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Research Article

Digital Game Addiction in Adolescents: Perceived Parental Attitudes and Other Affecting Factors

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ABSTRACT

Aim: Digital game addiction is a significant public health problem, having a dramatic increase among adolescents. This study was designed to determine adolescents' perceived parental attitudes and digital game addiction levels and to evaluate the predictive factors of digital game addiction.

Material and Methods: The study used a cross-sectional design. The population consisted of high school students in a city in Turkey (N= 680). Data were collected via a Personal Information Form, the Parental Attitude Scale, and the Digital Game Addiction Scale. Multiple regression were used for data analysis.

Results: Of the participants, 25.6% were found to have digital game addiction. It was determined that playing digital games (β=0.261), school absenteeism due to playing digital games (β=0.259), earning money from digital games (β=0.179), sibling's digital game playing status (β=0.073), playing digital games more than 2 hours a day (β=0.221), protective/demanding parental attitude (β=0.088) and authoritarian parental attitude (β=0.151) significantly affected digital game addiction. However, it was found that age, gender, grade point average, class level, democratic parental attitude, having own computer, parents' digital game playing status and daily time spent on social media did not significantly affect digital game addiction.

Conclusions: Technology restriction or freedom is not a practical approach to decreasing digital game addiction among adolescents. It is recommended to develop studies to increase the digital competence and digital literacy levels of adolescents.

Implication for nursing practice/management or policy: School health nurses should provide education and counselling and plan strategies for the prevention of digital game addiction in schools.

Keywords: Adolescent, Digital game addiction, Digital gaming, Nurses, Parental attitude

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INTRODUCTION

Digital games have a history dating back to 1958. It is an essential instrument in the continuity of holistic health in children and adolescents, together with their positive effects such as acquiring new knowledge, creating equal opportunity, providing social interaction between peers, emotional relief, acquiring skills in various fields with technology, development of fine and gross motor skills, increase in attention and concentration and joining hobby groups (Liao et al., 2019). By the 1980s, digital games, which have been addressed by the aspects of health and social impact, caused problems such as obesity (Basdas & Özbey, 2020; Caner & Evgin, 2021), sleeping problems, antisocial behaviours, musculoskeletal system problems, violence and aggressive behaviour (Aksoy & Erol, 2021; Caner & Evgin, 2021), low academic performance (Basdas & Özbey, 2020) and social anxiety (Basdas & Özbey, 2020) in case of malicious use and lack of control.

It has been estimated that 3.24 billion individuals play digital games in today's world (Statista, 2021). The concept of digital game addiction has emerged as a result of inappropriate and uncontrolled use of technology by such a large audience. Digital game addiction, which is associated with behavioural addictions in classification criteria (Geisel et al., 2021), is defined as continuing to play games despite its negative consequences, such as the inability to control the instinct of playing games, the perception that playing activity is more important than roles and its negative effects on the responsibilities, social relationships and academic performance/work (World Health Organization, 2022). According to the results of a comprehensive meta-analysis, the rate of digital game addiction in the population is 6.04% (Meng et al., 2022). Another study, looking at the child and adolescent population, reported a rate of 4.1% (Fam, 2018). This dramatic increase among children and adolescents has become a public health problem that is arousing concern (Balhara et al., 2020).

Parental attitude is a factor that greatly impacts the development of digital game addiction (Keya et al., 2020). Children are directly affected by the internet usage habits of their parents and acquire their first game experience with them (Toran et al., 2016). In a qualitative study, adolescents stated they needed family support to decrease their time playing digital games (Kaya et al., 2022). At the same time, adolescents whose parents play digital games were reported to have increased motivation for games (Hazar, 2019).

Today, the area of responsibility undertaken by parents also includes the digital environment. The digital world is also popular among parents, who have a place for themselves in digital playgrounds (Hazar, 2019). In the literature, parental attitudes towards digital game addiction have been investigated from the parents' perspective (Choo et al., 2015; Kim & Kim, 2015) and the adolescent's perspective (Rikkers et al., 2016). Digital game addiction was associated with variables including loneliness (Keya et al., 2020), hyperactivity, and social withdrawal (Stavropoulos et al., 2019) in the adolescents and parental loneliness (Mun and Lee, 2022), parental devotion (Kim and Kim, 2015), digital competence (Tso et al., 2022), parental depression (Mun & Lee, 2022) and socioeconomic status (Choo et al., 2015) in the parents.

