

DOES DIGITAL GAME ADDICTION AFFECT INTERPERSONAL RELATIONSHIPS IN ADOLESCENTS?

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Abstract

This study was conducted to evaluate digital game addiction and interpersonal relationships in adolescents. The sample of this descriptive-cross sectional study consisted of a total of 228 students between the ages of 14 and 17 studying in three public schools. The data in the study were collected online between April and May 2021. The data were collected by using Descriptive Information Form, Digital Game Addiction Scale and Approval Dependence Subscale and Emotional Awareness Subscale of Scale of Dimensions of Interpersonal Relationship. Positive correlation was found between the mean emotional awareness subscale of interpersonal relationship scale and digital game addiction scale scores of adolescents ($r=0.196$, $p=0.003$). It was found that adolescents' emotional awareness increased as their digital game addiction increased and their digital game addiction increased as the time they spent on the internet increased. Adolescents should be made aware of digital game addiction, they should be guided to social environments and the relationships they build in these environments should be supported.

Keywords: Adolescent, Digital game, Interpersonal relationship

ADÖLESANLARDA DİJİTAL OYUN BAĞIMLILIĞI KİŞİLERARASI İLİŞKİYİ ETKİLİYOR MU?

Öz

Bu araştırma adölesanlarda dijital oyun bağımlılığı ve kişilerarası ilişkilerini değerlendirmek amacıyla yapılmıştır. Tanımlayıcı-kesitsel tipte tasarlanan bu araştırmanın örneklemini üç devlet okulunda eğitim gören 14-17 yaş arası toplam 228 öğrenci oluşturmuştur. Araştırmanın verileri Nisan-Mayıs 2021 tarihleri arasında online ortamda toplanmıştır. Veriler, Tanıtıcı Bilgi Formu, Dijital Oyun Bağımlılığı Ölçeği ve Kişilerarası İlişki Boyutları Ölçeği'nin Onay Bağımlılık Alt Boyutu ve Duygu Farkındalığı Alt Boyutu kullanılarak elde edilmiştir. Adölesanların kişilerarası ilişki ölçeğinin duygu farkındalığı alt boyutu ile dijital oyun bağımlılığı ölçeği puan ortalaması arasında pozitif yönde ilişki olduğu bulunmuştur ($r=0.196$, $p=0.003$). Adölesanların dijital oyun bağımlılığı arttıkça duygu farkındalığının arttığı ve internette geçirdikleri süre arttıkça dijital oyun bağımlılığının arttığı belirlenmiştir. Adölesanlar dijital oyun bağımlılığı konusunda bilinçlendirilmeli, sosyal ortamlara yönlendirilmeli ve bu ortamlarda kurduğu ilişkileri desteklenmelidir.

Keywords: Adölesan, Dijital oyun, Kişilerarası ilişki

1. INTRODUCTION

Today, with the rapid development of communication technologies, the widespread use of the internet and computer games, which are used in many areas, as a game and entertainment tool has brought out the concept of digital game (1). The concept of digital game addiction has begun to be discussed with the increasing interest of young people and children in digital games and the increase in the time they spend playing digital games (2, 3). Digital game addiction is defined as

children and young people's not being able to control their desire and duration to play, neglecting their responsibilities, associating this imaginary situation with real life and considering digital game as their priority (4). These games are becoming increasingly popular since people can easily access digital games with easier access to the internet through platforms such as cell phone, tablet, etc. (5).

Since the negative effects and dangers of digital game on adolescents outweigh, adolescents can easily become addicted to digital games if no limits are set (5). In addition to psychosocial problems such as lack of communication, social phobia, loneliness, behavioural problems, depression, anxiety, stress and decreased decision making skills, being in front of the computer all the time causes various health problems in young people such as headache, obesity, long term immobility and musculoskeletal system pain (3,7-9).

