The Effect of Digital Game Addiction and Cyberloafing on Psychological Well-Being in University Students

Üniversite Öğrencilerinde Dijital Oyun Bağımlılığı ve Siber Aylaklığın Psikolojik İyi Oluş Üzerindeki Etkisi

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ABSTRACT

This study was conducted to determine the effects of digital game addiction and cyberloafing on psychological well-being in university students. This descriptive cross-sectional study was conducted with 350 students studying at Gaziantep University of Islamic Sciences between March and August 2024. In our study, the regression model was found to be significant and usable (F(2,347)= 37.315, p=0.001). Digital game addiction and cyberloafing levels together explained 17.7% (R^2=0.177) of the total variance in psychological well-being. It was determined that the increase in the level of digital game addiction (t=-8.540, p<0.001) caused a statistical decrease in the level of "psychological well-being". The level of cyber loafing (t=0.689, p=0.491) did not affect the level of psychological well-being.While the increase in participants' digital game addiction negatively affected psychological well-being, it was found that the level of cyber loafing did not affect psychological well-being. Longitudinal studies on psychological well-being are recommended.

Keywords: Cyberloafing, Digital Game Addiction, Psychological Well-being, Technology, University Students

ÖZ

Bu çalışma, üniversite öğrencilerinde dijital oyun bağımlılığı ve siber aylaklığın psikolojik iyi oluş üzerindeki etkilerini belirlemek amacıyla yapılmıştır. Bu tanımlayıcı kesitsel çalışma, Mart-Ağustos 2024 tarihleri arasında Gaziantep İslami Bilimler Üniversitesi'nde öğrenim gören 350 öğrenci ile yürütülmüştür. Çalışma da regresyon modeli anlamlı ve kullanılabilir bulunmuştur (F(2,347)= 37.315, p=0.001). Dijital oyun bağımlılığı ve siberaylaklık düzeyleri birlikte psikolojik iyi oluştaki toplam varyansın %17,7'sini (R^2=0,177) açıklamaktadır. Dijital oyun bağımlılığı düzeyindeki artışın (t=-8.540, p<0.001) "psikolojik iyi oluş" düzeyinde istatistiksel olarak düşüşe neden olduğu belirlenmiştir. Siber aylaklık düzeyi (t=0,689, p=0,491) psikolojik iyi oluş düzeyini etkilememiştir. Katılımcıların dijital oyun bağımlılığındaki artış psikolojik iyi oluşu olumsuz etkilerken, siber aylaklık düzeyinin psikolojik iyi oluşu etkilemediği bulunmuştur. Psikolojik iyi oluş üzerine longitudinal çalışmalar önerilmektedir.

Anahtar Kelimeler: Siber Aylaklık, Dijital Oyun Bağımlılığı, Psikolojik İyi Oluş, Teknoloji, Üniversite Öğrencileri

Önemli Noktalar

* Excessive and uncontrolled use of the Internet increases cyberloafing and digital game addiction.
* Cyberloafing, sending/receiving e-mails, browsing news, sports, shopping sites, downloading music, chatting, playing games, and visiting social media websites.
* Digital games are more interesting than non-digital games because they include sound and visual effects.
* In order to promote healthy use of the Internet, it is important to find out whether cyberloafing has a mediating role in the effect of digital game addiction on psychological well-being.

