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Online Game Addiction in a Sample from Turkey: Development and Validation of the Turkish Version of Game Addiction Scale

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ABSTRACT:

Online game addiction in a sample from Turkey: development and validation of the Turkish version of game addiction scale

Objective: Online game addiction also referred to as internet gaming disorder, a clinical condition that is not well-established, is not listed in psychiatric classification systems due to lack of adequate studies but expected to be added to the manual in near future. In Turkey neither a scale nor a study is present to evaluate online game addiction/ addicts. We aimed to evaluate the reliability and validity of "The Game Addiction Scale" that was developed by Lemmens in 2009 as an instrument to assess online game addiction in an online game players sample in Turkey and examine the game addiction levels in these players.

Methods: For this purpose 726 "Travian" (a massively multiplayer online game) players were evaluated with the Young's Internet Addiction Test and the Lemmens's Game Addiction Scale to find out their game addiction levels. Individual properties of the participants reflecting their internet use and gaming habits were also examined. The study was performed using SurveyMonkey within three months between March 1 and May 31, 2013.

Results: Both 21-item (Cronbach's α=0.96) and 7-item versions (Cronbach's α=0.88) of the Game Addiction Scale were found to be valid and reliable. Also using the monothetic format 11.1% of the participants was found to be online game addicts.

Conclusion: Our findings indicates that there is a considerably high percentage of game addiction within this online gamers sample compared to other countries. Further studies with online gamers and general population are needed to see the whole picture in Turkey.

Keywords: online game addiction, internet gaming disorder, browser games, game addiction scale, validity, reliability

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INTRODUCTION

The internet, which has been broader since the 1990s, has become an indispensable part of basic areas of life in the whole world such as business, education, security, communication, entertainment, industry, and healthcare. Although spreading of internet in Turkey is later than the developed countries, it continues to spread fascinatingly. One of the negative consequences of spreading internet use is "internet addiction" (IA). Young was the first who methodically research internet addiction by modifying diagnostic criteria of "pathological gambling"[1,2]. IA, though being frequently used in academic literature and media, doesn't exist in the DSM-IV-TR[3], DSM-5[4], and ICD-10[5].

On the other hand, "online game addiction" (OGA) is another clinical situation that has to be taken account in the context of IA. OGA, does not

Table 1: Subscales of Game Addiction Scale

	Definition
1. Salience	Game becoming dominant on thought, emotion, and behavior
2. Tolerance	Need to spend more time in game in order to achieve former pleasure
3. Mood modification	Game is used as a coping mechanism to change a negative mood to a positive mood
4. Relapse	After periods without game playing, the tendency to turn back to earlier gaming patterns
5. Withdrawal	Psychological or physiological discomfort when playing game is discontinued or reduced
6. Conflict	Interpersonal and intrapsychic problems that arise as a consequence of the game playing
7. Problems	Challenges in workplace, school or social life due to excessive game playing

exist in the DSM-IV-TR[3], DSM-5[4], and ICD-10[5] either, though in this circumstance the person excessively and compulsively plays online games and experiences negative consequences but cannot control his/ her behavior[6]. OGA is considered to be a behavioral addictive disorder than an impulse control disorder[7,8]. This phenomenon was expected to be placed in the DSM-5, but once standard criteria have not been used in studies in literature, it is presented as "internet gaming disorder" in the third part and hoped to be included in DSM upon the data emanating from further studies[4].

Online gaming has spread through development in internet[9]. The browser based games, especially "massively multiplayer online games" (MMOG) which are played over the browser simultaneously by multiple gamers (e.g., Travian), are very popular among online gamers. Travian-4 (a version of the game), which is a browser based online strategy and war game with multiple players, has also a Turkish server since 2003[10]. Player has to improve his/ her village both economically and militarily, while introducing wars among other villages of other players or setting an agreement for further development[11]. The option of the game that lets players to play in short intervals, different from other MMOGs, increases its probability to be a preferred videogame[11]. There are also various forums provided by the game for the players to communicate via online chatting.

Measurement of Game Addiction

Scales or their modified versions that use diagnostic criteria of either substance use disorders or impulse control disorders are used in studies in order to evaluate OGA[8].

The Game Addiction Scale

21 item "The Game Addiction Scale" (GAS) was developed in 2009 by Lemmens et al. based on 7 criteria that were adapted from DSM-IV pathological gambling criteria by Griffiths (Griffiths, 2005) and each criterion was measured by 3 items[6]. These criteria are summarized in Table 1.

