Do Social Exclusion and Parental Attitudes Predict Online Gaming Addiction in Adolescents?

Ergenlerde Sosyal Dışlanma ve Ebeveyn Tutumları Çevrimiçi Oyun Bağımlılığını Yordamakta mıdır?

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Abstract
Objective: This study aims to examine whether social exclusion and parental attitudes predict online gaming addiction in adolescents.
Method: The sample consisted of 393 individuals, of which 4.6% (n=18) were females and 95.4% (n=375) were males, which was determined by the purposive sampling method. Socio-demographic Information Form, Online Gaming Addiction Scale (OGAS), Ostracism Experience Scale for Adolescents (OES-A) and Parental Attitudes Scale (PAS) were used to obtain the personal information of the participants in this study.
Results: The findings showed that there was a positive and statistically significant correlation between the disruption sub-dimension of the OGAS and the OES disregard, exclusion and overall total at a moderate level and the acceptance/affection and psychological autonomy sub-dimensions of the PAS. There was a moderate statistically significant positive relationship between the achievement sub-dimension of the OGAS and the OES neglect, exclusion and overall total and there was a negative and statistically significant relationship with the acceptance/affection and psychological autonomy sub-dimensions of the PAS. There was a moderate statistically significant negative relationship between the economic gain sub-dimension of the OGAS and the psychological autonomy sub-dimension of the PAS. It was found that social exclusion and the autonomic parental attitude scale were significant predictors of online gaming addiction in adolescents.
Conclusion: Social exclusion and autonomous parenting attitudes are effective on online game addiction in adolescents.
Keywords: Adolescent, online gaming addiction, social exclusion, parental attitude

Öz
Amaç: Bu çalışma, ergenlerde sosyal dışlanma ve ebeveyn tutumlarının çevrimiçi oyun bağımlılığını yordayıp yordamadığını incelemeyi amaçlamaktadır.
Yöntem: Nicel yöntemle ilişkisel tarama türünde yapılmış olan çalışma örneklemi amaçlı örnekleme yöntemi ile %4,6 (n=18) kadın ve %95,4 (n=375) erkek olmak üzere 393 kişiden oluşmaktadır. Veri toplama aracı olarak Sosyo-demografik Bilgi Formu, Çevrimiçi Oyun Bağımlılığı Ölçeği (ÇOBÖ), Ergenler İçin Dışlanma Deneyimi Ölçeği (EODÖ) ve Ebeveyn Tutumları Ölçeği (ETÖ) kullanılmıştır.
Bulgular: ÇOBÖ'nün bozulma alt boyutu ile EODÖ dikkate almama, dışlama ve genel toplam arasında orta düzeyde pozitif yönde ve ETÖ kabul/sevgi ve psikolojik özerklik alt boyutları arasında negatif yönde orta düzeyde anlamlı bir ilişki vardır. ÇOBÖ'nün başarı alt boyutu ile EODÖ ihmal, dışlama ve genel toplam arasında orta düzeyde pozitif yönde ve ETÖ kabul/sevgi ve psikolojik özerklik alt boyutları arasında negatif ve istatistiksel olarak anlamlı bir ilişki vardı. ÇOBÖ'nün ekonomik kazanç alt boyutu ile ETÖ psikolojik özerklik alt boyutu arasında orta düzeyde istatistiksel olarak anlamlı negatif korelasyon vardır. Sosyal dışlanma ve otonom ebeveyn tutumu ölçeğinin ergenlerde çevrimiçi oyun bağımlılığının anlamlı yordayıcıları olduğu bulunmuştur.
Sonuç: Ergenlerde çevrimiçi oyun bağımlılığı üzerinde sosyal dışlanma ve özerk ebeveyn tutumları etkilidir.
Anahtar kelimeler: Ergen, çevrimiçi oyun bağımlılığı, sosyal dışlanma, aile tutumu