Gaziantep Islam Science and Technology *University Health Sciences Ethics Committee (26.02.2024-380.35.12).*

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Geliş Tarihi / Received: 26.12.2024
Kabul Tarihi/Accepted: 14.03.2025

INTRODUCTION

The use of information technology is an indicator of economic and national development.[1] The use of high-tech digital devices such as laptops, tablets or smartphones has also become common among the youth of the newest generation, also known as the 'wired generation'.[2] The portability and ubiquity of smartphones have enabled youth and adults to access the internet anywhere and anytime The unpredictable, excessive and uncontrolled use of this access by individuals can lead to many problems such as cyberloafing and digital game addiction.[3,4] In the field of education, cyberloafing is defined as the act of using the internet for non-educational purposes during class hours.[5] Cyberloafing actions usually consist of sending/receiving emails, browsing news, sports, shopping websites, downloading music, chatting, playing games and visiting social media websites.[6,7] This is thought to be an obstacle to the successful integration of technology into education.[4] In addition, the restriction of activities such as education, cinema, theater, sports competitions and the continuation of education online during the COVID-19 period led to more use of digital technology at home. As a result, the time spent in front of the screen (cell phone, computer, television) increased among adolescents.[8,9] Thus, children were introduced to social media and digital games from early childhood.[10] Compared to the pre-pandemic period, it was revealed that students spent more time on digital games, especially on the phone, and their addiction rates increased during the pandemic period.[11] Digital game addiction is when a person spends so much time playing digital games that they cannot control their time. Withdrawal symptoms occur when the game is not played. Impulse disorder resulting in a lack of interest in other activities and people.[12] Digital games are more engaging than non-digital games because they contain sound and visual effects. Therefore, children can become addicted if they play digital games excessively.[13] Today, digital game addiction is one of the leading causes of depression, anxiety and dissatisfaction. Digital gamers who become addicted have poor self-control, play for long periods of time, forget the responsibilities they have to fulfill during the day and often don't even stop playing to eat. Digital gaming addiction is considered a compulsive-impulsive spectrum disorder and includes both online and offline use (DSM-V).[14,15] Research on internet use and coping has found that maladaptive coping is associated with problematic internet use.[16] Similarly, more hours spent online is used as a coping style to reduce tension.[17] In order to promote healthy use of the Internet, it is important to find out whether cyberloafing plays a mediating role in the effect of digital game addiction on psychological well-being. Therefore, the current study focuses on the abuse of digital game addiction, namely cyberloafing in a specific sample (adolescents). This study was conducted to determine the effects of digital game addiction and cyberloafing on psychological well-being in university students. There are no similar studies in the literature and it is thought that this study will contribute to the literature.

Research Questions:

Does digital game addiction affect cyberloafing in university students?

Does digital game addiction affect psychological well-being in university students?

MATERIALS AND METHOD

The study was planned in a descriptive cross-sectional design. The research data were collected by the researchers between March and August 2024 by online survey method. The population of the study consisted of all students studying at Gaziantep University of Islamic Sciences. The study was completed with 350 students

who agreed to participate in the study. Following the study, a post hoc power analysis was conducted based on the results obtained from 350 participants, revealing that the study's power is 99% at a medium effect size and a 95% confidence level.[18] The STROBE guideline was used in the reporting of this research paper.[19]

Inclusion criteria

All students who met the study criteria, were 18 years of age or older, were studying at the relevant university, could read and understand Turkish, and volunteered to participate were included in the study.

Exclusion Criteria

Unable to communicate (with mental disability and visual/hearing impairment) and who left the study unfinished were not included in the study.

Data collection tools:

"Personal Information Form", 'Digital Game Addiction Scale for University Students:', 'Cyberloafing Scale (CS)', 'Psychological Well-Being Scale' developed by the researchers after the literature review were used as data collection tools.

Personal Information Form: In the study, the data on the personal information of the a public university students were collected with the personal information form developed by the researcher. This form includes questions such as gender, age, department, educational status of mother and father, marital status of mother and father, professional status of mother and father, monthly income level of the family and the number of siblings, monthly income level of the student, the place where the student lives while continuing his/her education, and the department he/she is studying.

