

Boredom and Addiction: An Exploratory View at University Students' Digital Game Playing Processes in Leisure Time

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Abstract

The aim of this study is to examine the relationship between the lack of digital game playing dimensions and the perception of seeking and boredom in leisure time. 201 volunteer students from Selçuk University Faculty of Sport Sciences participated in the study (N_{female}: 99, N_{male}:102). In the study, Digital game addiction scale and Leisure time boredom perception scale were used as data collection tools. Since the data conformed to the Normal distribution parameters, t test for pairwise comparisons and One way ANOVA test for three or more category comparisons were tested. The relationship between scales and dimensions was examined with the Pearson correlation test. As a result of the study, while there was no significant difference according to gender and age ($p<0.05$), it was concluded that as the daily leisure time and playing time increased, the averages of addiction and boredom and dissatisfaction increased($p<0.05$). A moderately positive relationship was found between deprivation and seeking of addiction dimensions, and boredom and dissatisfaction($r>0.30$). In the light of these results, it can be deduced that a factor that increases the level and addiction of playing games in university students can be determined as the perception of boredom in leisure time.

Keywords: Recreation, Boredom, Addiction, University students

Sıkıntı ve Bağımlılık: Üniversite Öğrencilerinin Serbest Zamanda Dijital Oyun Oynama Süreçlerine Keşifsel Bir Bakış

Özet

Bu çalışmanın amacı dijital oyun oynama boyutlarından yoksunluk ve arayış ile serbest zamanda sıkılma algısı arasındaki ilişkinin incelenmesidir. Çalışmaya Selçuk Üniversitesi Spor Bilimleri Fakültesi öğrencilerinden gönüllü 201 öğrenci katılmıştır (N_{kadın}: 99, N_{erkek}:102). Çalışmada Veri toplama aracı olarak Dijital oyun bağımlılığı ölçeği ve Serbest zaman sıkılma algısı ölçeği kullanılmıştır. Veriler Normal dağılım parametrelerine uyduğundan ikili karşılaştırmalar için t testi, üç ve üzeri kategori karşılaştırmalarında One way ANOVA testi ile sınanmıştır. Ölçekler ve boyutlar arasındaki ilişki pearson correlation test ile incelenmiştir. Çalışmanın sonucunda cinsiyet ve yaşa göre anlamlı farklılık bulunmazken ($p<0.05$) günlük boş zaman ve oyun oynama süresi arttıkça bağımlılık ve, sıkılma ve tatminsizlik ortalamalarının arttığı sonucuna ulaşılmıştır ($p<0.05$). Bağımlılık boyutlarından yoksunluk ve arayış ile sıkılma ve tatminsizlik arasında orta düzeyde pozitif yönlü ilişki tespit edilmiştir ($r>0.30$). Bu sonuçlar ışığında üniversite öğrencilerinde oyun oynama düzey ve bağımlılığını arttıran bir faktörün serbest zamanda sıkılma algısı olarak belirlenebileceği çıkarımı yapılabilir.

Anahtar kelimeler: Rekreasyon, Sıkılma, Bağımlılık, Üniversite öğrencileri

INTRODUCTION

Digital technology, which is constantly evolving and developing, has reached quite popular use. With the increase in people's perception of leisure and boredom, this technological dimension, which has become widespread especially recently, is seen frequently in all age groups around the world (32).

The perception of leisure time as boredom is associated with negative mood. This is due to the fact that current leisure experiences are not frequent, inclusive, exciting, diverse or new enough (13). Leisure behavior should be psychologically rewarding, especially when individuals perceive that they have the right amount of time for leisure activities. Therefore, leisure boredom is a possible consequence of conflicting perceptions of having too much time with too little to do (30). As a result, the perception of leisure boredom in daily life has become a social habit for individuals to meet their needs and requirements through digital tools (32).

The digital age adventure has been critical in our lives since its emergence in the 20th century. Constantly developing and changing technological devices such as computers, tablets and smartphones have become indispensable for our lives (4). The use of technological devices appearing in every aspect of life have affected and changed children's communication, games, understanding of entertainment and learning skills. Although the use of technological devices is seen in all age groups, it plays a more active role in the younger generation (8; 26). This has affected individuals' usage of Internet and mobile devices and the duration of playing digital games.

The emergence of multi-user games, on the other hand, has led especially children to turn to virtual friendships rather than real friendships. It is claimed that this social aspect provided by online games increases the addiction of many people to online games (10). Due to such concerns, parents resort to methods such as banning and restricting digital games. However, today, removing digital games from children's lives causes them to fall behind these developing technologies and restricts them from acquiring the digital skills necessary for their future lives. Therefore, instead of preventing their interaction with digital devices, children should be taught the conscious and effective use of them (2). Individuals who learn to use digital devices consciously will be able to use their leisure time efficiently and their perception of boredom will be at the lowest level.