Introduction

Adolescents' excessive use or addiction to digital games seriously affects human relationships, especially family relationships, and causes ruptures in family relationships. Technology can be seen by adolescents as an escape from real-life anxieties. However, it is unclear whether using the internet to escape reality is a healthy coping mechanism. As a result of adolescents' intensive use of digital games or social media, communication within the family suffers, their contact with their parents gradually weakens and they become defensive or argumentative (1). Playing on the computer for more than two hours a day is said to increase the risk of developing addiction, and prolonged gaming is seen as a criterion for gaming addiction (2). King and Delfabbro argue that increased screen time by vulnerable people may lead to people developing addictions (3). The study conducted by Yıldırım has shown that adolescents with a strong social support network have a better ability to overcome psychological problems by protecting their physiological and psychological health, while adolescents with lower social support have higher levels of online gaming addiction (4). Blinka and Mikuška contend that enormously multiplayer online (MMO) recreations speak to a long-standing, serious and inescapable sort of online application that proceeds to develop in notoriety. Although social inspiration is a marker of addictive gaming, tall social inspiration has been ordinary for serious gamers, notwithstanding their level of enslavement. Be that as it may, players at the chance of enslavement scored lower on social self-efficacy and interpersonal believe as measured by peer connectedness (5).

In the study conducted by Başdaş and Özbey, it is suggested that as the level of social anxiety increases, adolescents' distance themselves from social relationships or as the level of digital game addiction increases, they spend more time on digital games, their social anxiety levels increase. They tend to avoid social relationships (6). Deniz et al. concluded in their study that digital game addiction was higher in male students, those whose parents were separated, and children of families with neglectful attitudes compared to other groups (7). Concurring to Blinka et al., impulsivity is related to both substance and non-substance addictions. In internet gaming habits, on the one hand, higher impulsivity and sensation looking for have been detailed in risky online gamers. On the other hand, risky online gamers are depicted as contemplative, socially on edge and regularly saved in their behavior (8).

Since Online Gaming Addiction is a broader concept than excessive gaming, understanding the prevalence of this problem is critical to understanding the pathology and incidence of addiction (9). When the literature is analyzed the prevalence studies examined 27 studies related to OGA from 1998 to 2016 and found that OGA affects only a small part of society in Europe, East Asia, North America, Australia, and Iran (0.7% to 15.6% with an average of 4.7%) (10). These rates are higher in Asian countries than European countries in adults (11). Kiraly et al. calculated the prevalence of OGA as 2.9% in a study of 4887 online gamers of various ages in Hungary (12). Pontes et al., in contrast, found an OGA prevalence rate of 2.5% in a nationally representative sample of 1071 participants among Slovenian primary school children (13). According to Yu and Cho, the percentage of those meeting DSM-5 criteria for OGA in a national Korean middle school sample of 2024 participants was 5.9% (14). Wang et al. found a 10.8% prevalence of OGA in a sample of 7,200 individuals aged 14-39 years in South Korea (15). According to a study conducted by Taechoyotin-Pawan and Tongro with 5497 individuals, the prevalence rate of OGA among secondary school students in Thailand is 5.4% (16).

In different studies conducted in Turkey, the rates of online gaming addiction vary as 3% (17), 2.1% (18), 3.7%, 11.16% and 15.1% (19). According to the findings of a study conducted with primary school students in Kırşehir, online gaming addiction of primary school students is at a low level (20). Karaca et al. calculated the rate of online gaming addiction in students between the ages of 10-15 in Istanbul as 5.6% in their study (21). Arıcak conducted a survey on problematic internet gaming behavior among 6116 individuals aged between 12-19 in Istanbul and stated that 8.5% of individuals had problematic digital gaming behavior (22).

Early detection of online gaming addiction in adolescents and a thorough understanding of the factors that contribute to addiction are critical in preventing this problem. However, it has been determined that very little

research has been conducted on the relationship between online gaming addiction, which has increased with the ever-developing technology in recent years, and stress and social support in adolescents (4, 23).

In the literature review, to our knowledge, no study was found in which online gaming addiction, social exclusion and parental attitudes variables were examined together. In this context, this study is important as the results will make an important contribution to literature. This study aims to examine the variables of online gaming addiction, social exclusion and parental attitudes in adolescents. Thus, the main problem of the study was formed as "Do social exclusion and parental attitudes influence online game addiction in adolescents?". Based on this primary objective, answers to the sub-problems were sought. The first sub-problem "Is there a statistically significant difference in terms of online game addiction according to the daily digital game playing duration among adolescents?" The second one is "Is there a statistically significant difference in terms of online game addiction according to the duration of continuous digital game play among adolescents?" The third one is "Is there a statistically significant relationship between online game addiction, social exclusion and perceived parental attitudes among adolescents?" and the last one is "Do social exclusion and parental attitudes predict online game addiction among adolescents?"