This scale, which was developed on 12-18 year olds and considered valid and reliable for measuring OGA on adolescents, has not been implemented on an adult sample. Besides developing the scale, the relationship between loneliness, aggression, life appreciation, social competence, and time spent during the game was also evaluated. It was stated that both 21-item long form and 7-item short form were valid and reliable. In a monothetic format, all criteria for game addiction must be endorsed in order to be identified as a game addict. When 4 criteria out of 7 (polythetic format) were set as cutoff for answering at least "sometimes" among "never", "rarely", "sometimes", "often", and "very often" OGA rate was higher, where OGA rate was lower when all 7 criteria (monothetic format) were set as cutoff for choosing at least "sometimes". Authors recommended using monothetic format that required all criteria to be provided[6].

To our knowledge, there are three scales that are developed for internet/ game addiction in Turkey and none of them intends to measure OGA and other two scales that were adapted to Turkish language only measure internet addiction. Therefore, in this

present study, we intended to adapt the GAS to examine game addiction and related factors on a sample of online gamers in Turkey. For this reason, Turkish version of the GAS and Turkish version of the Young's Internet Addiction Test (IAT) were applied to participants to test reliability of the scale. Also some individual properties of gamers as "weekly internet use duration", "sustained game duration", and "gaming frequency on mobile phone" were used for validity analysis.

METHODS

Procedure

In this study, data of research is used, which is held to find out the prevalence of game addiction and related variables (self-esteem, perceived social support, life satisfaction, and game motivation) on online gamers in Turkey. Research is performed online via connecting Turkish servers of an internet based multi-player strategy game called "Travian". For this purpose, an invitation message for the research has been sent to the game players one by one or union leaders, by signing up for an account in the game. In the invitation message purpose of the study was summarized, it is stated that data would be anonymous and participants were asked to fill the questionnaire package after giving informed written consent by clicking the related link. This study was conducted using SurveyMonkey for three months between March 1st, 2013 and May 31st, 2013. Repetitive entrance to system was avoided by preventing multiple responses per person within study interval. Participation rate was intended to be increased by sending the invitation message that was sent at the beginning of the study for three times in three month period, intermittently. Research protocol was approved by Gazi University Clinical Research Ethics Committee with Decision Number 98.

Study Sample

Due to most important aspect of the study was to determine Turkey's online game player population's profile, only criterion to participate was being literate. 745 people out of 1763 who clicked the study link completed all questionnaires. Researchers recorded the time of three non-participant people to fill all questionnaires and the shortest duration was found to be 8 minutes. Therefore, participants who completed the questionnaire less than 8 minutes were excluded from the study and analyses were processed with 726 people.

679 (93.5%) participants were men and 47 (6.5%) were women. Average age was 28.4±9.98 (men: 28.15±9.82, women: 31.89±11.61) years. Youngest participant was 12 years old and oldest was 61 years old. 59.2% of the participants was at least college graduate, 32.6% was high school graduate and 8.2% was elementary school graduate or below. 7.8% of the participants was unemployed or did not have a regular job, 39.1% was student and others had various kinds of jobs.

Instruments

Instruments were the demographic data form including questions to measure some individual properties of the participants, the Young's IAT, the Lemmens' GAS, the Satisfaction With Life Scale[12,13], the Nick Yee's Online Gaming Motivations Scale[14], the Rosenberg Self-Esteem Scale[15,16], the Multidimensional Scale of Perceived Social Support[17] in the questionnaire package. However in this study, Young's IAT and Lemmens' GAS and some individual properties were analyzed.

The Internet Addiction Test

Young has mentioned about internet addiction phenomenon for the first time in the year 1996 and created an 8 item list based on pathological gambling criteria of the DSM-IV[18,19]. She announced the person who experiences 5 of 8 items from the list for at least 6 months to be an internet addict. In 1998, Young developed a 20 item (e.g. How often do you try to cut down the amount of time you spend on-line?) and 5-point Likert type IAT based on pathological gambling

criteria[1]. Here, every question starts with "how often". The person is considered to be in the normal range when the test score is below 30 and 31-49 points indicate slight, 50-79 points indicate medium, and 80-100 points indicate serious addiction. Turkish version of the scale was used in this study[20]. However, statements of 6 and 9th items of the scale's Turkish version that address adolescents were changed in order to intend to all population from 'your attendance to school' and 'your grades in the school' to 'your work or school' and 'school and job performance or productivity'. The scale's internal consistency scores (Cronbach's Alpha=0.90) are found to be valid and satisfactory.

