

Determining Parents' Awareness of Digital Game Addiction of Children and Adolescents: A Descriptive Cross-Sectional Study

Çocuk ve Ergenlerde Dijital Oyun Bağımlılığı Konusunda Ebeveynlerin Farkındalıklarının Belirlenmesi: Tanımlayıcı Kesitsel Bir Çalışma

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ABSTRACT Objective: This study aims to determine parents' awareness of digital game addiction. **Material and Methods:** This study was designed as a descriptive cross-sectional study. The study was conducted with 252 parents between March and June 2022. The data were obtained by using the individual introduction form and the Awareness of Digital Game Addiction Scale (ADGAS). **Results:** The mean age of the parents of children aged 8-17 who participated in the study was 46.04±6.43 years, and 50.8% were female. The total ADGAS score of the parents was 46.92±10.05 and 68.7% of them had a high level of awareness of digital game addiction. A statistically significant difference was found between the parents' ADGAS external awareness sub-dimension mean scores and the area they had lived in for the last six months (KW=6.163, p=0.046). It was found that the ADGAS total and external awareness subdimension mean scores of parents who perceived that their children used digital tools unnecessarily were higher compared to those who did not (U=6399.500, p=0.023; U=6123.500, p=0.006). **Conclusion:** According to the study's results, while parents generally have a high level of awareness about digital game addiction, parents living in cities have higher external awareness than parents living in other areas. It is important to increase parental awareness to prevent digital game addiction, which negatively affects children's and adolescents' lives and health.

Keywords: Awareness; digital gaming addiction; parents; children and adolescents

ÖZET Amaç: Bu çalışma, ebeveynlerin dijital oyun bağımlılığı konusundaki farkındalıklarını belirlemeyi amaçlamaktadır. **Gereç ve Yöntemler:** Bu çalışma, tanımlayıcı kesitsel bir çalışma olarak tasarlandı. Araştırma, Mart-Haziran 2022 tarihleri arasında 252 ebeveyn ile gerçekleştirilmiştir. Veriler bireysel tanıtım formu ve Dijital Oyun Bağımlılığı Farkındalık Ölçeği (DOBFÖ) kullanılarak elde edilmiştir. **Bulgular:** Araştırmaya katılan 8-17 yaş arası çocukların ebeveynlerinin yaş ortalaması (yıl) 46,04±6,43 olup, %50,8'i kadındır. Ebeveynlerin toplam DOBFÖ puanı 46,92±10,05 olup %68,7'sinin dijital oyun bağımlılığı konusunda farkındalık düzeyi yüksektir. Ebeveynlerin DOBFÖ dışsal farkındalık alt boyutu puan ortalamaları ile son 6 ayda yaşadıkları bölge arasında istatistiksel olarak anlamlı farklılık bulunmuştur (KW=6,163, p=0,046). Çocuklarının dijital araçları gereksiz yere kullandığını düşünen ebeveynlerin DOBFÖ toplam ve dışsal farkındalık alt boyut puan ortalamalarının, düşünmeyen ebeveynlere göre daha yüksek olduğu bulunmuştur (U=6399,500, p=0,023; U=6123,500, p=0,006). **Sonuç:** Araştırmanın sonuçlarına göre ebeveynlerin dijital oyun bağımlılığı konusunda genel olarak yüksek düzeyde farkındalığı varken, şehirlerde yaşayan ebeveynlerin diğer bölgelerde yaşayan ebeveynlere göre dışsal farkındalıkları daha yüksektir. Çocukların yaşamlarını olumsuz etkileyen dijital oyun bağımlılığının önlenmesi için ebeveynlerin farkındalığının artırılması önemlidir.