Since adolescents spend much of their day at school, the school environment plays a crucial role in developing healthy behaviours (Johnson & Edwards, 2020). However, the repercussions of digital gaming addiction on peer socialisation and academic achievement are factors intrinsically linked to school life. School nurses, to facilitate early intervention, should have comprehensive knowledge of screening methods for gaming disorders, be able to identify students at risk, and create evidence-based prevention and intervention strategies to promote positive behaviours (Çimke et al., 2023). Furthermore, school nurses should be aware of the effects of digital technologies on children's development and have the knowledge and skills to guide parents in this direction (Şahin & Muslu, 2024).

Despite the available evidence, digital game addiction has been increasing day by day, and the factors affecting addiction and its underlying mechanisms are still uncertain (Geisel et al., 2021). Execution of work and educational life via digital devices due to the social restrictions during the pandemic has brought entertainment and social lives of individuals to this area (Balhara et al., 2020; Meng et al., 2022). We evaluate the adolescents' digital game activities as a risky group during the post-pandemic period and investigate the parental attitudes associated with this, constituting our study's main point. In this context, when the existing national literature is examined, there is a limited number of studies examining digital game addiction in adolescents in terms of parental attitudes (Geniş & Ayaz-Alkaya, 2023).

Aim

This study was conducted to determine the perceived parental attitudes and digital game addiction levels and predictors of digital game addiction levels of adolescents.

Study Questions

1) What are the perceived parental attitudes among adolescents? 2) What are the levels of digital game addiction among adolescents? 3) What are the predictive factors of digital game addiction levels among adolescents?

MATERIAL and METHODS

Study Design

This was a cross-sectional study.

Study Sample

This study was conducted in a high school in a city in Turkey. The target population consisted of 14-17-year-old adolescents (N=680). The minimum sample size was calculated as 556 students based on a similar study in the literature (Caner & Evgin, 2021) using the mean scores of adolescent digital game addiction, with $\alpha= 0.05$, $1-\beta= 0.90$, and $d= 0.137$.

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Inclusion and Exclusion Criteria

The inclusion criteria were: a) being a high school student in the 14-17 age group, b) obtaining parental consent, and c) voluntarily participating in the study. The exclusion criteria were: a) having any audiovisual disabilities, b) having any neuropsychiatric disorders. All adolescents who met the inclusion criteria were invited to participate in the study (n=563). The rate of participation in the research was 82.8%.

Data Collection Tools

Personal Information Form, created by the researchers in line with the literature, consisted of 23 questions to determine the sociodemographic characteristics of the students and their use of technological tools (Stavropoulos et al., 2019; Tso et al., 2022).

Parental Attitude Scale (PAS) was developed by Kuzgun in 1972 to evaluate the perceptions of parental attitudes. The scale determines perceived parental attitudes through 40 items included in Democratic (15 items), Protective/Demanding (15 items), and Authoritarian (10 items) subscales. PAS is a five-point Likert-type scale, and each item is scored between 1 and 5. The scores of Democratic, Protective/ Demanding, and Authoritarian attitudes are calculated separately. Scoring is done by giving 5 points to the "completely appropriate" option and 1 point to the "not appropriate at all" option. As the scores obtained from the Protective/ Demanding and Authoritarian subscales increase, the levels of the individuals who perceive their parental attitudes as democratic, protective/demanding, or authoritarian also increase. Cronbach's alpha values were .89 for Democratic, .82 for Protective/Demanding, and .78 for Authoritarian subscales (Kuzgun & Eldeleklioğlu, 2012). Also, in this study, Cronbach's alpha value was found to be .91 for Democratic, .83 for Protective/Demanding, and .79 for Authoritarian subscales.