Although digital game addiction causes social and emotional problems, gamers cannot control this overuse and the effects of the addiction on individuals are determined according to their gaming levels (6). Individuals who have a high internet gaming disorder level have problems in their communication with other people in social life, in their friendships, academic life, homework and responsibilities since they spend too much time with technological devices (6, 10, 11). Because adolescents who play computer games spend more time in virtual environment, they get away from social life, neglect close relationships and may prefer being alone instead of face to face communication (12). In a study by Akin et al., it was reported that family-friend relationships became weaker as digital game addiction increased (13).

Since a great majority of digital games include violence and aggression, they prepare the ground for normalization of aggression and violence on young people and adolescents playing these games (14). Therefore, in addition to creating a tendency for violence in young people and children, these individuals' showing aggressive behaviors is a visible situation (10,15). In a study conducted on adolescents, Yeşildal et al. found a positive association between online game addiction and aggression and found that aggressive behaviors increased as online game addiction increased (10).

The high number of young people in Turkey, intense use of digital technology, insufficient protective measurements and supervision may cause digital game addiction to occur and to increase (3). Therefore, the problem of digital game addiction is a situation that should be considered especially while discussing incompatible behaviors in young children (11). This study was conducted to examine the effects of digital game addiction in adolescents on interpersonal relationships. Answers were sought to the following questions in line with this aim:

Research Questions

1. What level of digital game addiction and interpersonal relationship states do adolescents have?
2. Is there an association between adolescents' digital game addiction, interpersonal relationship levels and socio-demographic characteristics?
3. Is there an association between adolescents' digital game addiction and interpersonal relationship levels?

2. MATERIAL AND METHOD

2.1. Study design

The present study is a descriptive and cross-sectional study. The study was conducted with 14-17 year old students studying in three high schools in Eastern Anatolia region of Turkey between April and May 2021. The population of the study consists of 400 students studying in three high schools in Eastern Anatolia region of Turkey between April and May 2021. Before starting the study, contact addresses of the students studying in three high schools were accessed. A message containing information about the aim and scope of the study for students and parents was sent to

social media contact addresses and they were asked to participate in the study. Sample of the study consisted of students who agreed to participate in the study during data collection with improbable sampling method. 300 students stated that they wanted to participate in the study. However, 20 of the students who were sent forms did not fill in the surveys. Thus, the study was carried out with 228 students, 92 male and 136 female.

2.2. Data Collection

Survey forms were sent online with Google Forms (URL: https://docs.google.com/forms/d/1IV9BgPq47hTNvFd0uCW6_yhWO1GxpNccyxvoF3fc2a8/edit) through web. Online link of the surveys was sent to the social media tools (such as mail, Whatsapp, Instagram, Facebook). The data in the study were collected based on self-report. The online form allowed students to give only one response. The data were collected by checking the form regularly every day. Descriptive Information Form, Digital Game Addiction Scale and Approval Dependence Subscale and Emotional Awareness Subscale of Scale of Dimensions of Interpersonal Relationship were used for data collection.

2.2.1. Descriptive Information Form

The form developed by the researcher includes 9 questions about the students' age, gender, grade, maternal educational level, paternal educational level, maternal employment status, paternal employment status, income level and how many hours a day was spent on the computer.

2.2.2. Scale of Dimensions of Interpersonal Relationship: It is a 5 Likert type scale developed by Erdem İmamoğlu and Aydın (16) to find out the dimensions of interpersonal relationships. **Approval dependence subscale;** is the dimension in which the extent to which individuals care about and depend on other people in their relationships is measured. In interpersonal relationships, the views, attitudes and values of others are prioritized. The minimum score that can be taken from the 15-item subscale is 15, while the maximum score is 75. High scores from the scale indicate increased approval dependence.

Emotional awareness subscale; individuals take their feelings as the basis during the relationship process. Individuals organize the stages of initiating, continuing and ending relationships with others and the quality of the relationship according to their feelings. The score range one can get from the 14-item scale is between 15 and 60 (16). In the study, Cronbach alpha of emotional awareness subscale was found as .71 and Cronbach alpha of approval dependence was found as .71.