Anahtar Kelimeler: Farkındalık; dijital oyun bağımlılığı; ebeveynler; çocuklar ve ergenler

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While playing games has traditionally been a face-to-face activity, the development of technology has given rise to gaming, a globally popular digital activity where people play games on digital devices, such as tablets and smartphones.^{1,2} *Study on the Use of Information Technologies in Children* (2021) reported that 50.8% of children aged 6-15 used the internet in 2013; in 2021, this figure was 82.7% in Türkiye.³ The rapid and uncontrolled increase in internet usage has brought many problems, including digital game addiction stemming from unsupervised and unlimited play.⁴ According to statistics, 94.7% of children in the 6-15 age play digital game almost every day or at least once a week.³

Parents bear the great responsibility of protecting children who are too inexperienced to be aware of the benefits and risks of digital games, a new parenting role called “digital parenting”.⁵ Digital parenting is defined as an individual who acts according to the needs of the digital age, uses basic digital tools and is aware of their possibilities, can protect their children from the risks of the digital environment, cares about respecting personal rights in the digital environment as in real life, and is open to technological innovations.⁶ Benedetto and Ingrassia reported that parents’ awareness of their digital parenting roles positively affects parental behaviors in order to understand, support, and regulate their children’s activities in digital environments.⁷ An individual’s awareness level of a subject plays a key role in initiating the behavior and attitude necessary to prevent problems related to that subject.⁵ Another study revealed that children who play digital games without family supervision have higher levels of digital game addiction than children whose gaming is supervised by their family.⁸ Therefore, it is necessary and important for parents to oversee their children’s online and digital activities.⁹

It is known that the risk of developing digital game addiction is related to many factors, parental supervision of internet use, including the parent-child relationship, and the parents’ mental health.^{10,11} Manap and Durmuş emphasized that parents with healthy family roles better manage digital technology use.⁶ In short, parents’ awareness of this issue is very important in overseeing children’s gaming and preventing digital game addiction. On this point, parents

have important responsibilities. However, a limited number of studies have been stated in the literature examining parents’ awareness of digital game addiction.¹² This current study aimed to fill this gap in the literature. Increasing parents’ awareness plays a key role in preventing children from developing a digital game addiction. First, in order to control children’s use of digital games and derive the games’ benefits, parents’ awareness of this issue should be defined and related factors considered. It is thought that this study’s findings will form the basis for future studies on the optimal use of digital games and contribute to the literature in the field. For these reasons, the current study aimed to examine parents’ awareness levels of digital game addiction by asking two research questions: (1) how aware are parents of digital game addiction and (2) what variables/factors affect parents’ awareness of digital game addiction.

MATERIAL AND METHODS

DESIGN

This study has a descriptive cross-sectional study, following the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Checklist.

PARTICIPANTS AND SETTING

The study was carried out in four high schools, three secondary schools, and three primary schools in a province in Türkiye from March to June 2022. There was a total of 461 public schools in this province. In total, 3,500 children are registered in the selected schools. The sample size was determined to be 252 according to the calculation based on a 90% confidence level and Type 1 error $\alpha=0.05$.¹³ The schools where the research was conducted were determined by drawing lots among the schools in the province. After the schools were determined, separate planning was made with the principals of each school. The study aimed to include 25 parents from each school with children aged between 8 and 17 years old. Data collection was terminated when the targeted sample size ($n=252$) was reached. All parents who could read and write Turkish and agreed to participate in the study were included in the study. There were no exclusion criteria from the study.

DATA COLLECTION

Data were collected online between March and June 2022. Before the data were collected, the school administration and parents were informed about the study, and their consent was obtained. The researchers transferred the data collection tools to electronic media using the Google Forms (Google, USA) application, and a link to a Google online questionnaire was sent to the parents online. The first page of the questionnaire included an informed consent form; parents could only participate in the questionnaire after confirming their voluntary consent. Participants automatically sent us their answers after completing the online questionnaire, and there were no missing data. And, all data submitted by the participants were analyzed. There was no time limit for the parents to fill out the questionnaire.