Digital Game Addiction Scale (DGAS) was developed by Lemmens et al. (2009) to determine the problematic digital game-playing behaviors of adolescents aged between 12 and 18 years. A validity and reliability study of the Turkish version of the scale was performed by Yalcın-Irmak & Erdogan (2015). The scale consists of a total of seven items, and it is a five-point Likert-type scale. There are two methods to determine the status of game addiction: monothetic or polythetic. In the monothetic method, the person who answers the questionnaire is qualified as a game addict if he/she provides a score of 3 (sometimes) and above for all items. In the polythetic method, he/she provides a score of 3 (sometimes) and above for at least four of the items (Yalcın Irmak & Erdoğan, 2015). In the literature, the rate of monothetic game addiction was found to be lower than polythetic game addiction (Lemmens et al., 2009; Yalcın Irmak & Erdoğan, 2015). Therefore, the polythetic method was used in this study to manage the risk factors of game addiction in adolescents more comprehensively (Yalcın Irmak & Erdoğan, 2015). In the Turkish validity and reliability study, the Cronbach alpha coefficient was found to be 0.72 (Yalcın Irmak & Erdoğan, 2015), whereas it was determined to be 0.82 in this study.

Data Collection

In this study, data were collected between 15 February and 22 April 2022. After all necessary ethics committee approval and institutional permissions were obtained, a meeting was scheduled with school management, and the days and hours suitable for data collection were determined. Informed consent was sent to the parents with the students inside a closed envelope. Adolescents were asked to deliver these envelopes to their teachers the next day. The data collection process was carried out face-to-face. The students who were allowed to participate in the study by their parents were informed about the purpose of the study. The data collection process was completed in the conference room or classroom on the appropriate days and class hours determined by the school administration. The students who were allowed to participate in the study by their families were given information about the aim of the study. Data collection instruments were distributed to the students willing to participate in the study, and data collection was completed under the supervision of researchers. The implementation of data collection instruments lasted for nearly 20 minutes.

Data Analysis

The sample size was calculated using the G*Power version 3.1.9.4 program. Data collected in the study were analysed using IBM SPSS Statistics 25.0 (IBM Corp., Armonk, NY). Number, percentage, mean, standard deviation, minimum and maximum values, skewness, and kurtosis coefficients were used as descriptive statistics. Skewness and kurtosis coefficients were accepted as normal distributions between -1 and +1 values. Multiple regression analysis investigated the relationship between the dependent variables (digital game addiction score) and predictor variables (age, gender, grade point average, grade level, protective/demanding parental attitude, authoritarian parental attitude, democratic parental attitude, having own computer, playing digital games, school absenteeism, earning money from digital games, mother's playing digital games, father's playing digital games, sibling's playing digital games, duration playing digital games, duration of social media use). Some variables had ordinal responses, and dummy variables were created. The significance level was taken as 0.05.

Ethical Considerations

This study was conducted in accordance with the tenets of the Declaration of Helsinki. Ethics approval was obtained from Zonguldak Bülent Ecevit University Human Research Ethics Committee (09.11.2021/99629-336) and the Provincial Directorate of National Education (07.01.2022/E-45865702-604.01.01-408326869) to conduct the study. Written informed consent was obtained from the families of the students. Verbal consent was taken from the students.

Limitations

The results can not be generalized due to its single-centered design. Moreover, the generalizability of the results to the whole population is limited since perceived parental attitude is one-sided based on adolescent reporting; there is no comparison made

for the parent-adolescent perspective, and parental attitudes are based on sociocultural norms. Finally, social and environmental factors also affect digital game addiction.

RESULTS

The mean age of the adolescents was 15.54±1.24, and 50.6% were females, 34.2% were ninth grade students, 41.3% of mothers and 53.5% of fathers had at least high school education (Table 1).

96.6% of the participants have internet access at home, and 56.0% of them use a personal computer. 80.6% of the participants reported playing digital games with screen devices, 6.7% were absent from school due to playing digital games, and 21.7% reported that they had previously made a monetary gain from the digital gaming industry. The mothers of 24.2%, fathers of 28.4% and siblings of 66.6% of the participants play digital games. Participants played digital games for an average of 4.03±5.69 hours daily and used social media for 6.04±7.01 hours daily (Table 1).