2.2.3. Digital Game Addiction Scale: The scale was developed by Keskin and Yurdugül (17). The scale consisting of six items is a 5 Likert-type scale. The scale form has options such as "Not suitable for me at all" and "Completely suitable for me". High scores from the scale can be evaluated as an indicator of high level of addiction (17). Cronbach alpha reliability coefficient of the scale is higher than 0.70 and it was found as .86 in our study.

2.3. Data Assessment

The data were evaluated with percentage, arithmetic mean, frequency, standard deviation, median, independent groups t-test, one way ANOVA, Bonferroni advanced and Pearson correlation analysis. Normality distribution of the data was made with Shapiro Wilk normality test.

2.4. Ethical Considerations

Permission was taken from Ethics Committee and provincial directorate of National Education.

3. RESULTS

Table 1. Descriptive Characteristics of the Adolescents (n=228)

Descriptive Characteristics	Number	%
Age		
14	25	11.0
15	33	14.5
16	56	24.6
17	114	50.0
Gender		
Male	92	40.4
Female	136	59.6
Grade		
9 (1)	48	21.1
10 (2)	49	21.5
11 (3)	59	25.9
12 (4)	72	31.6
Maternal level of education		
Illiterate (1)	70	30.7
Primary (2)	82	36.0
Secondary (3)	29	12.7
High school (4)	22	9.6
University (5)	25	11.0
Paternal level of education		
Illiterate (1)	12	5.3
Primary (2)	55	24.1
Secondary (3)	78	34.2
High school (4)	54	23.7
University (5)	29	12.7
Maternal employment status		
Employed	198	86.8
Unemployed	30	13.2
Paternal employment status		
Employed	57	25.0
Unemployed	171	75.0
Level of education		
Income < expenditure (1)	78	34.2
Income = expenditure (2)	115	50.4
Income > expenditure (3)	35	15.4
Family type		
Nuclear	151	66.2
Extended	69	30.3
Broken	8	3.5
How many hours a day do you spend on the computer		
1-3 hours (1)	182	79.8
4-6 hours (2)	32	14.0
7 hours and longer (3)	14	6.1

It was found that 50% of the participants were 17 years old, 59.6% were male, 31.6% were 12 graders and 79.8% spent 1-3 hours daily on the computer (Table 1).

Table 2. Comparison of descriptive characteristics of adolescents with the mean scores of sub-dimensions of scale of dimensions of interpersonal relationship and digital game addiction scale (n=228)