DATA COLLECTION TOOLS

Data were collected using an individual information form consisting of 16 questions [gender, marital status, educational level, employment status in a paid job, monthly income of family, smoking situation, alcohol use status, area, parent having a chronic illness, parent's child(s) having a chronic illness, evaluation level of internet use proficiency, the state of thinking that their child/children use digital tools unnecessarily, having at least one hobby, age (year), number of children, and internet usage time (year)] and the Awareness of Digital Game Addiction Scale (ADGAS).^{12,14,15} The researchers developed the individual information form in line with the literature, and it consists of 16 items. The ADGAS is a 12-item, two-factor measurement tool. The two factors are internal awareness and external awareness. Internal awareness is the level of understanding the individual's inner voice towards digital game addiction and being aware of the emotions caused by digital game addiction. In other words, it is the individual's awareness of his/her own gaming behaviors and how these behaviors affect his/her life, emotional state and thoughts. External awareness is the level of understanding and awareness of how the digital game addiction of the individual affects his relations with the environment such as work, friends, and school. It is the awareness of how the individual's game-playing

behaviors affect his/her environment, and social life. The level of internal awareness of digital game addiction is classified as low (5-10 points), medium (11-16 points), or high (17-25), while external awareness is classified as low at 7-16 points, medium at 17-25 points, and high at 26-35 points. ADGAS total scores are classified as low awareness (12-28 points), medium awareness (29-44 points), or high awareness (45-60 points). In the study, the items were graded on a 5-point Likert scale (where 1=*strongly disagree*, 2=*disagree*, 3=*undecided*, 4=*agree*, and 5=*strongly agree*).

The ADGAS's validity and reliability study was conducted by Tekkurşun Demir and Cicioğlu. The scale's Cronbach alpha values were found to be 0.82 for the internal awareness factor, 0.83 for the external awareness factor, and 0.88 for the total ADGAS score.¹⁶ In the current study, the Cronbach's alpha values were found to be 0.88 for the for the internal awareness factor, 0.82 for the external awareness factor, and 0.91 for the total score (Table 1). Permission to use the scale was obtained from the responsible author, who conducted the validity and reliability studies.

DATA ANALYSIS

The study data were analyzed using the SPSS 23.0 (IBM, USA) statistical program. The reliability of the ADGAS and its subdimensions, which were used as measurement tools in this research, was analyzed, and this current study began as a result of the reliability of the scale and its subdimensions. Shapiro-Wilk normality test was applied to decide on the analyses to be conducted. Skewness and kurtosis values were analyzed (Table 1). As a result, since the data were not normally distributed, nonparametric tests were used in the study. Data are expressed as percentages, means, and standard deviations. The difference between the two independent groups was examined using the Mann-Whitney U test. Whether there was a difference between more than two independent groups was examined using the Kruskal-Wallis test. When a difference was detected between the groups, Dunn's post hoc tests was used to determine the group that caused the difference. The statistical significance level was accepted as $p < 0.05$.

TABLE 1: Digital game addiction awareness scores of parents (n=252).

Variables	\bar{X}	SD	Minimum-Maximum	p	Skewness	Kurtosis	α	Total n (%)
ADGAS total score	46.92	10.05	16.00-60.00	0.000	-1.22±1.15	1.28±0.30	0.91	
Low								16 (6.3)
Medium								63 (25.0)
High								173 (68.7)
ADGAS internal awareness sub-dim.	19.10	4.90	5.00-25.00	0.000	-0.88±0.15	0.32±0.30	0.88	
Low								18 (7.1)
Medium								41 (16.3)
High								193 (76.6)
ADGAS external awareness sub-dim.	27.82	5.74	10.00-35.00	0.000	-1.25±0.15	1.37±0.30	0.82	
Low								15 (6.0)
Medium								42 (16.7)
High								195 (77.4)
Total n (%)								252 (100)

SD: Standard deviation; p: Shapiro-Wilk Sig.; α : Cronbach's alpha values; ADGAS: Awareness of Digital Game Addiction Scale.

ETHICAL CONSIDERATIONS

This study received ethics committee approval from the Akdeniz University Clinical Trials Ethics Committee (date: August 18, 2021; no: KA EK-550). The study was performed according to the Helsinki Declaration.