Table 1. Demographic and Technology Usage Characteristics of the Participants (N=563)

Characteristics	**n (%)**	**Mean±SD** (Min, Max)
Age		15.54±1.24 (14, 17)
Gender		
Female	285 (50.6)	
Male	278 (49.4)	
Grade		
9th grade	193 (34.2)	
10th grade	170 (30.2)	
11th grade	140 (24.9)	
12th grade	60 (10.7)	
Education level of the mother		
Illeterate	36 (6.4)	
Primary school	294 (52.3)	
High school	190 (33.7)	
University	43 (7.6)	
Education level of the father		
Illeterate	22 (3.9)	
Primary school	240 (42.6)	
High school	234 (41.6)	
University	67 (11.9)	
Home internet connection		
Yes	544 (96.6)	
None	19 (3.4)	
Own computer		
Yes	315 (56.0)	
None	248 (44.0)	
Playing digital games		
Yes	454 (80.6)	
No	109 (19.4)	
Absence from school due to playing digital games		
Yes	38 (6.7)	
No	525 (93.3)	
Making monetary gains through digital gaming		
Yes	122 (21.7)	
No	441 (78.3)	
Mother's digital game playing status		
Yes	136 (24.2)	
No	427 (75.8)	
Father's digital game playing status		
Yes	160 (28.4)	
No	403 (71.6)	
Sibling's digital game playing status		
Yes	375 (66.6)	
No	188 (33.4)	
Grade point average		63.95±11.35 (38, 98)
Duration playing digital games (average hours per day)		4.03±5.69 (0.5, 50)
Duration of social media use (average hours per day)		6.04±7.01 (0, 48)

SD: standard deviation; min-max: minimum-maximum values.

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When the perceived parental attitudes of the participants were evaluated, the mean score of democratic attitude was 54.86±12.76, the mean score of protective/demanding attitude was 38.46±10.54, and the mean score of authoritarian attitude was 22.44±7.89. When the digital game addiction of the participants was evaluated, the mean score of digital game addiction was 14.32±5.90 and 25.6% were at risk of digital game addiction (Table 2).

Table 2. Participants' Parental Attitude Scale and Digital Game Addiction Scale Scores

Scale	**Mean±SD** (Min, Max)
PAS	
Democratic attitude	54.86±12.76 (15, 75)
Protective/demanding attitude	38.46±10.54 (15, 73)
Authoritarian attitude	22.44±7.89 (10, 47)
DGAS	
Total	14.32±5.90 (7, 35)
Digital game addiction level	**n (%)**
No addiction	419 (74.4)
Addiction risk	144 (25.6)

SD: standard deviation; min-max: minimum-maximum values. PAS: Parental Attitude Scale; DGAS: Digital Game Addiction Scale.

Among the participants, it was determined that the digital game addiction scores of males, those with low class level, those who had their own computer, those who played digital games, those who were absent from school due to digital games, those who earned money from digital games, those whose family members played digital games, those who played digital games for more than 2 hours daily and those who spent more than 2 hours daily on social media had significant and high levels of digital game addiction ($p< 0.05$) (Table 3).

Table 3. Examination of Digital Game Addiction Scale Scores in terms of Socio-demographic and Technology Use Characteristics

Variables	**DGAS**	
	Mean±SD	**Test and p value**
Gender		
Female	12.71±5.40	0.00*
Male	15.97±5.94	t= -6.81
Grade		
9[a]	15.21±5.81	0.00*
10[b]	14.58±6.38	F= 4.74
11[c]	13.67±5.32	a>d; b>d
12[d]	12.23±5.43	
Own computer		
Yes	15.01±6.11	0.00*
None	13.43±5.49	t=3.18
Playing digital games		
Yes	15.44±5.82	0.00*
No	9.62±3.33	t= 13.86
Absence from school due to playing digital games		
Yes	22.05±7.95	0.00*
No	13.76±5.31	t= 6.32
Making monetary gains through digital gaming		
Yes	18.22±6.12	0.00*
No	13.24±5.35	t= 8.81
Mother's digital game playing status		
Yes	15.58±6.30	0.00*
No	13.92±5.71	t= 2.87
Father's digital game playing status		
Yes	15.27±5.76	0.02*
No	13.94±5.91	t= 2.42
Sibling's digital game playing status		
Yes	14.88±5.75	0.00*
No	13.20±6.04	t= 3.19
Duration playing digital games		
Two hours and under	12.06±4.71	0.00*
Over two hours	17.01±6.04	t= -10.67
	Mean±SD	**Test and p value**
Duration of social media use		
Two hours and under	13.40±5.42	0.01*
Over two hours	14.79±6.08	t= -2.67

F, one-way analysis of variance (ANOVA), Bonferroni; t, independent sample t-test 0.05. *significant results. DGAS: Digital Game Addiction Scale.