The Game Addiction Scale

The 21 item GAS that is developed by Lemmens et al. includes 7 subscales each composed of 3 items[6]. The scale was translated into Turkish by the authors of this article, then translated back to English by a professional translator and then compared with each other. Last version of the scale is composed of 21 items. The subscales are salience (e.g. Did you spend much free time on games?), tolerance (e.g. Did you play longer than intended?), mood modification (e.g. Have you played games to feel better?), relapse (e.g. Were you unable to reduce your game time?), withdrawal (e.g. Have you become angry when unable to play?), conflict (e.g. Have you lied about time spent on games?), and problems (e.g. Has your time on games caused sleep deprivation?). Each item starts with "In the last 6 months, how often…" statement and is rated on a 5-point Likert scale.

Individual Properties

"Time spent on games" criteria was used to determine problematic internet use in previous studies[21]. To test the criterion validity of the GAS, we measured internet use and gaming habits of the participants with several questions besides the Young's IAT. These included how much time they spent on internet in a week (weekly internet use duration), how much time they continuously play a game (sustained game duration), and the frequency they were playing game from their mobile phones (gaming frequency on a mobile phone).

Statistical Analyses

The predetermined factor structure of the GAS with 21 items was tested by implementing second order confirmatory factor analysis (CFA) by structural equation modeling approach via LISREL 8.80[22]. We used covariance matrix as the data input and maximum likelihood methods to test model fit. As the creators of the scale have done in the original study, 21 items were divided into 7 factors (salience, tolerance, mood modification, relapse, withdrawal, conflict, and problems) each composing 3 items in the first order and these factors were linked to latent "game addiction" variable in the second order. Figure 1 shows proposed second order factor structure. Circles in the figure show latent variables and the rectangles represent observed items.

Four frequently used fit indices were evaluated for the fitness of tested models: Chi-Square Goodness of Fit, Root Mean Square Error of Approach (RMSEA), Non-Normed Fit Index (NNFI), and Comparative Fit Index (CFI). Significance of the indices was determined according to the values that Sümer[23] and Hu and Bentler[24] complied. When the model was evaluated, values between 0.90 and 0.95 for CFI and NNFI, values between 0.08 and 0.05 for RMSEA were considered to be acceptable and indicated moderate fit. The value of 0.95 and above were designated as perfect compliant for CFI and NNFI, where 0.05 and below were for RMSEA. As the Chi-Square is very sensitive to sample size and likely to be significant in larger samples, the Chi-Square to degrees of freedom (χ^2/df) ratio is expected to be equal or lower than 5.

RESULTS

The proposed model moderately fitted the data and was acceptable considering fit indices, χ^2