RESULTS

The participating parents' total ADGAS score was 46.92 ± 10.05 . The ADGAS-IA score 19.10 ± 4.90 , while the ADGAS-EA score was determined as 27.82 ± 5.74 . When the ADGAS total scores of the participants were analyzed, it was determined that 6.3% had low, 25% had medium and 68.7% had high digital game addiction awareness. In addition, when the ADGAS-IA sub-dimension scores of the participants were analyzed, it was seen that 7.1% had low, 16.3% had moderate and 76.6% had high internal digital game addiction awareness. When the ADGAS-EA sub-dimension scores of the parents were analyzed, it was determined that 6% had low, 16.7% had moderate and 77.4% had high external digital game addiction awareness (Table 1).

In total, 252 questionnaires were evaluated in the study. The mean age (years) of the parents of children aged 8-17 who participated in the study was 46.04 ± 6.43 (min. 32, max. 61), and 50.8% ($n=128$) were female. Nearly all (96.8%) were married. Of the participants, 67.9% graduated secondary school,

53.2% were in paid employment, and 71.0% defined their income as equal to their expenses. Regarding health, 34.1% smoked cigarettes, while 6.7% drank alcohol. Nearly a fifth (18.7%) reported suffering from a chronic disease, and 8.3% had at least one child with a chronic disease. Just over two-thirds of participants (67.9%) had lived in a city center for the last six months. Over a quarter (27.4%) described their internet proficiency as low. Nearly a third (31.3%) of the parents reported having at least one hobby. The average number of children among the participants was 2.69 ± 1.37 (min. 1, max. 9), and the average years of internet use was 6.53 ± 4.76 (min. 0, max. 25) (Table 2).

In this study, the digital game addiction awareness subdimensions and total score were determined by age, gender, marital status, education level, number of children, employment status, perception of income, smoking and alcohol use, and health status. No statistically significant difference was found between having a hobby, duration of internet usage, and self-evaluation of internet usage proficiency ($p > 0.05$). There was a statistically significant difference between the area lived in for the last six months and the external awareness sub-dimension score ($KW=6.163$, $p=0.046$). Parents living in city had significantly higher scores than parents living in villages or town centers. In addition, it was found that the ADGAS total and external awareness subdimension mean

TABLE 2: Distribution of parents' digital game addiction awareness according to sociodemographic characteristics (n=252).