Descriptive Characteristics	Scale of dimensions of interpersonal relationships		Digital game addiction scale
	Approval dependence subscale	Emotional awareness subscale	
	X±SD	X±SD	X±SD
Age			
14	16.04±5.58	31.40±7.61	15.96±6.61
15	15.42±3.90	34.03±4.23	13.36±5.42
16	16.12±4.50	33.08±4.60	12.91±6.30
17	16.11±4.44	32.87±5.99	13.04±5.45
F	.217	1.040	1.897
p	0.885	0.376	0.131
Gender			
Male	15.26±4.84	32.66±6.88	15.10±5.82
Female	16.51±4.19	33.11±4.69	12.20±5.56
t	-2.079	-.553	3.791
p	0.039	0.558	0.000
Grade			
9 (1)	16.29±4.97	32.97±6.44	15.14±6.88
10 (2)	15.85±4.03	33.02±3.62	12.42±6.14
11 (3)	15.69±4.63	34.06±6.16	13.06±5.85
12 (4)	16.18±4.42	31.91±5.76	13.09±5.29
F	.210	1.576	2.039
p	0.889	0.196	0.109
Maternal level of education			
Illiterate (1)	16.48±4.40	32.44±5.29	13.58±4.94
Primary (2)	16.03±4.46	33.24±5.55	13.58±6.26
Secondary (3)	15.12±5.13	32.89±7.54	13.00±7.39
High school (4)	16.95±3.47	35.09±6.46	13.00±4.81
University (5)	15.12±4.80	31.44±2.94	12.36±5.80
F	1.188	1.434	0.260
p	0.317	0.224	0.904
Paternal level of education			
Illiterate (1)	16.33±2.38	33.08±5.72	15.08±5.38
Primary (2)	15.63±4.82	32.40±6.26	13.00±5.75
Secondary (3)	16.28±4.62	33.47±6.06	12.69±5.38
High school (4)	16.46±4.55	33.12±5.51	15.05±6.07
University (5)	15.00±4.14	32.06±3.32	12.10±6.44
F	0.680	0.482	2.083
p	0.607	0.746	0.084
Maternal employment status			
Employed	16.20±4.40	33.00±5.83	13.32±5.91
Unemployed	15.13±4.96	32.46±4.49	13.73±5.40
t	1.673	.484	-.358
p	0.096	0.629	0.721
Paternal employment status			
Employed	15.42±5.11	33.15±6.77	13.15±5.57
Unemployed	16.20±4.27	32.85±5.27	13.45±5.93
t	-1.139	0.343	-.327

p	0.256	0.732	0.744
Level of income			
Income < expenditure (1)	16.52±4.53	34.12±5.59	14.05±6.31
Income = expenditure (2)	15.69±4.44	32.04±5.76	13.22±5.58
Income > expenditure (3)	15.88±4.61	33.20±5.13	12.37±5.51
F	0.805	3.251	1.079
p	0.448	0.041	0.342
Advanced analysis		1>3>2	
Family type			
Nuclear	16.18±4.22	33.24±5.79	13.45±5.81
Extended	15.39±5.03	32.15±5.49	13.21±5.95
Broken	18.00±4.40	33.75±4.68	13.37±5.90
F	1.557	.954	.037
p	0.213	0.387	0.963
How many hours a day do you spend on the computer			
1-3 hours (1)	16.24±4.47	32.65±5.32	12.32±5.20
4-6 hours (2)	15.65±4.47	33.18±6.52	16.46±6.12
7 hours and longer (3)	16.00±4.60	35.92±7.37	20.00±6.46
F	1.712	2.222	1.986
p	0.183	0.111	0.000
Advanced analysis		3>2>1	
p<0.05 (*Independent simple t test, **ANOVA test)			

Table 2 includes the descriptive characteristics of the adolescents and the distribution of mean scores of approval dependence and emotional awareness subscales of Scale of dimensions of interpersonal relationships. The difference between adolescents' gender and mean approval dependence subscale score was found to be statistically significant. The difference between adolescents' level of income and mean emotional awareness subscale score was found to be statistically significant (Table 2, $p<0.05$). The difference between adolescents' descriptive characteristics such as age, maternal level of education, paternal level of education and family type and approval dependence and emotional awareness subscales of Scale of dimensions of interpersonal relationships was not statistically significant (Table 2, $p>0.05$).

The difference between the adolescents' gender and daily hours they spent in front of the computer and digital game addiction scale mean score was found to be statistically significant (Table 2, $p<0.05$). The difference between the adolescents' age, grade, level of income, maternal level of education, paternal level of education, maternal employment status, paternal employment status and family type and digital game addiction scale mean score was not found to be statistically significant (Table 2, $p>0.05$).

Table 3. The relationship between Scale of dimensions of interpersonal relationships subscales and digital game addiction scale scores (n=228)

Scale of dimensions of interpersonal relationships	Digital game addiction scale	
	Rs	p
Approval dependence subscale	0.130	0.050
Emotional awareness subscale	0.196	0.003
p<0.05 (Pearson correlation)		

No relationship was found between adolescents' mean dimensions of interpersonal relationships approval dependence subscale scores and digital game addiction scale scores ($p>0.05$). Positive strong relationship was found between adolescents' mean dimensions of interpersonal

relationships emotional awareness subscale scores and digital game addiction scale scores (Table 3, $p < 0.05$).