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In the Pearson correlation analysis, it was determined that there was a negative and very weak significant relationship between digital game addiction and democratic attitude perceptions (r = -0.178, p < 0.01), and a positive and weak significant relationship between digital game addiction and protective/demanding and authoritarian attitude perceptions (r = 0.235, p < 0.01; r = 0.284, p < 0.01, respectively). There was a negative and very weak significant relationship between the participants‘ digital game addiction and age (r = -0.100, p < 0.05), and a negative and very weak significant relationship between the participants’ grade point average (r = -0.165, p < 0.01) (Table 4).

Table 4. Relationships between Digital Game Addiction Scale, Parental Attitude Scale, Age and Grade Point Average

Variables	1	2	3	4	5	6
Age (1)	-	0.37**	-0.10*	0.04	-0.06	-0.02
Grade point average (2)	-	-	-0.16**	0.09*	-0.17**	-0.17**
DGAS (3)	-	-	-	-0.17**	0.23**	0.28**
Democratic (4)	-	-	-	-	-0.30**	-0.55**
Protective/demanding (5)	-	-	-	-	-	0.67**
Authoritarian (6)	-	-	-	-	-	-

* p<0.05. ** p<0.01. PAS: Parental Attitude Scale; DGAS: Digital Game Addiction Scale.

As a result of the analysis, a significant regression model was found (F (7, 555)= 57.873, p <0.001), and 42% of the total variance in the dependent variable was found to be explained by the independent variables (adjR2=0.415). Accordingly, digital game addiction was positively and significantly associated with digital game playing (β=0.261, t(555)= 7.602, p<0. 001), school absenteeism due to digital game playing was positively and significantly (β=0. 259, t(555)= 7.804, p<0.001), earning money by playing digital games was positively and significantly (β=0.179, t(555)= 5.227, p<0.001), sibling's digital game playing status was positively and significantly (β=0. 073, t(555)= 2.221, p<0.05), playing digital games more than 2 hours a day was positively and significantly (β=0.221, t(555)= 6.278, p<0. 001), protective/demanding parental attitude was positively and significantly (β=0. 088, t(555)= 1.994, p<0.05), authoritarian parental attitude was positively and significantly (β=0.151, t(555)= 3.422, p<0.01)). The independent variables of age, gender, grade point average, grade level, democratic parental attitude, having own computer, mother's digital game playing status, father's digital game playing status and daily time spent on social media were excluded from the model because they did not show significant predictive power. Figure 1 summarizes the factors that predict digital game addiction of the participants.

Table 5. Predictors of Digital Game Addiction in Participants

Model 1		**B**	**SE**	**Beta**	**t**	**p**
Constant		3.977	0.842		4.720	0.00
Playing digital games (=yes)		3.899	0.513	0.261	7.602	0.00
Absence from school due to playing digital games (=yes)		6.086	0.780	0.259	7.804	0.00
Making monetary gains through digital gaming (=yes)		2.565	0.491	0.179	5.227	0.00
Sibling's digital game playing status (=yes)		0.916	0.413	0.073	2.221	0.03
Duration playing digital games (=two hours and under)		2.617	0.417	0.221	6.278	0.00
Protective/demanding attitude		0.049	0.025	0.088	1.994	0.04
Authoritarian attitude		0.113	0.033	0.151	3.422	0.00
R	0.65					
R^2	0.42					
Adj R^2	0.41					
Durbin-Watson	1.86					
F	57.87					
Model (p)	0.00					

SE, standard error of coefficient; β, standardised regression coefficient; R^2, proportion of variation independent variable explained by regression model; P, the level of statistical significance. p<0.001. *significat results.