Method

Relational survey model was used in this study. The relational survey model is a model that aims to understand whether there is variation between two or more variables. Here, it was utilized to find out whether the variables change at the same time and how it happens if there is a change (24).

Sample

The population of this study consisted of adolescents living in Turkey. The sample were 393 people by criterion sampling, which is one of the purposive sampling methods. The basic understanding of the criterion sampling method is to study all cases that meet a set of predetermined criteria (25). In this study, adolescents between the ages of 15-18 who played online games were determined as the criterion for participating in this study. The sample group included in the research was reached through online game platforms. Diagnostic psychological interviews were not conducted with the participants and there was no information about the participants' psychological backgrounds.

The sample consisted of 393 adolescents, of which 4.6% (n=18) were females and 95.4% (n=375) were males. Of the sample, 19.1% (n=75) were 15, 21.9% (n=86) were 16, 32.6% (n=128) were 17 and 26.5% (n=104) were 18 years old. Regarding the number of siblings, 10.9% (n=43) of the sample were singleton, 62.1% (n=244) had two siblings and 27% (n=106) had three or more siblings. By grade level, 7.6% (n=30) were in 9th grade, 16.8% (n=66) were in 10th grade, 19.3% (n=76) were in 11th grade, 35.1% (n=138) were in the 12th grade and 21.1% (n=83) were high school graduates. According to the perceived socio-economic status of the individuals included in the sample, 13% (n=51) were low, 77.9% (n=306) were medium, and 9.2% (n=36) were high.

Considering the daily playing time of the sample for playing online games, 1.3% (n=5) played 1-3 hours, 10.2% (n=40) played 4-5 hours, 44.8% (n=176) played 6-8 hours, 43% (n=169) played eight hours or more and 0.8% (n=40) did not play every day. When the amount of money spent on online games per month was analyzed, 12.5% (n=49) of the sample did not spend any money, 80.2% (n=315) spent between 1-500 TL, 2.5% (n=10) spent between 501-1000 TL and 4.8% (n=19) spent 1001 TL and more. It was determined that 13.5% (n=53) of the adolescents played online games for 1-3 hours, 46.1% (n=181) for 4-5 hours, 27.7% (n=109) for 6-8 hours and 12.7% (n=50) for eight hours or more without any break.

Data Collection

Ethical permission numbered YDU/SB/2022/1320 was obtained on 02.06.2022 before data collection from Near East University. After ethics committee approval was obtained, the online survey system (Google Forms)

was used as the data collection tool. During the data collection process of this research, participants were reached and data were collected within approximately four months.

The scales, sociodemographic information form and other forms were sent to the participants using Google Forms and online means (WhatsApp, e-mail and Facebook). The necessary data for the research were collected. All data were collected voluntarily. It took between 15-20 minutes to answer the questionnaire.

In order to gather the necessary data, the researchers first sought permission from the families involved. Families were contacted via the above-mentioned social media platforms and were informed about the scope and purpose of the research and the purposes for which the data would be used. Parents who agreed for their children to participate in the study wrote their names and surnames on the online form. A form was opened for parents who stated their names and surnames and their children were allowed to fill it out. Following this, they then informed the adolescents who were part of the sample group about the study and obtained their consent to participate.

Measures

Sociodemographic Information Form, Online Game Addiction Scale, Ostracism Experience Scale for Adolescents and Parental Attitude Scale were used to obtain personal information of the participants.

Socio-demographic Information Form

A socio-demographic information form was applied to learn the personal information of the participants.