Variables	Total n (%)	ADGAS Total Score $\bar{X}\pm SD$		Internal awareness $\bar{X}\pm SD$		External awareness $\bar{X}\pm SD$	
Age (year) ($\bar{X}\pm SD=46.04\pm 6.43$; minimum-maximum=32-61)							
25-34	9 (3.6)	47.66 \pm 11.21	KW=2.374	19.44 \pm 4.87	KW=2.095	28.22 \pm 6.41	KW=1.779
35-44	97 (38.5)	47.65 \pm 10.42	p=0.499	19.39 \pm 5.20	p=0.553	28.26 \pm 5.72	p=0.620
45-54	114 (45.2)	46.38 \pm 9.56		18.50 \pm 4.62		27.57 \pm 5.65	
≥ 55	32 (12.7)	46.43 \pm 10.64		19.18 \pm 5.13		27.25 \pm 6.11	
Gender							
Female	128 (50.8)	47.06 \pm 10.22	U=7740.000	19.25 \pm 5.03	U=7512.000	27.81 \pm 5.73	U=7759.000
Male	124 (49.2)	46.79 \pm 9.91	p=0.734	18.95 \pm 4.78	p=0.462	27.83 \pm 5.77	p=0.759
Marital status							
Married	244 (96.8)	47.04 \pm 9.91	U=884.500	19.12 \pm 4.87	U=956.500	27.91 \pm 5.64	U=800.500
Single	8 (3.2)	43.50 \pm 14.10	p=0.652	18.50 \pm 6.07	p=0.923	25.00 \pm 8.28	p=0.385
Educational level							
Secondary school	171 (67.9)	46.91 \pm 10.20	KW=0.702	19.16 \pm 5.00	KW=0.530	27.75 \pm 5.83	KW=1.070
High school	65 (25.8)	46.66 \pm 9.53	p=0.704	18.89 \pm 4.64	p=0.767	27.76 \pm 5.44	p=0.586
University	16 (6.3)	48.12 \pm 11.03		19.31 \pm 5.21		28.81 \pm 6.27	
Employment status in a paid job							
Yes	134 (53.2)	47.41 \pm 9.17	U=8012.500	19.24 \pm 4.53	U=7717.000	28.17 \pm 5.27	U=8226.000
No	118 (46.8)	46.37 \pm 10.98	p=0.383	18.94 \pm 5.31	p=0.176	27.43 \pm 6.23	p=0.607
Monthly income of family							
Income more than expenses	56 (22.2)	44.37 \pm 12.81	KW=3.514	18.17 \pm 6.09	KW=4.131	26.19 \pm 7.25	KW=2.924
Income equal to expenses	179 (71.0)	47.85 \pm 9.16	p=0.173	19.50 \pm 4.53	p=0.127	28.35 \pm 5.25	p=0.232
Income less than expenses	17 (6.7)	45.58 \pm 7.27		17.94 \pm 3.89		27.64 \pm 4.07	
Smoking use status							
Yes	86 (34.1)	47.75 \pm 9.89	U=6574.500	19.21 \pm 5.09	U=6890.000	28.54 \pm 5.54	U=6283.000
No	166 (65.9)	46.62 \pm 10.19	p=0.304	19.12 \pm 4.82	p=0.650	27.50 \pm 5.87	p=0.118
Alcohol use status							
Yes	17 (6.7)	44.94 \pm 10.31	U=1758.500	18.00 \pm 6.01	U=1836.500	26.94 \pm 5.21	U=1688.000
No	235 (93.3)	47.07 \pm 10.04	p=0.410	19.18 \pm 4.82	p=0.577	27.88 \pm 5.78	p=0.284
Area							
Village ^(a)	77 (30.6)	46.66 \pm 11.36	KW=2.267	18.84 \pm 5.23	KW=0.467	27.81 \pm 6.80	KW=6.163
Town ^(b)	4 (1.6)	53.75 \pm 4.92	p=0.322	20.75 \pm 2.98	p=0.792	33.00 \pm 3.36	p=0.046
City ^(c)	171 (67.9)	46.88 \pm 9.48		19.18 \pm 4.80		27.70 \pm 5.21	Post hoc=c-b
Internet usage time (year) ($\bar{X}\pm SD=6.53\pm 4.76$; minimum-maximum=0-25)							
0-1	31 (12.3)	48.00 \pm 5.90	KW=3.984	19.77 \pm 3.74	KW=3.194	28.22 \pm 2.99	KW=4.400
2-5	91 (36.1)	48.51 \pm 9.22	p=0.263	19.74 \pm 4.60	p=0.363	28.76 \pm 5.19	p=0.221
6-9	59 (23.4)	45.32 \pm 11.59		18.40 \pm 5.44		26.91 \pm 6.68	
≥ 10	71 (28.2)	45.76 \pm 10.92		18.56 \pm 5.21		27.19 \pm 6.35	
Parent having a chronic illness							
Yes	47 (18.7)	48.36 \pm 9.09	U=4384.500	19.68 \pm 4.70	U=4486.000	28.68 \pm 5.05	U=4387.500
No	205 (81.3)	46.60 \pm 10.25	p=0.336	18.97 \pm 4.95	p=0.460	27.62 \pm 5.88	p=0.338
Parent's child(s) having a chronic illness							
Yes	21 (8.3)	50.61 \pm 3.18	U=2026.000	20.61 \pm 2.72	U=2088.000	30.00 \pm 2.30	U=1976.500
No	231 (91.7)	46.59 \pm 10.39	p=0.211	18.96 \pm 5.04	p=0.289	27.62 \pm 5.92	p=0.159
Evaluation level of internet use proficiency							
Low	69 (27.4)	46.15 \pm 9.77	KW=1.230	18.84 \pm 4.67	KW=0.772	27.31 \pm 5.61	KW=1.866
Middle	165 (65.5)	47.27 \pm 10.03	p=0.541	19.20 \pm 4.89	p=0.680	28.07 \pm 5.80	p=0.393
Very high	18 (7.1)	46.66 \pm 11.60		19.16 \pm 6.05		27.50 \pm 5.90	
The state of thinking that their child/children use digital tools unnecessarily							
Yes	148 (58.7)	48.50 \pm 8.63	U=6399.500	19.68 \pm 4.43	U=6594.500	28.81 \pm 4.97	U=6123.500
No	104 (41.3)	44.68 \pm 11.46	p=0.023	18.26 \pm 5.42	p=0.052	26.41 \pm 6.45	p=0.006
Having at least one hobby							
Yes	79 (31.3)	47.01 \pm 9.56	U=6729.000	18.86 \pm 4.89	Z=6503.000	28.15 \pm 5.27	U=6822.500
No	173 (68.7)	46.89 \pm 10.29	p=0.845	19.21 \pm 4.92	p=0.536	27.67 \pm 5.95	p=0.984