Digital Game Addiction Scale for University Students: The "Digital Game Addiction Scale" developed by Hazar and Hazar (2019) was used for university students. A five-point Likert-type scale (1 = Strongly Disagree, 5 = Strongly Agree) was used to evaluate the scale statements. The lowest score that can be obtained from the scale is "21" and the highest score is "105". In the scoring of the scale; "1-21: Normal group, 22- 42: Low risk group, 43-63 Risky group, 64-84 Dependent group, 85-105 Highly dependent group". The cronbach alpha internal consistency of the scale was found to be 0.92. [20] In our study, the cronbach alpha value of the scale was found to be 0.96.

Cyberloafing Scale (CS): The scale developed by Akbulut, Dursun, Dönmez, and Şahin (2016) consists of a total of 30 items collected under five factors. The scale is a 5-point Likert-type scale ranging from (1) Never to (5) Always. The factor named "sharing" consists of 9 items, the factor named "shopping" consists of 7 items, the factor named "real-time updating" consists of 5 items, the factor named "accessing online content" consists of 5 items, and the factor named "gaming/gambling" consists of 4 items. Factors of the scale involved nine items for sharing (e.g., posting content, chatting, leaving comments), seven items for shopping (e.g., online shopping, auctioning, banking), five items for real-time updating (e.g., tweeting, retweeting), five items for accessing online content (e.g., downloading music, videos and applications) and four items for gaming/gambling (e.g., betting online, gaming online). Higher scores indicate greater cyberloafing behaviors in class. Cronbach α internal consistency coefficient of the scale was calculated as 0.95.[5] In our study, the cronbach alpha value of the scale was found to be 0.95.

Psychological Well-Being Scale: This scale was developed by Diener et al. (2009). The validity and reliability study of the scale in Turkey was conducted by Telef (2013).[21] The scale defines states such as sense of competence, having a meaningful and purposeful life, and positive relationships. It consists of 8 items. The items of the scale are answered between "strongly agree (7)" and "strongly disagree (1)". The scale does not contain reverse items. A high score on the scale indicates that the individual has many psychological resources and power. The internal consistency coefficient of the scale

was calculated as .84 for this research sample.[21] In our study, the cronbach alpha value of the scale was found to be 0.94.

Data Analyze

The analysis of the study data was performed by using SPSS 22.0, and G*Power 3.1 Statistical package software. Percentage, arithmetic mean, standard deviation, minimum and maximum values were calculated using SPSS 22.0. Necessary normality tests were performed in the process of analyzing the data and it was understood that the data showed normal distribution (kurtosis and skewness -1.5 to +1.5).[22] P value of <0.05 was considered statistically significant. Hierarchical regression analysis was used in the study.

Ethical considerations

Approval of the Scientific Research and Publication Ethics Committee (Document Date and Decision Number: 26.02.2024-380.35.12) was obtained from a state university to conduct the study. Participants were informed about the research by the researcher and their consent was obtained online. The researchers complied with the rules specified in the Declaration of Helsinki throughout the study.

RESULTS AND DISCUSSION

77.1% of the individuals were female, 50.6% were first grade students, 86.0% used social media, 43.4% used the internet between 1-3 hours, 52.3% had a mother who graduated from primary school, 33.1% had a father who graduated from primary school, 31.7% had an income of TL 9,001-15,000. And the mean age was 20.83±2.03 years (Table 1).

Tablo 1. Descriptive Characteristics of the Individuals (n=350)

Demographic Characteristics		**n**	**%**
Gender	Female	270	77,1
	Male	80	22,9
Classroom	1st grade	177	50,6
	2nd grade	114	32,6
	3rd grade	39	11,1
	4th grade	20	5,7
Social media account presence	Yes	301	86,0
	No	49	14,0
Level of daily internet use	0-1 hour	34	9,7
	1-3 hours	152	43,4
	3-6 hours	126	36,0
	More than 6 hours	38	10,9
Mother's Education Status	Primary School	183	52,3
	Middle School	93	26,6
	High School	54	15,4
	License	14	4,0
	Postgraduate	6	1,7
Father's Education Status	Primary School	116	33,1
	Middle School	95	27,1
	High School	85	24,3
	License	43	12,3
	Postgraduate	11	3,2
Income Level	Less than 9000	59	16,9
	9.001-15.000 TL	111	31,7
	15.001-30.000 TL	96	27,4
	30.000 TL and above	84	24,0
		$\overline{X}$ **±SD (Min-Max)**	
Age (Years)		20.83±2.03 (18-35)	