Online Game Addiction Scale (OGAS)

Kaya (26) developed the online game addiction scale to assess the consequences of adolescents' online gaming activities. The 5-point Likert-type scale (1=Strongly Disagree and 5=Strongly Agree) is divided into three sub-dimensions. The Disruptions subscale consists of nine items and measures the extent to which a person's life is interrupted by playing online games. The achievement subscale consists of 8 questions and measures the in-game achievement of people who play online games. The Economic Income subscale consists of four items and measures whether players make a profit from the games they play. The minimum score on the scale is 21 and the maximum score is 105. A high score indicates that the dependency level of the individual is also high. The Cronbach's Alpha internal consistency coefficient of the OGAS was 0.91, the internal consistency coefficient of Disruptions was 0.90, the internal consistency coefficient of achievement was 0.88 and the internal consistency coefficient of Economic Gain was 0.83. As a validity study of the scale, the Explanatory Factor Analysis result showed that it represented 58.55% of the total variance and 21 items were grouped under three factors (26).

Ostracism Experience Scale for Adolescents (OES-A)

The scale was developed by Gilman et al. (27) to determine the participants' perceptions of being ignored and socially excluded to determine their experiences of social exclusion. The scale consists of 11 items, two sub-dimensions and is a five-point Likert scale (Never-1-Always-5). The disregard sub-dimension of the scale consists of five items and the exclusion sub-dimension consists of six items. When evaluating the scale, the items of the exclusion subscale are reverse-coded. The lowest score is 11, and the highest score is 55. A high score indicates that the individual has experienced more social exclusion. Cronbach's alpha internal consistency reliability coefficient for the original form of the scale was .94 for disregard and .93 for exclusion (27). The validity and reliability study of the scale, which was adapted into Turkish by Akın et al.(28), was conducted. The corrected item-total correlation coefficients of the scale ranged between .51 and .70. The internal consistency reliability coefficient of the scale is .90 for ostracization, .93 for disregard and .89 for the whole scale. As a result of the Confirmatory Factor Analysis, which was carried out as a validity study of the scale to verify the factors in the original form of the scale, it was revealed that the two-dimensional social exclusion model gave a good fit (28).

Parental Attitude Scale (PAS)

Lamborn et al. (29) developed the scale to examine the interaction between children and their parents. The PAS consists of three sub-dimensions: acceptance/affection, psychological autonomy and supervision/control. No total score is obtained from the scale. It is a 4 Likert-type scale. The Cronbach's alpha for the original scale was .79, and the Cronbach's alpha internal consistency coefficients for the subscales were .88 for acceptance/interest, .85 for psychological autonomy, and .81 for supervision/control (29). The Parental Attitude Scale was adapted into Turkish by Yılmaz (30) and validity and reliability studies were conducted separately in the mentioned age groups. The Cronbach's alpha internal consistency coefficients of the scale subscales were .72 for acceptance/interest, .76 for psychological autonomy, and .88 for supervision/control. When the criterion-related validity of the scale is examined, it has been found that the democratic nature of the parents of primary school, high school and university students is related to the academic success of their children, which constitutes indirect evidence. The result of the factor analysis shows that the items in the PAS scale for primary and high school students are collected under three factors, similar to the items in the original scale. For university students, unlike the original scale, the acceptance/interest and psychological autonomy dimensions are a single dimension, and the monitoring dimension consists of two factors: direct and indirect supervision (30).

Statistical Analysis

In the data analysis of this study, mean calculation was used for descriptive data, and the analysis of sub-problems, comparison of mean scores in unrelated measurements (T-test), one-way analysis of variance (ANOVA), non-parametric test (Kruskal-Wallis) and Pearson correlation calculations were used. Statistical Package for Social Sciences (SPSS) was used to analyze the data and the significance level was taken as .05.

Before the analyses, normality tests were conducted for the Online Gaming Addiction Scale, the Ostracism Experience Scale for Adolescents, and the Parental Attitudes Scale. The Kolmogorov-Simirnov normality test was conducted to test whether the variables were normally distributed. As a result of the analysis, it was seen that all three scales did not show a normal distribution. However, when the distributions and descriptive statistics of the scores of the Parental Attitude Scale were examined, since the kurtosis and skewness values were between +1 and -1, it was assumed that the variables were normally distributed. According to George ve George & Mallery (2001) and Leech et.al. (2005) if the distribution is normal, the skewness and kurtosis coefficients should be between -1 and 1. If the skewness coefficient is between -1 and 1, the kurtosis coefficient may be between -2 and 2. If the kurtosis coefficient is between -1 and 1, the skewness coefficient may be between -2 and 2. is stated (31). Parametric or non-parametric analyses were continued with parametric or non-parametric analyses by considering the homogeneity test results in the subsequent analyses. Since the kurtosis and skewness values of the Online Game Addiction Scale and the Ostracism Experience Scale for Adolescents indicated that there was no normal distribution, the necessary analyses were made by looking at the homogeneity tests and the relevant analysis methods are given in detail in the results section.

