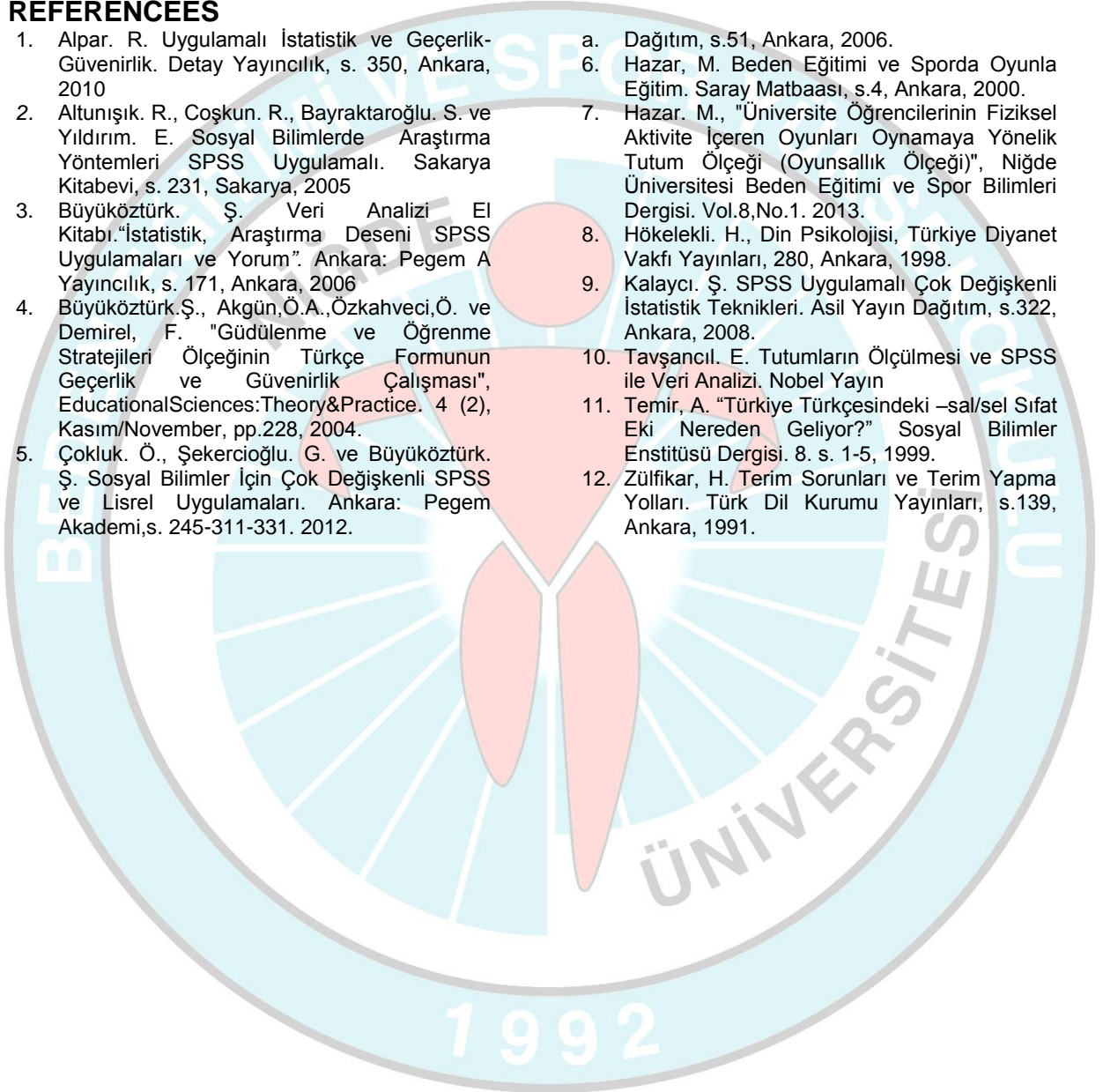
ATTITUDES OF 18-22 AGE ADULTS FOR PLAYING GAMES THAT CONTAIN PHYSICAL ACTIVITY
(DEVELOPMENT OF GAME PRONENESS SCALE IN 18-22 AGE GROUP)

Dear Participant;

This scale is prepared in order to observe**the wish and desire level of the active games which contain physical movement. Passive games (computer and table games) are not included within the scope of this study.** Therefore please reply this form by considering your wish and desire to play games which contain physical competition and strıggle. Please mark with (X) the relevant replies among Strongly Disagree, Disagree, Neutral, Agree and Strongly Disagree options below. We kindly request you not to remain any unmarked expression and thank your for your contributions.