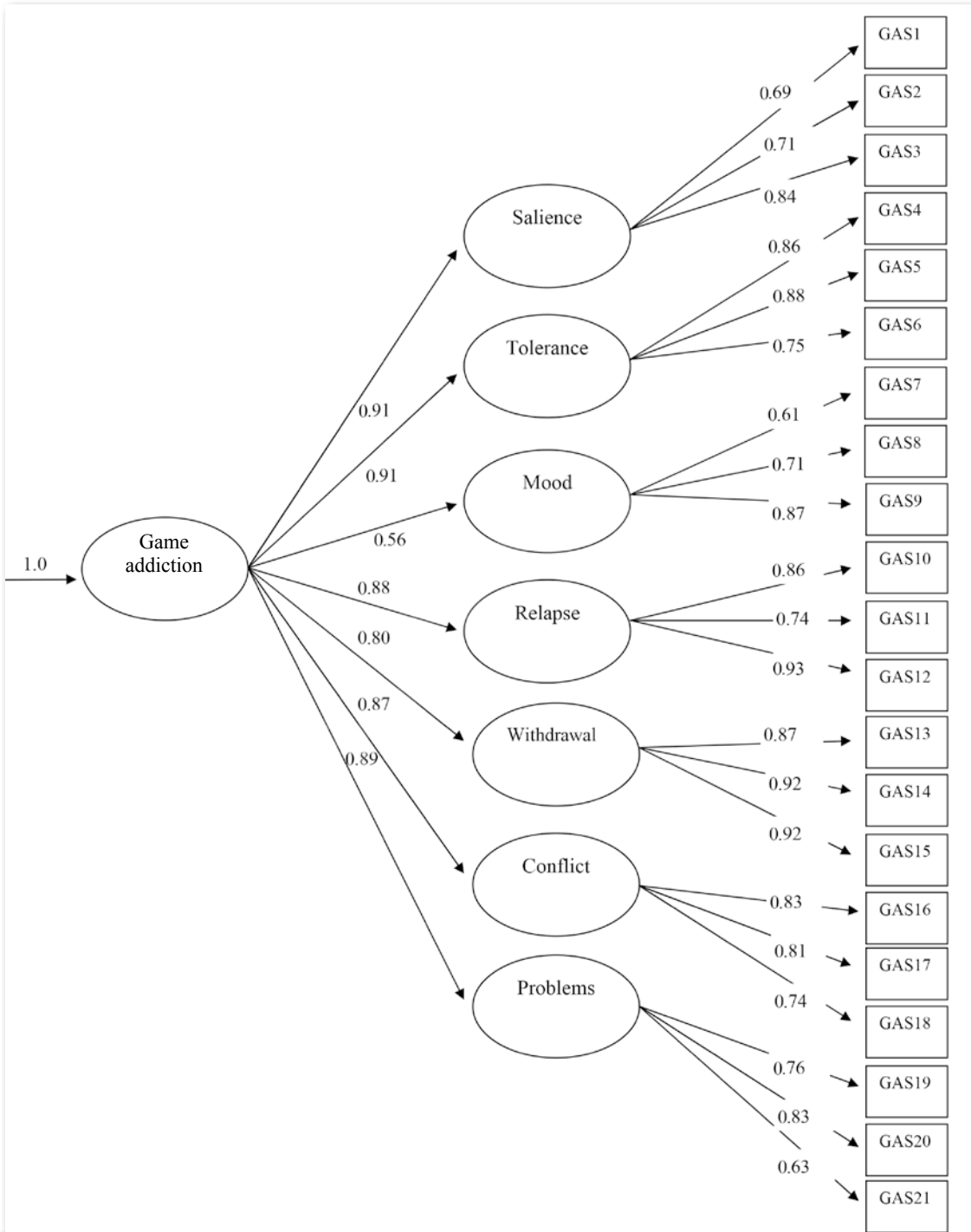

Figure 1: The model presenting confirmatory factor analyses results for Turkish version of GAS with standardized regression coefficients and errors.

(df=182, n=726)= 926.01, p<0.001; χ^2/df=5.09, CFI=0.98, NNFI=0.98, RMSEA=0.079, RMSEA 95% Confidence Interval (CI): 0.074; 0.084). All factor loads and coefficients showing relationship between "game addiction" and 7 criteria are depicted in Figure 1. The results indicated that, loading range of items were found to be between 0.61 and 0.93 at the first order, where at the second

order loading coefficients were between 0.56 and 0.91. Results have shown that the proposed model is compatible in a Turkish sample.

The GAS had a good internal consistency with its all 21 items (Cronbach α=0.96, M=2.62, SD=0.92) and scores for corrected item-total correlations were between 0.51 to 0.79 except for the item "Have you played games to release stress?" which was 0.36 indicating good consistency between items. Internal consistency coefficients of 7 criteria were as follows: 0.80 for "salience", 0.86 for "tolerance", 0.76 for "mood modification", 0.87 for "relapse", 0.93 for "withdrawal", 0.84 for "conflict", and 0.78 for "problems". Results indicated that the internal consistency levels were quite adequate.

Short Form of The GAS

It was thought that game addiction can be measured with less items because of two order factor structure is in compliance with the data[6]. A new model composed of 7 items that every criteria designated by 1 item was tested. In this present study, method that has been used in the original study was preferred[6]. Accordingly, the item which had the highest coefficient for each criterion in the first analysis was considered as the item of the shorter version of the scale. Items that were used in the short form were marked with an asterisk (*) at the Table 2. While interpreting the fit indices of the test, the rules at the first analysis were considered to be valid.