Results

An answer was sought for the first sub-problem of this study, "Is there a statistically significant difference in terms of online game addiction according to the daily digital game playing duration among adolescents?". Before determining whether there was a statistically significant difference between the variables, the homogeneity of the variances was tested through Levene's test and it was seen that the variances were not equal. Since the variances of the online game addiction scale disruptions subscale (F=12.642, p=.000; p<.05), achievement subscale (F=8.368, p=.000; p<.05) and economic gain subscale (F=3.699, p=.006; p<.05) were not equal, the Kruskal-Wallis test was used and presented in Table 1.

As a result of the analysis, a statistically significant difference was found in the disruptions (X2=47.36,

p<.05), achievement (X2=62.60, p<.05) and economic (X2=78.51, p<.05) sub-dimensions of the online game addiction scale according to the daily digital game playing time of adolescents. As a result of the post-hoc test for the Disruptions sub-dimension, it was found that the difference originated from groups a-b, a-c, a-d, b-c, b-d, b-e, c-e and d-e. Post-hoc test for the achievement sub-dimension showed that the difference was between groups a-b, a-d, b-c, b-d, b-e, c-e and d-e. As a result of the post-hoc test for the economic gain sub-dimension, it was found that the difference originated from the b-c, b-d, c-d, c-e and d-e groups. In line with the mean calculation, those who played digital games for eight hours or more daily ($\bar{x}$=41.29±3.32) in the disruptions sub-dimension, those who played digital games for eight hours or more daily ($\bar{x}$=39.00±2.74) in the achievement sub-dimension and those who played digital games for eight hours or more daily ($\bar{x}$=16.01±3.82) in the economic gain sub-dimension of the online game addiction scale had the highest mean.

Table 1. Online game addiction comparison table according to daily digital game playing time

	Game Play Time	n	$\bar{x}$	ss	Mr	X^2	p
Disruptions	1-3 hours (a)	5	27.00	11.97	66.70	47.36	.000**
	4-5 hours(b)	40	35.17	7.20	106.13		
	6-8 hours (c)	176	40.81	5.53	213.62		
	8 hours or more (d)	169	41.29	3.32	208.37		
	Not playing every day (e)	3	19.66	6.50	10.33		
Achievement	1-3 hours (a)	5	31.60	8.53	84.00	62.60	.000**
	4-5 hours(b)	40	35.27	7.25	113.41		
	6-8 hours (c)	176	38.00	4.75	196.48		
	8 hours or more (d)	169	39.00	2.74	223.97		
	Not playing every day (e)	3	25.33	2.51	10.67		
Economic Gain	1-3 hours (a)	5	10.80	6.53	140.60	78.51	.000**
	4-5 hours(b)	40	10.20	4.19	112.81		
	6-8 hours (c)	176	12.65	4.58	170.29		
	8 hours or more (d)	169	16.01	3.82	249.78		
	Not playing every day (e)	3	4.33	.57	7.33		

** p<.001 statistically significant difference

An answer was sought for the second sub-problem, "Is there a statistically significant difference in terms of online game addiction according to the duration of continuous digital game play among adolescents?". Before examining whether there was a statistical variation between the variables, Levene's test was used to determine whether the variances were homogeneous. Since the variances of the online game addiction scale disruptions sub-dimension (F=6.531, p=.000; p<.05) and achievement sub-dimension (F=7.761, p=.000; p<.05) were not equal, the Kruskal-Wallis test was performed and the results are shown in Table 2.