	STRONLY DISAGREE (1)	DISAGREE (2)	NEUTRAL (3)	AGREE(4)	STRONLY AGREE(5)
Province :					
District :					
School :					
Age :					
Gender :					
EXPRESSIONS					
1. I like playing games.					
2. Playing games excite me.					
3. I am not afraid of getting injured during playing game.					
4. I continue to play even if I am hungry.					
5. I prefer to play games instead of watching movies in TV.					
6. I obey to the rules of the game.					
7. I share the game tools with my friends.					
8. I do not mind my clothes to become dirty during playing game.					
9. I want to play game as soon as I wake up.					
10. I am not aware that became tired during playing.					
11. I get pleasure from playing with my agemates.					
12. I become excited when I learn a new game.					
13. I do not fed up from playing games.					
14. I dream of playing games when I do not play a game.					
15. I fail to perform my duty in order to play game.					
16. I spend most of my time by playing games.					
17. I prefer to play game with my friends instead of playing alone.					
18. I become sad for injury of my friends during playing.					
19. I want to play game even if I am ill.					
20. I play games in outdoor even if the weather conditions are not favorable					
21. I get pleasure from playing games in artificial game halls.					
22. I recall my friends whenever a game is mentioned.					
23. I have a good they whenever I play game.					
24. Playing games give me pleasure.					
25. I always want to play games.					

18-22 YAŞ YETİŞKİNLERİN FİZİKSEL AKTİVİTE İÇEREN OYUNLARI OYNAMAYA YÖNELİK TUTUMLARI

Sayın Katılımcı;

Bu ölçek; **fiziksel hareketlilik içeren aktif oyunları oynama arzu ve isteğini belirlemek amacıyla hazırlanmıştır**. **<u>Pasif oyunlar (bilgisayar veya masa oyunları) bu çalışmanın alanı içinde değildir.</u>** Bu nedenle, fiziksel mücadele eylemleri içeren oyunları ve oynama isteğinizi, göz önünde bulundurarak cevaplayınız. Kesinlikle Katılmıyorum, Katılmıyorum, Kararsızım, Katılıyorum, Kesinlikle Katılıyorum cevaplarından size uygun olanı (X) işaretleyiniz. İşaretlenmemiş ifade bulunmamasını rica eder, katkılarınız için teşekkür ederim.

		KESİNLİKLE KATILMIYORUM (1)	KATILMIYORUM (2)	KARARSIZIM (3)	KATILIYORUM (4)	KESİNLİKLE KATILIYORUM (5)
İli	:					
İlçesi	:					
Okulu	:					
Yaşı	:					
Cinsiyeti	:					
İFADELER						
1.	Oyun oynamayı severim.					
2.	Oyun oynamak beni heyecanlandırır.					
3.	Oyun oynarken sakatlanmaktan korkmam.					
4.	Aç olsam da oyun oynamayı sürdürürüm.					
5.	Televizyonda film izlemek yerine oyun oynarım.					
6.	Oyun kurallarına uyarım.					
7.	Oyun araçlarımı arkadaşlarımla paylaşırım.					
8.	Oyun oynarken kıyafetlerimin kirlenmesini umursamam.					
9.	Uyanır uyanmaz oyun oynamak isterim.					
10.	Oyun oynarken yorulduğumun farkına varmam.					
11.	Kendi yaşıtlarımla oyun oynamaktan zevk alırım.					
12.	Yeni bir oyun öğrendiğimde heyecanlanırım.					
13.	Oyun oynamaya doymuyorum.					
14.	Oyun oynamadığım zamanlarda, oyun oynamayı hayal ederim.					
15.	Oyun oynamak için görevlerimi aksatırım.					
16.	Vaktimin çoğunu oyun oynayarak geçiririm.					
17.	Oyunu tek başına oynamak yerine arkadaşlarımla oynarım.					
18.	Oyun oynarken arkadaşlarımın sakatlanmasına üzülürüm.					
19.	Hasta olsam bile oyun oynamak isterim.					
20.	Hava koşulları uygun olmasa bile açık alanda oyun oynarım.					
21.	Yapay oyun salonlarında oyun oynamaktan zevk alırım.					
22.	Oyun denildiği zaman arkadaşlarım aklıma gelir.					
23.	Oyun oynadığım zaman günüm iyi geçiyor.					
24.	Oyun oynamak bana keyif verir.					
25.	Her zaman oyun oynamak isterim.					