CFA results showed that "short form of the GAS" had a weak fit, χ^2 (df=14, n=726)= 171.50, p<0.001; χ^2/df=12.25, CFI=0.96, NNFI=0.94, RMSEA=0.125, RMSEA 95% Confidence Interval (CI):0.11; 0.14). The Chi-Square, ratio between Chi-square and degree of freedom, and especially RMSEA values were higher than expected range and indicate weak model fit, however, other fit indices were

Table 2: Measurement loadings of the 21 game addiction items (n=726)

	How often during the last six months…	Loading	Mean	SD
	Salience			
GA01	Did you think about playing a game all day long?	0.69	2.51	1.27
GA02	Did you spend much free time on games?	0.71	3.47	1.15
GA03	Have you felt addicted to a game?*	0.84	3.04	1.33
	Tolerance			
GA04	Did you play longer than intended?	0.86	3.26	1.23
GA05	Did you spend increasing amounts of time on games?*	0.88	3.03	1.31
GA06	Were you unable to stop once you started playing?	0.75	3.06	1.37
	Mood Modification			
GA07	Did you play games to forget about real life?	0.61	2.46	1.45
GA08	Have you played games to release stress?	0.71	3.7	1.13
GA09	Have you played games to feel better?*	0.87	3.3	1.29
	Relapse			
GA10	Were you unable to reduce your game time?	0.86	2.51	1.35
GA11	Have others unsuccessfully tried to reduce your game use?	0.74	2.31	1.42
GA12	Have you failed when trying to reduce game time?*	0.93	2.34	1.34
	Withdrawal			
GA13	Have you felt bad when you were unable to play?	0.87	2.19	1.29
GA14	Have you become angry when unable to play?	0.92	1.88	1.2
GA15	Have you become stressed when unable to play?*	0.92	1.95	1.21
	Conflict			
GA16	Did you have fights with others (e.g., family, friends) over your time spent on games?*	0.83	2.03	1.25
GA17	Have you neglected others (e.g., family, friends)because you were playing games?	0.81	2.34	1.28
GA18	Have you lied about time spent on games?	0.74	1.92	1.24
	Problems			
GA19	Has your time on games caused sleep deprivation?	0.76	2.8	1.35
GA20	Have you neglected other important activities (e.g., school, work, sports) to play games?*	0.83	2.31	1.34
GA21	Did you feel bad after playing for a long time?	0.63	2.59	1.39

Note. Response options were: (1) never, (2) rarely, (3) sometimes, (4) often, (5) very often.
*Included in the 7-item Game Addiction Scale.

Table 3: Correlation of 21-item and 7- item GAS with Young's IAT and individual properties and mean values of variables

	1	2	3	4	5	6
GAS (21-Item)	1					
Short form of GAS (7-Item)	0.98***	1				
Young's IAT	0.63***	0.62***	1			
Weekly Internet Use Duration	0.13**	0.13**	0.09*	1		
Sustained Game Duration	0.19***	0.18***	0.15***	0.35***	1	
Gaming Frequency on Mobile Phone	0.08*	0.08*	0.10**	0.05	0.03	1
Mean	2.62	2.58	2.81	43.21	8.49	2.50
SD	0.92	0.99	0.43	29.44	12.06	1.57

SD= Standard deviation, ***p<0.001, **p<0.01, *p<0.05

found to be appropriate. Item-factor loadings ranged between 0.47 and 0.81.

When modification indices were examined, we decided to a make a modification including a statistical covariance between errors of first (GAS 3: the item that represents salience) and second (GAS 5: the item that represents tolerance) items of the short form. The model was re-tested including the covariance between errors of two items. The fit indices suggested an adequate model fit after the modification, χ^2 (df=13, n=726)= 94.16, p<0.001; χ^2/df=7.24, CFI=0.98, NNFI=0.97, RMSEA=0.09, RMSEA 95% Confidence Interval (CI): 0.075; 0.11), as well as it was found that the fitness of the modified model was significantly improved ($\Delta\chi^2$ (Δdf=1)= 77.34, p<0.001). Item-factor loadings of "Short form of the GAS" ranged between 0.46 and 0.82. The scale's internal consistency was found to be considerably high (Cronbach's α=0.88) and corrected item-total correlations were found 0.67 to 0.74. Average of the scale is found to be 2.58 (SD=0.99).

Validity

The CFA analyses provided evidence for the construct validity of Turkish version of the GAS. Both long and short versions had adequate construct validity. To examine criterion validity of the GAS, strength of relationships between the GAS, the Young's IAT and some individual criteria including weekly spent time on the internet, continuously spent time playing game, and frequency of playing game from a mobile phone were analyzed. High correlation coefficient between these scales and individual properties were used as criterion validity for the GAS.