When the results of the analysis of the hierarchical regression models to reveal the effects of digital game addiction and cyberloafing on the level of psychological well-being are examined, the 95.0% Confidence Interval for B;

Statistical estimates for Model 1 show that the model is significant and usable (F(1,348)= 74.267, p=0.001). The level of digital game addiction explains 17.6% of the total variance of psychological well-being (R^2=0.176). In the regression model, when the t-test results regarding the significance of the regression coefficient were analyzed; it was determined that the increase in the level of digital game addiction of the participants (t=-8.618, p<0.001) caused a statistical decrease in the level of "psychological well-being" (Table 2).

Table 2. Hierarchical Regression Analysis Results to Determine the Effect of Digital Game Addiction and Cyberloafing on Psychological Well-Being

Psychological Well-Being (Dependent variable)							
Predictive Variables	***B***	***SD***	***β***	***t***	***p****	**95.0% Confidence Interval for B**	
Model 1						Lower Bound	Upper Bound
(Constant)	51.568	1.332		38.713	**.001**	48.948	54.188
Digital Game Addiction	-.251	.029	-.419	-8.618	**.001**	-.308	-.194
Model 2							
(Constant)	50.536	2.005		25.205	**.001**	46.592	54.479
Digital Game Addiction	-.256	.030	-.427	-8.540	**.001**	-.314	-197
Cyber Loafing	.015	.021	.034	.689	.491	-.027	.056
R	Model 1: 0.419	Model 2: 0.421					
R^2/Adjusted R^2	Model 1: 0.176 / 0.174	Model 2: 0.177 / 0.172					
R^2 Change	Model 1: 0.176 Model 2: 0.001	R^2 Change					
F	Model 1: 74.267 Model 2: 37.315						

This study was conducted to determine the effects of digital game addiction and cyberloafing on psychological well-being in university students. In this part of the study, the findings are discussed in the light of the literature.

The study, it was found that an increase in the level of digital game addiction (t=-8.618, p<0.001) caused a statistical decrease in the level of psychological well-being. Digital game addiction has emerged as a major concern in contemporary society and has led to various negative effects on psychological well-being. The relationship between digital game addiction and psychological distress is multifaceted, encompassing a range of psychological problems such as anxiety, depression, and social phobia, emphasizing that online gaming addiction is closely linked to a range of psychological problems, including sleep disorders and irritability and suicidal thoughts; these problems can severely impact an individual's mental health and social interactions.[23] This claim is supported by their findings indicating that adolescents addicted to online games prefer online interactions over face-to-face communication, thereby increasing their risk of health and psychological problems.[24] Gaming time has been shown to be negatively correlated with psychological well-being. Zinçir's research reveals that increased gaming time leads to a decline in psychological health and makes users more susceptible to negative social and psychological consequences.[25] This is further supported by her study, which found that higher screen time was associated with reduced psychosocial quality of life, lower