SD: Standard deviation; Post hoc: Dunn's post hoc tests; KW: Kruskal-Wallis Test; U: Mann-Whitney U Test; p: Significance level.

scores of parents who perceived that their children used digital tools unnecessarily were higher compared to those who did not ($U=6399.500$, $p=0.023$; $U=6123.500$, $p=0.006$). Parents who thought that their child/children use digital tools unnecessarily had significantly higher ADGAS and external awareness subdimension scores than other parents (Table 2).

DISCUSSION

This research was conducted to determine the parents' awareness levels of digital game addiction of children and adolescents. This study found that parents have a high awareness level of digital game addiction; their understanding of digital game addiction and its internal and external effects are high. In the same vein, a similar study conducted solely with mothers determined that the sample mothers were highly aware of digital game addiction.¹² According to studies conducted on the subject, most parents do not supervise their children while they are using the internet and playing digital games.^{17,18} It is known that children who play digital games without family supervision have higher levels of digital game addiction than children who are supervised.⁸ A study revealed that 32.4% of adolescents are addicted to digital games. The results of this study showed that emotional eating is a component of digital game addiction that increases the risk of obesity in adolescents.¹⁹ Problematic parent-child relationships, parental pressure to succeed academically, parental neglect, the child's loneliness and anxiety, and permissive parental attitudes are associated with digital game addiction.¹¹ Parents generally have superficial knowledge of the digital games their children have played and are often unaware of the risks and dangers digital games present.¹⁴ In addition, a study found that being male, being obese, using social media, owning a game console, playing certain types of games (war or strategy games), and playing online and multiplayer games were associated with video game addiction in middle school students.²⁰ Insufficient parental supervision was highlighted in a study of parents whose children played violent video games.²¹ In a study, it was found that starting to play digital games in early childhood and playing unlimited and unsupervised games increases the risk of dig-

ital game addiction.²² Based on all these findings, we can say that parents need guidance on how their children should best use digital games. In line with the current study's results, it can be said that parents' high awareness of digital game addiction is an important and necessary step in supervising children's risky gaming and preventing digital game addiction.