As depicted on Table 3, there were moderate to good correlation coefficients between the Young's IAT Test and long (r=0.63) and short (r=0.62) forms of the GAS and in the expected direction. Both long and short forms of the GAS had statistically significant correlations with all individual properties, although magnitude of relations was weak.

Addiction Criterion

After proving that the GAS's both short and long forms were valid and reliable scales in a Turkish sample, we formed two addiction criteria as monothetic and polythetic, for the GAS, adhering to the original study and Charlton and Danforth's (2007) discussions. While all criteria in the GAS must be fulfilled when diagnosing game addiction in monothetic format, at least half of the criteria have to be fulfilled when diagnosing in polythetic format[6].

Similar to study of Lemmens et al. (2009), 3 (sometimes) was selected as the cut-off point between 1 (never) and 5 (often) scale. When "sometimes" was taken as cut-off point, rate of participants who fulfilled the monothetic criteria was 11.16% (81 people). Besides, 47% (344 people) of participants met the polythetic criteria. When data was evaluated according to the gender; female and male participants did not differ in terms of game addiction both for long form (t(724)=0.56, p=0.58) and short form (t(724)=0.93, p= 0.35) of the scale. However, it should be kept in mind when

evaluating gender differences that male to female ratio of participants were dramatically large in the current sample.

DISCUSSION

Main objective of this study is to adapt the GAS into Turkish by investigating its internal consistency and validity. This study was conducted on a sample of online gamers by using the scale after translating it into Turkish considering Turkish social and cultural norms. A second order game addiction factor model was established in which the seven criteria correlated. Confirmatory factor analysis implied that Turkish version of the 21 item scale is valid and reliable in a two level structure. Internal consistency of short version of the scale was also tested and is proven to be highly reliable. Item-total correlation scores also supported the consistency of the short form. Although the fitness of short form was acceptable after modification, it must be treated cautiously since RMSEA values of pre-defined model was not in acceptable range. On the other hand the first (GAS 3: the item that represents salience) and the second (GAS 5: the item that represents tolerance) items of the short form was evaluated as they are measuring the same thing by the participants. This could be due to the close relationship between feeling addicted to a game and spending increasing amounts of time on a game. The feature of our sample or the feature of Travian online game might have led to this result.

The relationship between both 21-item and 7-item versions of the GAS and the Young's IAT indicated that the GAS is valid in Turkish culture. Both the IAT and the long and short forms of the GAS were found to be related with individual properties that reflect internet use and gaming habits of Travian players. This relationship verifies that both versions of the GAS are valid in our sample. The high internal consistency coefficients of two versions of the scale and its 7 criteria indicate that the GAS is reliable in a Turkish sample.

The participants, who scored "sometimes" or more on all seven items (monothetic format) and who scored "sometimes" or more on at least four of the items (polythetic format) were classified as a game addict similar to the original study[6]. When the participants were evaluated in the monothetic format; game addiction rate was 11.1%, while in the polythetic format the rate was 47%. In a previous study using another addiction scale on 422 MMPROG (massively multiplayer online role-playing game) players, game addiction rate was 38.7% in polythetic format and 1.8% in monothetic format (25). In another study that was conducted on 1420 MMOG players with a wide age range, addiction rates were 44.5% in polythetic format and 3.6% in monothetic format[26]. These results indicate that risky participants are classified as game addicts with the use of polythetic format, therefore monothetic format is considered more predictive for determining addiction[26]. The addiction rate in this study is 11.1%, which is higher than the rates of studies from other countries. We consider that our high addiction rate may be related to some particular features of Travian. First one is related to the ability of the game to keep gamers online. When a gamer plays Travian on his/ her own, he/ she spends more time within the game or returns more often to the game in order not to be attacked by other village owners. This necessity leads most of the gamers discontinue playing where the ones who spend more time in the game tend to continue playing. The gamers who spent less time in the game were eliminated through the game. We think that gamers who participated in the study are the ones who spend probably more time in the game and therefore have high game addiction risks. This may be one reason that explains the high game addiction rate in the study. Second feature of Travian is having multiple servers. The gamers may be choosing the same server in order to speak and chat with the same group of friends. This kind of reinforcement where subgroups are formed may lead gamers to spend more time within the game.