self-esteem and weaker social networks among adolescents.[26] These studies collectively underscore the detrimental effects of excessive gaming on mental health, suggesting that prolonged exposure to digital games can lead to significant psychological distress.[27,28] The inhibition of basic psychological needs can lead to maladaptive coping strategies such as excessive gaming, which ultimately exacerbates psychological distress. In addition to individual psychological effects, digital gaming addiction can also have wider social consequences. Adolescents who overplay games, They may experience family dysfunction, neglect of responsibility, and a decline in social interactions, as noted by Humeyya et al.[23] Caner and Evgin emphasize that game-addicted adolescents may resort to emotional eating as a coping mechanism for stress and negative moods, which can lead to obesity and related health problems.[29] This link between emotional regulation and gaming highlights the need for comprehensive interventions that address both psychological and physical health in adolescents. Research shows that the prevalence of video game addiction is alarmingly high among adolescents, with studies indicating that a significant percentage of this population experiences psychological distress due to excessive gaming. Alrahili's study found that although only a small percentage of adolescents were classified as addicted, a significant proportion showed signs of psychological distress linked to their gaming habits.[30] This discrepancy suggests that the nuances and psychological effects of gaming addiction require further investigation. Neurobiological aspects of gaming addiction have also received attention. It provides a systematic review of neuroimaging studies revealing how gaming activates brain regions associated with reward and addiction, similar to substance addiction.[31] These findings suggest that the neurological pathways involved in gaming addiction may lead to impaired emotional regulation and cognitive control, further complicating the psychological landscape of addicted individuals. Research suggests that individuals with high levels of neuroticism may be more prone to use gaming as an escape from their problems, leading to a vicious cycle of addiction and psychological distress.[32] This relationship highlights the importance of considering individual differences when assessing the impact of digital game addiction on psychological well-being. Interventions aimed at reducing the effects of digital gaming addiction should take into account the multifaceted nature of the problem. Cognitive-behavioral therapy has shown promising results in addressing internet gaming disorder and improving quality of life in affected individuals.[33] Such therapeutic approaches can help individuals develop healthier coping strategies and improve their emotional regulation, ultimately leading to better psychological well-being. In conclusion, the effects of digital gaming addiction on psychological well-being are profound and multifaceted, encompassing a range of psychological, social and neurobiological dimensions. The interplay between gaming, psychological needs and emotional regulation highlights the complexity of this problem and the need for targeted interventions. As digital gaming continues to evolve, ongoing research is essential to fully understand its effects on mental health and to develop effective strategies for prevention and treatment.

CONCLUSION AND RECOMMENDATIONS

As a result of this study, it was found that while the increase in digital game addiction of the participants negatively affected psychological well-being, the level of cyberloafing did not affect psychological well-being. Today, easy access to the internet and the rapid advancement of technology have brought many problems. Digital game addiction has been found to lead to a weakening in individuals' social relationships, a decrease in their academic performance and a decrease in their general life satisfaction. In addition, time management skills may be negatively

affected and stress levels may increase. It is important to develop educational programs and awareness campaigns that encourage students to use their time on digital platforms more efficiently.

School health services, which evaluate, protect and improve the health of students and school personnel, cover many issues such as planning and implementing health development programs and health education, preventing health problems and managing existing health problems, performing health monitoring, keeping records, analyzing health problems and services. The Nursing Regulation (2011), which defines the duties and authorities of school health nurses, specifies the functions that school nurses should perform alone, situations in which they should communicate with the administration, health education and what should be done for the health of school personnel. As in developed countries, a sufficient number of school health nurses should be employed in schools in Turkey; the education, duties and responsibilities they will receive should be regulated by law.

Limitations

The limitation of this cross-sectional study is that it reflects the responses in the relevant time period and the data were collected online.

Authors' contributions

AE, MY: Conception and design. AE, MY: Acquisition of data. MY, MY: Analysis and Interpretation of data. AE, ME: Drafting of the manuscript. MY, AE: Critical revision of the manuscript for important intellectual content. MY, MY: Statistical analysis. MY, AE: Administrative technical or material support. AE: Supervision. All authors: Final approval of manuscript.

Funding

This study is funded by Sakarya University.

Data Avaılabılıty Statement

The data is available upon request from the corresponding author Ayse ELKOCA.

Acknowledgements

The author is acknowledged to all people for making this study possible.

Consent to publish the study

Not applicable.

Conflıct of Interest Statement

The authors declare no conflict of Interests for this article.

Clinical trial number

Not applicable.

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