In studies conducted to establish the family profiles of children according to their digital game addiction, it was determined that factors such as the crowdedness of the family, familial rules and limitations, parental interest in the child, and family activities were related to the level of digital game addiction.^{6,23} Manap and Durmuş emphasized that parents with healthy family roles better manage digital technology use.⁶ Similarly, Yayman and Bilgin concluded that social media addiction and gaming addiction in adolescents are positively related to dysfunctional families.²⁴ Two studies conducted in Türkiye asserted that children and adolescents living in households with an authoritarian style of digital parenting had lower levels of online gaming addiction than other households.^{25,26} Conversely, another study found that as parents adopted a more democratic parenting style, the risk of developing a digital game addiction decreased, and the age of the parents, number of children, education level, employment status, and income level impacted parental attitudes.²⁷ In addition, the literature has stated that family life satisfaction predicts digital game addiction in adolescents. As family life satisfaction increases, the level of digital game addiction in children decreases.²⁸ In the study, the total ADGAS and external awareness subdimension scores of parents who thought that their offspring use digital tools unnecessarily were found to be significantly higher than those of other parents. In line with the research findings, it is thought that the perception that their children use digital tools unnecessarily can be an important obstacle to protecting their children from the potential risks of digital games.

This study revealed a statistically significant difference between where the parents had lived for the last six months and the external awareness subdimension score. There are studies in the literature examining the factors affecting parents' awareness of

digital game addiction. Studies on digital parenting self-efficacy perception levels have found a significant difference between the variables of number of children, playing time, internet usage experience, gender, age, education level and socioeconomic level.^{12,15,25,27} A study conducted on the subject claimed that parents with university or higher education prefer digital games less than parents with less formal education.²⁹ Indeed, research has shown that as the education level of the parents increases, the level of awareness of their children's digital game addiction increases.³⁰ On the other hand, there are studies in which parents with a high level of education use the internet more frequently and accordingly, their digital parenting self-efficacy perceptions are significantly different.³¹ In addition, it is seen that parents' digital awareness levels differ significantly according to the number of children they have and the type of games their children prefer to play.^{12,15,31}

The current study examined the factors affecting parents' awareness of digital game addiction and found that parents living in towns had significantly higher awareness scores than parents living in villages or city centers. Town-dwelling parents' higher external awareness of digital game addiction may be due to their digital environment and the ideal population density. The town's digital environment may provide parents with an opportunity to closely follow contemporary technological developments and develop digital literacy. Comprehensive studies on the subject can guide the planning of interventional studies in the future.

LIMITATIONS

This study had some limitations. Data were collected from public schools in a large province in Türkiye. Private schools in the province were not included in this study. The study used a modest sample size, and therefore, the research findings cannot be generalized; multicenter studies across the country are needed to confirm and generalize these results. In addition, conducting a randomized controlled study or longitudinal studies with a control group to examine parents' awareness of digital game addiction may help strengthen the results. The study did not examine the daily time consumption on the internet and

game playing of parents and their children. This is another limitation.

IMPLICATIONS FOR PRACTICE

Cooperation between pediatric nurses, parents, and teachers is vital for children to become healthy adults. For this purpose, school-based intervention programs involving all of them and students should be designed to address how children should correctly use digital technologies. Psychiatric and pediatric nurses should take responsibility and provide counseling to raise parents' awareness of the undesirable effects of digital technologies on child and adolescent health and development.

CONCLUSION

This study found that parents have a high awareness of digital game addiction. It is also predicted that parents with a high awareness of digital game addiction can protect their children from the risks and potential negative effects of digital game addiction. Pediatric, school, and community nurses working with children together with teachers should develop and implement educational programs to protect young people from the potential risks of digital games. Regarding further studies, researchers could conduct longitudinal studies by developing a training and counseling program on digital parenting awareness to reduce and prevent digital game addiction.

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Conflict of Interest

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Authorship Contributions

Idea/Concept: Duygu Kemer, Ayla Kaya, Nimet Karataş, Fahriye Pazarcıkçı; **Design:** Duygu Kemer, Ayla Kaya, Nimet Karataş, Fahriye Pazarcıkçı; **Control/Supervision:** Duygu Kemer, Ayla Kaya, Nimet Karataş, Fahriye Pazarcıkçı; **Data Collection and/or Processing:** Ayla Kaya, Nimet Karataş; **Analysis and/or Interpretation:** Ayla Kaya, Fahriye

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