The concepts of leisure time and the perception of boredom, which have attracted the attention of scientists and been the subject of research from past years to the present, appear in all areas of life. In today's world, the busy pace of work, the epidemic process we are in and many difficulties once again emphasize the importance of efficient use of time (28). Rapidly developing technology has brought along many innovations such as computers, the internet and digital games that have become inseparable parts of our lives.

Although digital games were created to make use of individuals' leisure time and minimize their perception of boredom, they are considered as activities for many areas such as education, entertainment and competition. Playing digital games can be perceived as a way out to get away from the tiring pace of life, as well as a communication tool that can realize social intimacy among peers. It is accepted that it is normal to play digital games in moderation as a part of a healthy lifestyle, and that games even have positive contributions to people such as emotional discharge, relaxation and eliminating the perception of boredom (24).

Digital interaction when stressed is thought to be one of the best ways to reduce stress and improve psychological health. Social networks such as Facebook, Instagram and Twitter and digital games allow individuals to introduce themselves, establish and maintain relationships with others (25). For many people, a high preference or desire for being alone is associated with positive well-being. When alone, people use digital games to self-regulate their emotions, discover their private self, and experience a sense of achievement. In addition, the unique features of digital games are that they are non-face-to-face, interactive and anonymous. For this reason, digital games are among of the platforms preferred by people who want to be alone to interact on social media (20).

People who cannot manage their leisure time appropriately tend to experience the perception of leisure boredom. Individuals who want to instrumentally satisfy the optimal stimulation needs of their current leisure experience prefer digital games (21). Thus, over time, a huge sector has been formed on the axis of digital games and continues to increase the popularity of digital games in the world with phenomena such as e-sports.

In the process, digital games are developed in a way to become more refined for the motivation of individuals to play digital games, increasing their addictive effects (17). Accordingly, it is assumed that digital game addiction within the scope of the study has increased faster than normal due to both the recent technological developments and the effects of pandemics and natural disasters on us. In addition, the relationship between the perception of boredom in leisure time, which is considered to be the biggest cause of digital game addiction, has been examined and it is thought that the results will contribute to the field of sports sciences. In this context, the questions aimed to be answered by this research are as follows;

- Do leisure time boredom and digital game addiction differ according to gender, age, and daily leisure time and daily game play time (hours)?
- What are the daily leisure time tendencies of university students? Does it differ by gender?
- Is there a relationship between "deprivation and seeking", one of the sub-dimensions of digital game addiction, and the perception of leisure time boredom among university students?

METHOD

Research Model

In the study, the relational survey model, which aims to determine the presence or degree of variation between two or more variables, was used from among the general survey models conducted on the whole population or a group of samples to be taken from it in order to make a general judgment about the population in a population consisting of many elements (16). In this study, which was conducted to determine the perception of boredom and digital game addiction levels of university students in leisure time, the instant screening approach and relational survey model, which are included in the general screening model, were used. In this study, which has a cross-sectional characteristic, it is aimed to develop predictions for the future by obtaining the characteristics specific to the time it was scanned with the single survey model. The relational survey model is used to predict the levels of mutual influence between the data obtained by the survey. Instant survey approaches aim to describe the existing situation as it is within the specified time period (15).

This study was approved by Selçuk University, Faculty of Sport Sciences, Non-Interventional Clinical Research Ethics Committee with the decision numbered E.40990478-050.99-473923 dated 23.02.2023.

Population and Sample

The population of the study consists of higher education students studying at universities within the borders of Turkey and playing digital games. The data were collected by e-survey method. The sample group consists of a total of 201 voluntary participants, 99 female and 102 male students studying at Selçuk University Faculty of Sport Sciences in the 2022-2023 academic year, selected by convenience sampling method.

Data Collection Tools

Leisure Time Boredom Perception Scale: Leisure Time Boredom Perception Scale was developed by Iso-Ahola and Weissinger (13) to measure the personal differences of people's perception of boredom in their leisure time. The Turkish version of the scale was adapted for adults by Kara et al. (14) with a validity and reliability study. The scale consists of 10 items and 2 sub-dimensions (boredom and dissatisfaction). In the 5-point Likert-type scale, the statements are answered as (1) Strongly Disagree - (5) Strongly Agree. In this study, Cronbach Alpha values for the sub-dimensions of the scale were found as boredom .82 and dissatisfaction .841.