4. DISCUSSION

In this study which examined the relationship between digital game addiction and interpersonal relationships in adolescents, male students were found to have higher digital game addiction levels than female students. In studies conducted by Yalaki and Taşar (18), Eryılmaz and Çukurluöz (19) and Çavuş et al. (20) on adolescents, the results that male students had higher digital game addiction levels than female students are in parallel with the results of our study. The fact that male students had higher internet use time or addiction levels and more opportunities to spend time on the internet than female students might have affected the results. In a study conducted by Yılmaz et al. (21), internet addiction was found to be higher in male students when compared with female students.

Dimensions of interpersonal relationships scale approval dependence subscale scores of the male students in the study were found to be lower when compared with female students. Adolescents' getting away from social environments due to digital game addiction, decreases in communication skills, meeting the friendship they need with digital games may have decreased their dependence on other people and the value they gave to them. The fact that adolescents spend long and uncontrolled time on the internet and increased frequency of internet use affect peer relationships negatively. Adolescents who have decreased communication skills due to internet may prefer internet friendship or being alone instead of real friendship (18).

Of the students who participated in the study, those who had an income lower than expenditure had higher mean emotional awareness subscale scores than the students who had income higher than expenditure. Since Erözkan (22) stated in a study conducted on high school students that socioeconomic level did not have an effect on interpersonal relationships, this result is different from the results of our study. The fact that adolescents who have low level of education organize the initiation and maintenance of their relationships with others may result from the way their families raise them, their personal characteristics and their wish to take themselves under control in their interpersonal relationships by guiding their friendships with their own feelings. The family environment adolescents live in and economic conditions may affect adolescents' interpersonal relationships positively or negatively. Economic differences cause individuals to have different characteristics and this is due to parenting styles of the parents (23). In their study, Tümkaya et al. (23) found that adolescents with low socio-economic level were more exposed to violence than other adolescents.

It was found that as the time spent on the internet increased, mean digital game addiction score also increased. Our result is similar to literature since mean digital game addiction score increased as the time spent on the internet increased in studies conducted by Yalaki et al. (18), Öncel and Tekin (24), Kelleci et al. (25) on high school students. Internet addiction forms the main frame of digital game addiction (26). One of the most addictive activities on the internet is digital games and one of the reasons why individuals addicted to internet prefer the internet is playing digital games (27).

In students who participated in the study, it was found that emotional awareness increased as game addiction increased. Weaker communication skills of adolescents due to digital games, their wishes to control and to impose authority on individuals around them may cause them to act selfish and to channel their relationships in line with their feelings. Spending too much time with computer games may cause harmful social relationships, avoidance of interpersonal relationships, immature human relationships and deterioration in interpersonal relationships (28).

5. CONCLUSION

According to the results obtained, it was found that male students had higher digital game addiction than female students and digital game addiction increased as the time spent on the internet increased. Emotional awareness was found to increase as digital game addiction increased in adolescents.

In line with the results obtained; awareness about digital games should be increased in adolescents, artistic, sportive and social activities in and out of school should be increased to prevent digital game addiction, interventions to develop adolescents' social skills and to develop social addiction should be generalized. Adolescents should be guided to real social environments by parents and teachers and the relationships they build in these environments should be supported.

Limitations of the Study

The data of the research is limited to the data of the students studying in the three high schools where the study was conducted.

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Conflict of interest statement

There is no conflict of interest.

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Author Contributions

Study conception and design: FP, DCŞ. Data collection: FP, DCŞ
Data analysis and interpretation: FP, DCŞ. Drafting of the article: FP, DCŞ.
Critical revision of the article: FP, DCŞ.

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