

We Playing Mobile Games Because We Bored? An Exploratory Study on University Students

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Abstract

The aim of this study is to determine the relationship between university students' motivation to play mobile games and their perception of boredom. In addition, it is to reveal the effect value of the perception of boredom as a motivating variable to play mobile games. For this purpose, "Mobile Game Motivation Scale (MGMS)" developed by Üstün and Öz and "Leisure Boredom Scale" developed by Iso-Aloha and culturally adapted by Kara et al. were used. 552 (N_{woman}=226; N_{man}=326; X_{age}=21.79±2.40) university students participated in the study on a voluntary basis. SPSS 24 data analysis program was used in the study. Necessary assumptions for regression analysis were tested. In the study, pearson correlation test was used to determine the relationship, and simple linear regression analysis was used to determine the effect of boredom perception on mobile game playing. As a result of the study, moderate positive correlations were found between the mobile game motivation scale and the boredom perception scale. The predictive level of boredom perception on motivation to play mobile games was 33% (R=.582; R²=.338; P<.01). In the light of these findings, it is concluded that university students tend to play mobile games as a result of the perception of being bored in leisure time.

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Sıkıldığımız İçin mi Mobil Oyun Oynuyoruz? Üniversite Öğrencileri Üzerine Keşifsel Bir Çalışma

Öz

Bu çalışmanın amacı, üniversite öğrencilerinin mobil oyun oynama motivasyonları ile can sıkıntısı algıları arasındaki ilişkiyi belirlemektir. Ayrıca mobil oyun oynamaya motive edici bir değişken olarak can sıkıntısı algısının etki değerini ortaya çıkarmaktır. Bu amaçla Üstün ve Öz tarafından geliştirilen "Mobil Oyun Motivasyon Ölçeği (MGMS)" ve Iso-Aloha tarafından geliştirilen ve Kara ve diğerleri tarafından kültürel olarak uyarlanan "Boş Zaman Sıkıntısı Ölçeği" kullanılmıştır. Araştırmaya gönüllü olarak 552 (N_{kadın}=226; N_{erkek}=326; X_{yaş}=21.79±2.40) üniversite öğrencisi katılmıştır. Çalışmada SPSS 24 veri analiz programı kullanılmıştır. Regresyon analizi için gerekli varsayımlar test edilmiştir. Araştırmada, ilişkiyi belirlemek için pearson korelasyon testi, can sıkıntısı algısının mobil oyun oynamaya etkisini belirlemek için basit doğrusal regresyon analizi kullanılmıştır. Araştırma sonucunda mobil oyun motivasyon ölçeği ile can sıkıntısı algısı ölçeği arasında orta düzeyde pozitif ilişkiler bulunmuştur. Can sıkıntısı algısının mobil oyun oynama motivasyonu üzerindeki yordayıcı düzeyi %33'tür (R=.582; R²=.338; P<.01). Bu bulgular ışığında üniversite öğrencilerinin boş zamanlarında sıkılma algısının bir sonucu olarak mobil oyun oynama eğiliminde oldukları sonucuna ulaşılmıştır.

Anahtar kelimeler: Boş Zaman, Can sıkıntısı, Rekreasyon, Üniversite, Z kuşağı

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Introduction

The general literature on the emergence of the concept of boredom points to modern societies. However, it is known that the concept of boredom was first used in written form by a Roman poet and philosopher named Titus Lucretius Carus (99 BC - 55 BC). It is believed that the history of boredom started with his saying, "If life didn't work for you, if you lived it in vain, why are you afraid of losing it? (Toohey, 1988). In the letters Seneca (4 BC 65 AD) wrote to his friend Serena who always needed advice, he basically drew attention to two points by saying 'They are all in the same situation, those suffering from indecision, boredom and a constant change of purpose on the one hand, and those who laze around and yawn on the other hand'. These two basic moods are restlessness and lack of stimuli (Keskin, 2019).

At that period, 'boredom' found little value in the chaos of everyday life skills. However, it is estimated to be a trait attributed to wealthy people. Scientists tried to explain boredom with the rise of the idea of industrialization, rumination, monotonous life and leisure time (Kracauer, 1997). It first began to find a place for itself in literary texts as a reflection of a mood (Dickens, 1997, 2001). The fact that it began to be used frequently in literary texts and was seen as a privilege for wealthy people also coincides with these dates. In the following periods, it was included in the field of social psychologists, philosophers and economists (Frankl, 1975; Millgram, 2004; Nietzsche, 1968). Boredom is a part of our lives now. Sometimes it is tried to be explained by genetic factors and sometimes by biological behaviors. Some researchers have tried to define boredom with bodily movements. Although it is a subjective emotional state, 'boredom' plays an important role in our lives.