As a result of the analysis, a statistically significant difference was found in the disruptions (X2=29.08, p<.05) and achievement (X2=18.01, p<.05) sub-dimensions of the online game addiction scale according to the adolescents' continuous daily digital game playing time. As a result of the post-hoc test for the Disruptions sub-dimension, it was found that the difference originated from groups a-b, a-c, a-d, a-e. As a result of the post-hoc test for the achievement sub-dimension, the source of the difference could not be determined. In line with the mean calculation, it was found that those who played digital games for 6-8 hours daily ($\bar{x}$=41.47±4.52) in the disruptions sub-dimension and those who played digital games for 6-8 hours daily ($\bar{x}$=38.78±2.80) in the success sub-dimension of the online game addiction scale had the highest mean.

Since the variances of the economic gain sub-dimension of the online game addiction scale (F=1.052, p=.369; p>.05) were equal, a one-way analysis of variance (ANOVA) was performed and the data obtained are shown in Table 3.

Table 2. Comparison table of online game addiction scale disruption and achievement subscales according to daily continuous digital game playing time

	Game Play Time	n	$\bar{x}$	ss	Mr	X^2	p
Disruptions	1-3 hours (a)	53	36.16	8.26	128.08	29.08	.000**
	4-5 hours(b)	181	40.50	4.66	196.23		
	6-8 hours (c)	109	41.47	4.52	228.47		
	8 hours or more (d)	50	39.86	7.26	204.26		
Achievement	1-3 hours (a)	53	37.00	5.31	161.42	18.01	.000**
	4-5 hours(b)	181	37.97	4.02	187.73		
	6-8 hours (c)	109	38.78	2.80	217.31		
	8 hours or more (d)	50	37.22	8.24	224.01		

** $p < .001$ statistically significant difference

A significant difference was found in the economic gain (F=4.63, $p < .05$) sub-dimension of the online game addiction scale according to the continuous daily digital game playing time in adolescents. As a result of the post-hoc test, it was found that the difference was found in a-d, b-d, and c-d groups. In line with the mean calculation, the findings showed that those who played digital games for eight hours or more daily ($\bar{x}=16.90\pm4.57$) had the highest mean in the economic gain sub-dimension of the online game addiction scale.

Table 3. Comparison table of online game addiction scale economic gain sub-dimension according to daily continuous digital game playing time

	Game Play Time	n	$\bar{x}$	ss	sd	F	p
Economic Gain	1-3 hours (a)	53	12.77	5.12	3	4.63	.003*
	4-5 hours (b)	181	13.39	4.76	389		
	6-8 hours (c)	109	13.88	4.42	392		
	8 hours or more (d)	50	16.90	4.57			

*$p < .05$ statistically significant difference

Pearson correlation analysis was applied to answer the third sub-problem of the study, "Is there a statistically significant relationship between online game addiction, social exclusion and perceived parental attitudes among adolescents?" The findings obtained are shown in Table 4.

As a result of the correlation analysis, it was observed that there was a positive and statistically significant relationship between the disruption sub-dimension of the OGAS and the disregard sub-dimension of the OES (r=.528, $p < .001$), the exclusion sub-dimension of the OES (r=.599, $p < .001$) and the overall total (r=.621, $p < .001$). There was a statistically significant positive relationship between the achievement sub-dimension of the OGAS and the OES underestimation sub-dimension (r=.374, $p < .001$), the OES exclusion sub-dimension (r=.445, $p < .001$) and the overall total (r=.451, $p < .001$). It was observed that there was a low level statistically significant positive relationship between the economic gain sub-dimension of the OGAS and the OES disregard sub-dimension (r=.125, $p < .05$), the OES exclusion sub-dimension (r=.256, $p < .001$) and the overall total (r=.207, $p < .001$).

There was a negative and statistically significant relationship between the disruption sub-dimension of the OGAS and the acceptance/affection sub-dimension of the PAS (r=-.502, $p < .001$) and the psychological autonomy sub-dimension of the PAS (r=-.393, $p < .001$). There was no statistically significant correlation between the disruption sub-dimension of the OGAS and the supervision sub-dimension of the PAS (r=.000, $p > .05$). There was a negative and statistically significant relationship between the achievement sub-dimension of the OGAS and the acceptance/affection sub-dimension of the PAS (r=-.302, $p < .001$) and the psychological autonomy sub-dimension of the PAS (r=-.387, $p < .001$). It was observed that there was no statistically significant relationship between the achievement sub-dimension of the OGAS and the supervision

sub-dimension of the PAS (r=.070, p>.05). There was a negative and moderately statistically significant relationship between the economic gain sub-dimension of the OGAS and the psychological autonomy sub-dimension of the PAS (r=-.378, p<.001). There was no statistically significant relationship between the economic gain sub-dimension of the OGAS and the acceptance/interest sub-dimension of the PAS (r=-.036, p>.05), and the supervision sub-dimension of the PAS (r=.094, p>.05).