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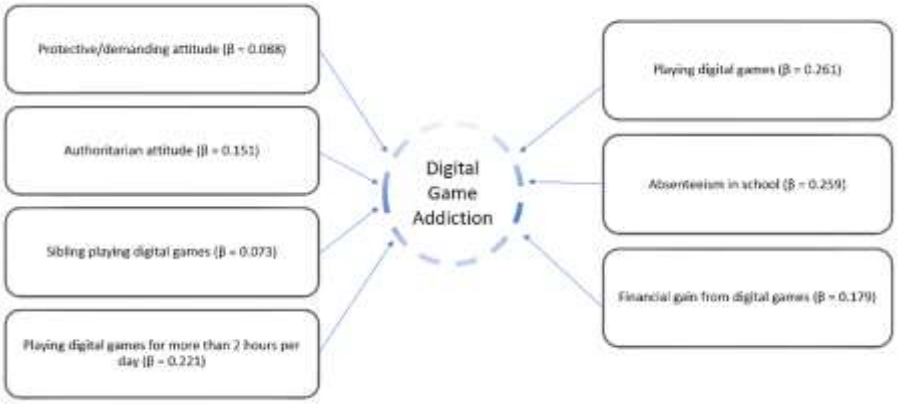

Figure 1: Predictive Factors Digital Game Addiction

DISCUSSION

In the research, digital game addiction was detected in one in every four adolescents. The studies using the same instrument reported digital game addiction scores within the range of 11.5-23.5 among adolescents (Basdas & Özbey, 2020; Caner & Evgin, 2021; Deniz et al., 2022). It has been indicated that adolescents play games at a problematic level and meet digital game addiction criteria between 5.7%-30.4% (Aksoy & Erol, 2021; Kim & Kim, 2015). The study findings are significant in terms of showing that digital game addiction is a common problem among adolescents. In this context, it is recommended to refer adolescents who are determined to have digital game addiction to the procurement of psychiatric counselling services.

Family attitudes appear as one of the priority areas requiring evaluation, especially during adolescence. While democratic parents give importance to their children's development of internal control, authoritarian parents are very cold towards their children and try to control them externally. In the protective/demanding parental attitude, intense attention is paid to the child, but strict external control that does not allow the child to realize himself is exerted (Kuzgun & Eldeleklioğlu, 2012). In this study, the mean score of the adolescents from perceived democratic attitudes was higher than protective/demanding and authoritarian attitudes. The adolescent unsatisfied with the family environment needs to socialize with peer groups by moving away from the family during adolescence. At the same time, adolescents are more likely to defy restrictive authority as their age level is increased (Van Petegem et al., 2019). Adolescents use virtual environments as a tool during this period. In such an environment, adolescents are drawn towards game addiction, and they can face many adverse situations, such as cyberbullying (Martínez et al., 2019). Unfortunately, adolescents whose families restrict are two times more likely to be exposed to internet addiction (Chung et al., 2019), and they are more prone to game addiction risk (Stavropoulos et al., 2019). In this study, it was found that democratic attitude did not significantly affect the adolescents' digital game addiction, but increased protective/demanding and authoritarian attitudes increased digital game addiction among adolescents. Relevant literature has reported that a democratic attitude does not affect digital game addiction (Choo et al., 2015); however, protective/demanding attitudes limit adolescents' freedom space and negatively affect digital game addiction (Mun & Lee, 2022). The establishment of healthy relationships between parent-adolescent and the execution of restrictive behaviors under democratic conditions against game addiction risk is evaluated as an essential approach to overcome this problem. School health nurses should guide parents in establishing healthy communication with their children, giving them love, attention, and support, setting limits and rules, and applying them flexibly and consistently. The present study had no significant relationship between digital game addiction and the number of siblings. However, the presence of siblings who play digital games was found to predict digital game addiction significantly. In addition to the parental relationship within the family, it is suggested that sibling closeness and communication are linked to positive development, well-being and healthy relationships with other social partners (Jensen et al., 2023). It is even suggested that in the absence of sibling relationships, adolescents can compensate for this by using mobile phones (Kardefelt-Winther, 2014). In a different study, it was found that the digital game addiction levels of students with more siblings were lower than students with fewer siblings (Kanat, 2019). In addition, internet game addiction has been shown to have reciprocal effects on the psychological health and sleep of adolescent students and their siblings (Lin et al., 2021). School health nurses can evaluate students' digital game-playing habits, the effects of games, addiction symptoms and risk factors. They can contribute to preventing digital game addiction by suggesting positive alternative activities at school and in the family to support the social, emotional, and cognitive development of adolescents in the risk group. In this direction, it is recommended that school nurses identify students at risk of game addiction and include siblings in the practices they offer in terms of the applicability and sustainability of the training.