The individual who is freed from work and daily life responsibilities may experience conflicting feelings about the meaning of life by falling into an existential questioning when s/he is alone with himself/herself. This condition is named as "Sunday Syndrome". Researchers have tried to predict this emotional state with 'stimulant deprivation' and 'dissatisfaction' (Gilliam, 2013). Heidegger (Heidegger, 1995) has said that boredom is "disturbing, unpleasant, and unbearable". Boredom should be regarded as a phenomenon where time loses its meaning. It is predicted that the cultural development of humanity is based on the capacity to get bored rather than social or primary needs (Linton, 1936). The tendency to get bored is associated with a wide variety of social and psychological problems (LePera, 2011). There are several basic views for boredom, which is generally tried to be explained by mental dissonance processes (Geiger et al., 2021). First of all, the difficulty-easiness level of any activity is effective in boredom (Zomeran, 2013). Secondly, it is argued that boredom arises with the 'meaninglessness' that the individual attributes to the activity or the environment s/he is in (Miele and Scholer, 2018) Boredom continues to be a problem in modern

societies and increases exponentially. The effects of personality traits and environmental factors on boredom should not be ignored (Culp, 2006; Hunter, 2016; Sulea, 2015).

A short time ago, mobile phones were accepted as a communication tool for a privileged segment (Blumenstock et al., 2015; Lycett and Dunbar, 2000; Sane, 2009). Today, not having a mobile phone and its products is considered as a deficiency. It is known that there are approximately 6 billion mobile phone users (Statista, 2022). Nowadays, people can show different emotional states with their mobile phones (Al Amin, 2022; Billieux, 2015). A pleasant scenery, a birthday, a new experience, a sad aphorism, loneliness, boredom are transmitted to other people via mobile phones. Application manufacturers now use mobile phones as a shopping mall where they market personalized, emotion-specific products (Lane, 2012). Mobile games are also one of these products. Thousands of games are offered to people and uploaded every day (Holzer, 2011). Most mobile phones are now introduced through mobile games. The size of this market and the effects of boredom on individuals were designed as the basis of this study. The lack of anything else in the world is no longer felt as much as mobile phones. In fact, 'mobile phone addiction' is now defined as a disease (Alter, 2017). Mobile games are among the most important sources of this need. Through this study, the authors aim to contribute to the literature by supporting their observations on the predictor of 'perception of boredom' on mobile gaming motivations with empirical studies. They also want to contribute to the determination of the sources of 'motivation', which is considered a major deficiency in mobile games research.

Materials and Method

The research is a study in relational survey model to examine how much perceived leisure time boredom and satisfaction perception variables predict mobile game motivation levels in university students. The ethical procedure of the study was supported by Selcuk University Non-Interventional Clinical Research Ethics Committee with the decision dated 27.06.2022 and numbered E-40990478-050.99-312296.

Research Design

The data collection process was collected in the units located on the main campus, in the social activity areas, during or outside the lessons. Individuals interested in or participating in the Mobile Game were given preliminary information about the study, they were promised that their personal information would be protected, and the scale was applied on a voluntary basis. It took 5-7 minutes per person to complete the scale. During the current research, it was acted within the framework of "Higher Education Institutions Scientific Research and Publication Ethics Directive".

Participant

The universe of the research consists of students studying in the 2021-2022 academic year. The sample group of the study consisted of 552 ($N_{\text{woman}}=226$; $N_{\text{man}}=326$) students from various faculties who were selected by convenience sampling method, studied at the central campus of Selçuk University, regularly participated in mobile games, and participated in the study voluntarily. The criteria for inclusion in the study are to have knowledge about mobile games and their applications. Exclusion criteria were determined as not playing mobile games, not knowing about them, and not regularly participating in any recreational mobile game applications. For this purpose, it was questioned whether they participated in their mobile activities for recreational purposes before participating in the study.

Instruments

Mobile Game Motivation Scale (MGMS)

The "Mobile Game Motivation Scale (MGMS)" developed by Üstün and Öz (Üstün, 2022) was used to determine the Mobile Game motivations of the individuals participating in the research. The options in the scale range from as "1= strongly disagree" to "5= strongly agree". The scale was designed with 24 questions and 3 sub-dimensions to determine the motivation of mobile game participants. In the "Developmental Tasks/Self Skills" sub-dimension, it is to define the building blocks for the prediction of social and personal characteristics, and in the "Escape and Competition" sub-dimension, the individual creates a competitive environment through mobile games as a modern time argument to show a certain behavior and evaluates it as a means of escape. In the "Mobile Flow" sub-dimension, it is evaluated as a reflection of the optimal accessibility of the individual's high amount of pleasure from the experience. The reliability coefficient in the original scale development study was calculated as .955. A minimum of 24 and a maximum of 120 points can be obtained from the scale. The higher the score within the sub-dimensions, the more effective the motivation feature of that factor. The overall reliability coefficient of this study was calculated as .974, Developmental Tasks/Self Skills .943, Escape and Competition .944, Mobile Flow .940. Internal consistency values of the overall scale and its sub-dimensions show that the scale is sufficient in terms of reliability.

Leisure Boredom Scale

Leisure Boredom Scale was developed by Iso-Ahola and Weissinger (Iso-Ahola, 1990) to examine "the personal differences in leisure boredom perceptions. The original scale has one dimensional structure, self-report style, and consists of 16 items with 5-point Likert-typegrading.