Table 4. Online Gaming Addiction (OGAS), Ostracism Experience (OES), Parental Attitudes (PAS) relationship table

	Sub-scales	OGAS Disru.	OGAS Ach.	OGAS E. G.	OES Disre.	OES Exc.	OES G.T.	PAS Accept/ Affect	PAS Psy. Auto.	PAS Super.
Online Game Addiction Scale	Disruptions	1								
	Achievement	.809**	1							
	Economic Gain	.357**	.399**	1						
Ostracism Experience Scale	Disregard	.528**	.374**	.125*	1					
	Exclusion	.599**	.445**	.256**	.631**	1				
	General Total	.621**	.451**	.207**	.914**	.891**	1			
Parental Attitudes Scale	Acceptance/ Affection	-.502**	-.302**	-.036	-.628**	-.583**	-.672**	1		
	Psychological Autonomy	-.393**	-.387**	-.378**	-.418**	-.698**	-.609**	.504**	1	
	Supervision	.000	.077	-.094	-.061	-.127*	-.102*	.259**	.164**	1

n=393; *p<.05 statistically significant relationship; **p<.001 statistically significant relationship

There was a negative and statistically significant negative relationship between the OES disregard sub-dimension and the PAS acceptance/affection sub-dimension (r=-.628, p<.001) and the PAS psychological autonomy sub-dimension (r=-.418, p<.001). There was no statistically significant correlation between the disregard sub-dimension of the OES and the supervision sub-dimension of the PAS (r=-.061, p>.05). There was a moderate negative correlation between the exclusion sub-dimension of the OES and the acceptance/affection sub-dimension of the PAS (r=-.583, p<.001), the psychological autonomy sub-dimension of the PAS (r=-.698, p<.001) and a low negative correlation between the controlling sub-dimension of the PAS (r=-.127, p<.05). There were statistically significant negative and moderate correlations between the total OES and the acceptance/affection sub-dimension of the PAS (r=-.672, p<.001), the psychological autonomy sub-dimension of the PAS (r=-.609, p<.001) and the supervision sub-dimension of the PAS (r=-.102, p<.05).

Multiple linear regression analysis was conducted to reveal the answer to the last sub-problem of the study, "Do social exclusion and parental attitudes predict online game addiction among adolescents?" The findings obtained from the analysis are presented in Table 5.

As a result of the analysis, a statistically significant relationship was found between social exclusion, which is one of the predictor variables, and the dependent variable, online game addiction (r=.530, p<.001), in a positive direction and at a moderate level, between both variables (r=.530, p<.001), in a positive direction and at a moderate level, between the acceptance/interest sub dimension of PAS (r=.356, p<.001) in a positive direction and at a moderate level, and between PAS autonomy sub-dimension (r=-.466, p<.001) in a negative direction and at a moderate level. Social exclusion and parental attitudes variables together had a statistically significant positive relationship with online game addiction (R=.565, R2=.319, p<.001). According to the standardized regression coefficient (ß), the relative order of importance of the predictor variables on online game addiction is social exclusion, autonomy, control and acceptance/interest. When

the t-test results regarding the significance of the regression coefficients were analyzed, it was found that only social exclusion and the autonomy subscale of the parental attitude scale were significant predictors of online game addiction. The variables of parental attitude of acceptance/interest and supervision did not have a significant effect.