To our knowledge, this is the first study which was conducted on a sample of online gamers in

Turkey. The previous studies in Turkey were performed to evaluate internet addiction, computer addiction, and computer game addiction, but not MMOG addiction. Also these studies mostly examined children and adolescents where this present study provided information from a wide age-ranged sample. Although, the highest risk group for online game addiction includes children and adolescents, it is shown that adults are also at risk and they need different prevention and treatment approaches[27]. Internet addiction scales are not suitable for evaluating online game addiction but the GAS is a specific instrument for such an assessment. Therefore, we think this is a valuable study that provides information about online game addiction in Turkey and shows frequency of game addiction among online gamers, and provides an appropriate instrument for further research in the field.

This study has some limitations which have to be pointed out. First, participants who fill out questionnaire package in less than 8 minutes probably due to incomplete reading were excluded from the study. This cut off (8 minute) was decided after a pre-test where three university graduates outside the study participants filled the questionnaire package. Such a filter was used for the possibility that data of the participants who completed the questionnaires in a time shorter than 8 minutes was incomplete or misleading. As a trade-off, this type of time limitation might have caused some valuable data loss from the sample. Second, high quantity of questions might prevent some players to participate or lead to send incomplete data. However, in order to obtain maximum data from the sample it was not considered to decrease the number of questions in the questionnaire. Third, this study was performed only on Travian players and these results may not be representing the whole MMOG players in Turkey. Fourth, the rate of online game addiction in general population of Turkey cannot be determined with the available data of this study. Our study just aims to fulfill a need for an instrument to encourage further research in this field. Additional studies are needed to evaluate online game playing habits, online game addiction, and frequency of risky online game playing in general population of Turkey.

In conclusion, our study indicates a relatively high addiction rate among Travian players in Turkey than the online game players in other countries. The rate of online game addiction, which becomes a serious public health issue in whole world especially in Far East countries, needs to be searched also in Turkey. In order to examine and address the problem, the game addiction scale that here we showed to be valid in a Turkish sample, will be a necessary instrument.

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OYUN BAĞIMLILIĞI ÖLÇEĞİ

Bu ölçek çevrimiçi ya da çevrim dışı olarak oynadığınız video, bilgisayar, mobil, konsol oyunları ile ilgili alışkanlıklarınıza dair sorulardan oluşmaktadır. Aşağıdaki sorulara son 6 aylık döneminizi düşünerek, ilgili kutucuğa çarpı işareti koyarak yanıt veriniz.

Son 6 ay boyunca ne sıklıkta ……..	**Hiç**	**Nadiren**	**Bazen**	**Sık**	**Çok sık**
1- Bütün gün boyunca oyun oynamayı düşündünüz?					
2- Çok fazla boş zamanınızı oyunda harcadınız?					
3- Oyuna bağımlı hissettiniz?*					
4- Planladığınızdan daha uzun oynadınız?					
5- Oyunlara giderek artan miktarda zaman harcadınız?*					
6- Oyuna başladıktan sonra bırakamadınız?					
7- Gerçek yaşamı unutmak için oyun oynadınız?					
8- Stres atmak için oyun oynadınız?					
9- Daha iyi hissetmek için oyun oynadınız?*					
10- Oyundaki zamanınızı azaltmada başarısız oldunuz?					
11- Başkaları oyun oynamanızı azaltmaya çabalayıp da başarısız oldu?					
12- Oyundaki zamanı azaltmaya çalıştığınızda başarısız oldunuz?*					
13- Oynayamadığınızda kötü hissettiniz?					
14- Oynayamadığınızda öfkelendiniz?					
15- Oynayamadığınızda strese girdiniz?*					
16- Başkalarıyla (aile, arkadaş, vb.) oyunda geçirdiğiniz zaman yüzünden kavga ettiniz?*					
17- Oyun oynamak yüzünden başkalarını (aile, arkadaş, vb.) ihmal ettiniz?					
18- Oyunda geçirdiğiniz zaman hakkında yalan söylediniz?					
19- Oyuna harcadığınız zaman yüzünden uykunuzdan yoksun kaldınız?					
20- Oyun oynamak için diğer önemli aktiviteleri (okul, iş, spor, vb.) ihmal ettiniz?*					
21- Uzun süre oynadıktan sonra kötü hissettiniz?					

*Kısa formdaki maddeler