Digital Game Addiction Scale: A 5-point Likert-type self-report method (1= Strongly Disagree, 5= Strongly Agree) was used to evaluate the statements in the scale, which was adapted by Hazar and Hazar (11). In this study, the "deprivation and seeking" sub-dimension, which was validated in Hazar and Hazar's (11) study, was evaluated. The Cronbach's alpha coefficient of the sub-dimension, which is thought to be associated to boredom and dissatisfaction, was calculated as .850 in this study.

Analysis of the data

SPSS 25.0 statistical package program was used to evaluate the data and to find calculated values. The data were summarized by giving percentages, mean and standard deviations. After checking that the data were normally distributed (± 1.95) (George and Mallery, 2010), independent group t test was used for pairwise cluster comparisons, and One-Way Analysis of Variance (ANOVA-Scheffe) was used for more than two cluster comparisons. Pearson correlation test was used to reveal the relationship between two dependent variables. Effect sizes were calculated as Cohen's d for pairwise comparisons, and partial η^2 for comparisons with three or more categories. Calculations were made with the GPower 3.1 program. The significance level was taken as 0.05 in the study.

RESULTS

Table 1. Participant characteristics and comparison according to variables

Variable	Scale and its dimensions	N (%)	Leisure boredom		DGA
			dissatisfaction	boredom	deprivation and seeking
			X \pm SS	X \pm SS	X \pm SS
Gender	Female	99 (43.3)	17,67 \pm 4,65	11,84 \pm 4,26	19,49 \pm 10,48
	Male	102 (50.7)	16,50 \pm 4,21	12,85 \pm 4,85	18,21 \pm 9,15
t			1.878	-1.556	0.920
Age	20 years and under	96 (47.8)	17,29 \pm 4,05	12,42 \pm 4,32	19,05 \pm 9,41
	21 years and under	105 (52.2)	16,88 \pm 4,81	12,29 \pm 4,84	18,65 \pm 10,24
t/ES			0.285	0.643	0.204
Daily leisure time	1-3 hours	19 (9.5)	16,10 \pm 5,31	10,52 \pm 4,55	16,52 \pm 9,41
	4-6 hours	41 (20.4)	16,39 \pm 5,24	10,56 \pm 4,32	14,12 \pm 9,72
	7-10 hours	32 (15.9)	16,50 \pm 4,56	13,71 \pm 4,64	19,53 \pm 8,69
	11 hours and above	109 (54.2)	17,67 \pm 3,89	12,95 \pm 4,44	20,82 \pm 9,69
F/ES			1.473	4.922**/0.07	5.364**/0.07
Daily game playing	1-3 hours	102 (50.7)	16,52 \pm 4,83	11,97 \pm 4,59	17,21 \pm 9,86
	4-6 hours	40 (19.9)	17,42 \pm 4,32	13,20 \pm 5,12	17,25 \pm 8,62
	7-10 hours	10 (5)	14,50 \pm 5,77	10,10 \pm 4,33	14,10 \pm 9,23
	11 hours and above	49 (24.4)	18,46 \pm 2,85	12,93 \pm 4,04	24,51 \pm 8,73
F/ES			3.412*/0.04	1.778	8.307**/0.11

*p<0.05,**p<0.01; ES: partial η^2 for ANOVA test

When Table.1 is examined, no significant difference was found in either scale according to gender and age. It was found that the averages of boredom (F=4.922;p<0.01) and deprivation and seeking (F=5.364;p<0.01) increased with increasing leisure time compared to daily leisure time. Also there was a significant difference in favor of dissatisfaction (F=3.412;p<0.05) and deprivation and seeking (F=8.307;p<0.01) daily game playing time over 10 hours.

Table 2. Daily Leisure Time Tendencies of Participants

	X \pm SS	Female	Male	t/ES
Going to cafe etc.	2,34 \pm 1,25	2,47 \pm 1,33	2,22 \pm 1,15	1.414
Being at Home with the Family	3,40\pm1,42	3,67\pm1,37	3,14\pm1,43	2.667**/0.37
Watching Television	2,01 \pm 1,16	2,03 \pm 1,10	1,99 \pm 1,22	0.244
Surfing the Internet	3,41\pm1,18	3,58\pm1,08	3,25\pm1,26	1.987*/0.28
Spending Time on Social Media	3,18\pm1,25	3,41\pm1,18	2,97\pm1,29	2.531*/0.35
Watching a Movie	3,08 \pm 1,27	3,39 \pm 1,23	2,78 \pm 1,24	3.480**/0.49
Reading a Book	3,42\pm1,27	3,78\pm1,17	3,06\pm1,28	4.145**/0.58
Playing Games on PC or phone	3,39 \pm 1,15	3,25 \pm 1,14	3,53 \pm 1,14	1.732
Doing Activities with Friends	3,22 \pm 1,27	3,38 \pm 1,27	3,06 \pm 1,26	1,762
Participating in sports organizations / Playing sports	3,08 \pm 1,50	3,11 \pm 1,51	3,05 \pm 1,50	0.246