Table 5. Social exclusion, parental attitudes and online game addiction regression table

Variables	B	Std. Error	ß	t	p	Zero-order r	Partial r
Fixed	69.377	6.218	-	11.158	.000	-	-
Social Exclusion	.554	.087	.402	6.391	.000	.530	.309
PAS- Acceptance/Affection	.036	.122	.017	.292	.771	-.356	.015
PAS- Autonomy	-.556	.124	-.241	-4.482	.000	-.466	-.222
PAS- Supervision	.221	.140	.069	1.572	.117	-.007	.080
R=.565		R^2=.319					
F(4, 388)=45.432		p=.000					

Discussion

The study found that the level of addiction to online games varied based on the amount of time spent playing them. Specifically, individuals who played digital games for eight hours or more each day experienced the most disruptions, the highest level of success within the games, and the greatest economic benefits. Yılmaz et al. (32) state that one of the most important aspects of online game addiction that causes disruptions in young people's lives is the time spent on these games. The findings of the study are consistent with previous studies (33-35). Hu et al. (36) stated that there is a relationship between playing online games and the time spent playing games on a daily and weekly basis. When the research findings and related literature studies are examined, the research result is supported by the literature.

This research found that the level of online game addiction differed depending on how long people played digital games each day. Specifically, it was observed that those who played for 6-8 hours daily had the highest level of addiction in both the disruptions and achievement dimensions of the online game addiction scale. According to research, male adolescents gradually spend most of their time playing computer games (37). The reason for this can be the majority of digital game designers are male (38). When evaluating play time, it is reported that adolescents play games for an average of 13 hours per week (37). According to one study, it is estimated that a young person can spend an average of 10,000 hours playing online games by the age of 21 (39). It has also been reported that there is a relationship between young people's gaming and academic achievement (40). Studies in the literature support the findings of this research.

It was noticed that online game addiction and social exclusion levels were pretty closely linked. In a comparable study, Mehroof and Griffiths (41) reported a significant relationship between online gaming addiction and trait anxiety, state anxiety and social exclusion. Kim et al. (42) found that social exclusion and avoidance are positively linked to online gaming addiction. Similar results were also found by Hazar et al. (43) and Grüsser et al. (44). Studies in the literature support the research finding (43, 44).

This research study found that both social exclusion and parental attitude towards autonomy played a significant role in predicting online game addiction. As a result of the study conducted by Öztosun (45) with middle and high school students, it was revealed that perceived social support and social exclusion experiences in adolescents significantly predicted internet addiction (45). According to the results of the study conducted by Kınay (46) with adolescents, there is a significant relationship between game addiction and exclusion. In addition, significant relationships were found separately between gaming addiction and social anxiety, aggression and ostracization. As a result of the ponder conducted by Esen (47) on the examination of psycho-social factors foreseeing web habit in teenagers, it was seen that sex, seen scholastic

accomplishment, forlornness and seen social bolster from family anticipated web compulsion in youths. When compared with the results of the studies conducted within the scope of these studies, it is seen that there are results that support each other. In addition, as the most important result, it was revealed that social exclusion and parental attitudes are effective in the context of online game addiction in this study as in the literature.

This study looked at online game addiction, social exclusion, and parental attitudes in adolescents. They found that the amount of time spent playing digital games each day was related to different aspects of addiction. Those who played for eight or more hours daily had the highest levels of disruption, achievement, and economic gain. They also found that playing for 6-8 hours daily was associated with higher levels of disruption and achievement. It was found that the disruption, achievement, and economic gain aspects of online game addiction were connected to feeling left out and ignored in the ostracism experience. Basically, as players experienced more disruption, success, and financial gain in the game, they also felt more disregard, exclusion, and social exclusion. On the other hand, there was a link between feeling excluded and the way parents approached their children's gaming habits. When exclusion increased, parental supervision, psychological autonomy, and acceptance/affection decreased. The analysis showed that only social exclusion and parental autonomy were important factors in predicting online game addiction.

Online game addiction is a topic that is gaining importance day by day. To better understand this issue, researchers are recommended to conduct studies on various variables affecting online game addiction. To generalize the research findings, it is recommended that it be repeated on larger samples. To make the research data more explanatory, descriptive and generalizable, the research can be repeated on different sample groups. It has been discovered that there is a relationship between online game addiction and parental attitudes in this study. Accordingly, it is recommended to provide informative training to parents about online game addiction and parental attitudes. In this study, it was observed that there was a relationship between online game addiction and social exclusion. It is recommended that psychologists implement psycho-education programs within the scope of the cognitive-behavioral approach for individuals with high levels of social exclusion.

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