In the research, most adolescents have an internet/computer/smartphone; they stated that they spent a long time on social media and digital gaming in the last week. In addition, it was determined that the rate of digital game playing among adolescents was high and that playing digital games increased digital game addiction. The study by Rikkers et al. reported that 52.2% of adolescents spent two or more hours playing digital games per day during the weekdays, and this rate reached 61.7% by the weekend (Rikkers

et al., 2016). The study by Yalcın Irmak & Erdogan (2015) reported that adolescents spent an average of 10.78 ± 13.42 hours playing digital games per week. In addition to this, digital device usage was associated with elapsed time and digital game addiction (Buono et al., 2020). In this study, there is a significant effect of digital game addiction for those who play digital games for more than two hours. As in all addictions, exposure and duration are important, and a multidisciplinary team led by a school nurse should plan regulatory studies on digital game playing and duration.

The results of this study found that absenteeism due to digital game playing had a significant effect on internet addiction. According to the results of a study in the literature on the subject, it was reported that internet addiction was higher in students with school absenteeism (Tsitsika et al., 2011). In addition, according to a different study, female high school students who use the Internet intensively are more absent than male students (Austin & Totaro, 2011). Internet and gaming addiction are factors contributing to school absenteeism and disruptive behaviours among young people (Imataka & Shiraishi, 2024). The results of this study are essential in showing that digital game addiction is among the problems that need to be addressed first within the scope of school health services. The school health nurse can take several measures to address school absenteeism, which affects digital game addiction. First, absent students should be identified and tried to reach them by collaborating with the school administration and teachers. Then, one should assess students' game addiction levels and determine appropriate intervention methods. These methods may include individual or group counselling, family education, limiting game use, or directing to alternative activities. The school health nurse can also organize educational programs to raise awareness about game addiction at school.

The current study determined that one in every five adolescents had previously earned money through the digital game industry, and the increase in earning money from digital games also increased digital game addiction. Similarly, it was found in the study by Deniz et al. (2022) that 15.6% of adolescents earned money from the game industry, and the mean digital game addiction score of these adolescents was significantly higher than those who did not. While adults evaluate financial gain from the games as risky, this situation is interpreted as luck and financial reward for adolescents (Calado et al., 2014). Financial gains pose the risk of participating in virtual gambling areas for adolescents in the next step. Available findings have shown that the gaming activity of each adolescent who earns money from the games can evolve into digital game addiction. To solve the problem, the school health nurse can use a form to inquire about the time students spend playing games, the money they spend or earn while playing, and their sources of support. Students' risk levels can be determined with this form, and appropriate interventions can be planned. In their role as a counselor, they can implement strategies such as explaining to students the harms of gaming addiction, teaching them money management skills, suggesting other activities they can do instead of gaming, and encouraging them to contact their family, friends, or professional—aid organizations.

CONCLUSION

Individual and environmental factors influence digital game addiction. The current study identifies current digital gaming and playing more than two hours a day as important criteria for addiction. In this context, school management should identify students at risk of addiction and plan feasible and sustainable approaches with the support of internal and external stakeholders.

Restricting or releasing digital media has been identified as an ineffective approach, and studies and structures should be established to increase digital competence among parents and adolescents. In addition to parental behaviours, measures to prevent siblings from playing digital games should be evaluated with a holistic approach within the family unit. In this context, support can be obtained from family counselling units.

Regarding school absenteeism that affects digital game addiction, first, the school health nurse should identify absent students, and efforts should be made to reach them in cooperation with the school administration and teachers. In this context, activities such as individual or group counselling, family education, limiting the use of games or suggesting alternative activities can be planned with students.

For students who earn money from digital games, a financial expert can evaluate the financial situation of adolescents who earn money from games and apply strategies such as explaining the harms of game addiction, teaching money management skills and suggesting alternative activities in cooperation with parents.

It is recommended that qualitative and cohort studies examining the effect of parental attitudes on digital game addiction should be planned.

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