*p<0.5,**p<0.01; ES: Cohen's d for t test

When the daily leisure time tendencies of our participants were analyzed by gender, "Being at Home with the Family", "Surfing the Internet", "Spending Time on Social Media", "Reading a Book" showed significance in favor of women. It was observed that the trends in participation in other activities were close to each other.

Table 3. The relationship between Digital Game Addiction - deprivation and seeking dimension and - the sub-dimensions of perception of leisure boredom

		Boredom	Dissatisfaction
Deprivation and Seeking	r	,416**	,386**
	p	,000	,000

**p<0.01

When the relationship between dependent variables was examined, a moderate and positive relationship was found between Deprivation and Seeking and both Boredom and dissatisfaction.

DISCUSSION

The development of the Internet and related digital devices has brought digital games, which have become a leisure time tool, to the forefront. In particular, the intense interest of the new generation has caused digital gaming tools (PC, console, mobile) to become increasingly popular and thus their usage rates have increased (23). In our sample consisting of university students, the tendency to play digital games and immobilization in leisure time is increasing. In fact, national data show that 85% of individuals aged 15 and over did not go to movies, 92% did not attend cultural activities and 94% did not attend sports events in the last 12 months (7). In the light of the data, it can be inferred that mobilization is gradually decreasing and therefore individuals tend to use different leisure time tools. The data also revealed that 82.7% of individuals used the internet regularly in the first 3 months of 2022. In addition, international data reveal that approximately 5 billion people have been using smartphones since July 2022 (6). This intensity of use has revealed the phenomenon of "nomophobia", which is defined as a new disease, and it has been predicted that the feeling of deprivation and anxiety increases the use of these tools. The aim of this study is to evaluate "deprivation and seeking", which are the dimensions of digital game addiction, and "dissatisfaction" and "boredom", which describe the perception of leisure boredom, according to the characteristics of the participants and to reveal the relationship between them. It is valuable to determine the answers given to these phenomena and the relationships developed by the students of the faculty of sport sciences who have leisure time awareness. Because the tendencies shown by this generation, who has received training on the effective use of leisure time and has this awareness, will give the opportunity to predict the tendencies of those who have limited or no awareness of this idea. It is aimed to investigate and interpret the relationship between these phenomena, which are hypothesized to feed each other positively, in the context of digital gaming, which is seen as a dimension of technology addiction, which is a new era addiction, from a leisure time perspective.

When the findings obtained as a result of our study were evaluated, it was seen that reading books, surfing the internet, being at home with family and playing games on PC or phone were the most preferred leisure time utilization tools, respectively. Internet access rate in our country is 94.1%. Of this rate, 69% stated that they use it more than once a day (7). This can be associated with many factors. Web-based comforts such as accessibility and ease of use are some of them. However, the most current factor that causes intensive use is undoubtedly the emergence of conditions related to the global pandemic between 2020-2022, which creates the necessity to spend time at home. The Covid-19 pandemic process has increased the use of the internet and technological devices all over the world. Although this is seen as a "savior" during the pandemic, it has changed habits in the long term. It has made inequalities in education and business life relatively tolerable. However, the places for entertainment and physical activity, which are limited due to compulsory isolation and quarantine situations, have increased the search for in-home socialization or activities (5). Therefore, the use of applications such as the internet, social media, digital games or mobile games has increased as the most accessible resources. The first motivation of individuals who turn to such digital actions is undoubtedly boredom and leisure time. However, the tendency to use digital devices and applications, which continues to increase after the pandemic, reveals the deprivation of a technological device, digital addiction. Digital gaming represents a part of this addiction. Continuously developing game applications, the enrichment of the content and the increase in visualization tools have increased the attractiveness of the digital game sector (3). Individuals constantly demand this development and more. The search for new games, the tendency to play

games continuously and the transformation of the game into a digital socialization tool (27) cause it to maintain its popularity, especially among young people.

While the results of the study did not show statistical differences according to gender and age variables, significant differences were found according to daily leisure time and daily game playing time variables. Gender is considered as an important variable in digital gaming and boredom perception. When the literature is examined, while the tendency to play digital games is higher in men, the level of boredom perception is higher in women. However, our sample, which includes students from the Faculty of Sport Sciences, did not present any gender-related differences. The reason can be interpreted as being a homogeneous group and having similar interests and awareness levels. Depending on age, a significance in favor of young people in both boredom perception levels and in the deprivation and seeking dimension of digital game addiction is supported by the literature. Since our study includes a small age group with an average age of 18-22 years in the university period, it can be said that they have the same period and developmental characteristics, which explains the insignificance of age-related results. As expected in the evaluation of the variables, significant results were obtained according to the daily leisure time and daily game playing time. In the boredom sub-dimension and deprivation and seeking sub-dimensions according to daily free time, significance was determined according to the students who have less leisure time as the daily leisure time increased. In other words, the level of boredom and the perception of deprivation and seeking increase in parallel. The deprivation and seeking subscale was evaluated in the digital game addiction literature as the search to overcome/achieve a predefined goal/obstacle and to worry about the lack of this feeling (9). The perception of boredom is undoubtedly one of the factors that increases the tendency to escape from this anxiety. An individual can overcome the perception of boredom with a "goal/objective to be achieved" and can realize this with leisure time activities. When we consider digital games as leisure time utilization tools, digital games have the goals of leveling up, and being superior against the computer or against a real opponent online (18; 31). Therefore, it can be said that as the duration of leisure time increases, the level of boredom will increase and the tendency towards escape theory-based digital gaming will increase. The results obtained according to the daily game playing time make it difficult to affirm playing digital games in leisure time. The dissatisfaction that increases as the daily game playing time increases and the search for more seeking and deprivation experienced in the digital gaming express the situation that triggers negative internet-digital use (11). Increasing dissatisfaction and deprivation as the person plays games will increase antisocial behavior and immobilization in the long run (22). This may lead to many psychological, social and physical problems (12; 29).

According to the correlation analysis, which includes results parallel to the evaluation according to demographic variables, boredom and dissatisfaction are moderately positively correlated with deprivation and seeking, which are subscales of digital game addiction. The age scale of digital gaming is quite wide. These games, which are the activities done by individuals of all ages for different purposes, have become an entertainment tool with an increasing demand (1; 10.). Although digital game addiction, which refers to "excessive gaming " or "problematic gaming", is present at all ages, it is at a higher level in Generation Z due to the period when they were born and grew up (19). The deprivation and seeking, which is the subject of our study, is not a state that describes addiction, but also reveals the state of eliminating boredom in terms of leisure time utilization, being satisfied, having a purpose and striving for it, and not being able to stay away from the flow. Digital games can be considered as an optimally preferable activity in terms of quality leisure time. However, the flow-induced disappearance of self-control or intervention systems can lead to loss of perception and addiction. We may be exposed to digital games, which are preferred everywhere and by everyone and are easily accessible, with the perception of boredom, and we may become addicted with the need for constant satisfaction. The relationship revealed in this study is that they feed each other. The fact that the sample was selected from the faculty of sports sciences and that these results were obtained in individuals who also use physical activity in their recreational preferences revealed the necessity of some preventive mechanisms.

CONCLUSION

This study aimed to evaluate the deprivation and seeking subscale of digital game addiction factors and the boredom and dissatisfaction subscales of the leisure time boredom perception scale according to the

participant characteristics and to reveal the relationship between them. While the study did not reach any results according to gender and age, it was concluded that boredom and game addiction increased as leisure time increased, and dissatisfaction and addiction increased as game playing time increased. It was concluded that the relationship between them was moderately positive.

This study has some limitations. The study was planned to be applied to various departments throughout the university. However, the earthquake affecting 10 provinces on February 6, 2023 and the transition to the distance education process caused the sample of this study to change. In order to realize the qualified data collection process, data were collected in digital environment in the groups that the researchers could reach personally. In addition, the disaster on February 6 caused the distance education process to take place freely for the student, similar to the situation in the pandemic. Therefore, as the leisure time periods increased, this situation also affected the result of the study. In addition, the fact that the impact was not limited to 10 provinces but created a psychological trauma in the whole country is thought to have caused an increase in game playing time as it affected the escape tendencies of individuals.

Considering all these limitations, it is recommended to conduct the study again while continuing formal education. Inclusion of university students studying in various fields in a broader framework will increase the scope and value of the study. In addition, increasing digital gaming tendency and its reflections on behavior and emotions can be examined with continuity studies. Students should be informed about the consequences of the increase in leisure time and game playing time through faculty and university administrators.

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