Validity and reliability assessment of the adult adaptation of the Turkish version was performed with original form by Kara, Gürbüz and Öncü (Kara, 2014). It was applied on adult individuals from various professional backgrounds. The Leisure Boredom Scale consist of two subscales. "Boredom" subscale reflects the negative perspective against leisure time activities (I usually don't like what I do in my free time, but I don't know what else to do). "Satisfaction" subscale reflects the individual's positive perspective on the perception of leisure time (The idea of leisure time excites me). According to the results of analysis in this study, internal consistency coefficient was .738 for leisure boredom scale.

Statistical Analysis

In the analysis of the data, descriptive statistical methods frequency (n), percentage (%), arithmetic mean (X) and standard deviation (SD) were used for personal information. In the study, first of all, the normality and linearity of the data sets were evaluated to determine whether the data were suitable for simple linear regression analysis. The existence of extreme values that make normality (multivariate) and linearity assumptions difficult was examined according to Mahalanobis distance (13.82) and Cook's (Cook' < 1) values. In addition, the kurtosis, skewness values, scatter and histogram graphs (± 2) of the data sets were also examined. Data belonging to 1 person were not removed from the data set because they did not have extreme values that would not affect the data analysis. In addition to meeting the linearity and normality conditions of the data sets, it was seen that the sample size was sufficient considering the number of predicting variables. For the condition that there is no high correlation coefficient between the predictor variables, which is another assumption of the simple linear regression analysis, the binary correlation coefficients between the predictor variables, VIF and CI values were examined.

It was determined that there was no correlation value above .80, which can be defined as multicollinearity among the predictive variables (Table 1), the VIF value was less than 10 and the CI value was less than 30. Finally, the Durbin-Watson value was checked to examine the condition of errors being independent; It has been seen that the value is between 1-3 (DW=1.49) and does not pose a problem.

It has been determined that the data obtained depending on these processes are suitable for simple linear regression analysis. The data obtained in the research were analyzed using the simple linear regression analysis method and the interregression analysis method. 05 significance level was taken as basis in the research (Büyüköztürk, 2011).

Results

In this section, the preferences of university students on their leisure time (Table 1), the relationships between the predicted variable (Mobile Game Motivation) and the predictor variables (Boredom and Satisfaction) were examined (Table 2). Then, from simple linear regression analysis, inter regression analysis was performed and the results are given in Table 3.

Table 1
Recreational Preferences of University Students

	Mean	SD
Watching TV	2,15	1,17
Surf on Internet	3,41	1,16
Spending Time on Social Media	3,29	1,18
Playing Mobil Games	3,34	1,19
Reading book	2,58	1,20
Spending Time Outside With My Friends	3,68	1,09

According to Table 1, has been determined recreational preferences of university student. The spending time with friends is important much as some web based or mobile game preferences. Also can be said that, mean of preferences of university students was high range of 5-likert. Participants stated that their daily mobile game playing time varied between 3-6 hours with daily intensity (39.4%).

Table 2
Relationships of MGMS and Leisure Boredom Scales'

Scales and Sub-dimensions	2	3	4	5	6	
Developmental Tasks (1)	r	0.846**	0.790**	0.482**	0.447**	0.929**
	p	0.000	0.000	0.000	0.000	0.000
Escape and Competition (2)	r	1	0.835**	0.489**	0.454**	0.951**
	p		0.000	0.000	0.000	0.000
Mobile Flow (3)	r		1	0.478**	0.518**	0.939**
	p			0.000	0.000	0.000
Boredom (4)	r			1	0.548**	0.514**
	p				0.000	0.000
Satisfaction (5)	r				1	0.509**
	p					0.000
MGMS total (6)	r					1
	p					

**p<0.01

When Table 2 is examined, it is seen that there are moderately positive and significant relationships between the total and sub-dimension scores of mobile game motivation and the sub-dimensions of the perception of leisure time boredom boredom and satisfaction.

Examining the ANOVA table, which tests the relationship between the predictor variables and the predicted variable and therefore the significance of the degree of explaining the change in

the predicted variable, it was found that the explained variance or the regression model was statistically significant ($F_{2/541}=138.210;p<0.001$). Accordingly, the predictor variables successfully performed the prediction process on the model.

Table 3

Simple Linear Regression Analysis Showing Predictive Power Of Independent Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R ²	Adjusted R ²
	B	Std. Error	Beta					
(Constant)	-2.427	4.306		-0.564	0.573			
1 Boredom	2.223	0.276	0.337	8.063	0.000	0.582	0.338	0.336
Satisfaction	2.242	0.289	0.324	7.749	0.000			

When Table 3 is examined, it has been determined that boredom and satisfaction variables are treated in the basic linear regression analysis process, since the regression analysis significantly predicts mobile game motivation. When both beta values and partial and binary correlation coefficients (table.2) were examined, it was determined that there were positive and significant correlations between mobile game motivation and boredom and satisfaction variables. Perceived boredom and satisfaction variables together explain approximately 33% of the total variance in mobile gaming motivation in university students ($R=.582$; $R^2=.338$; $P<.01$).

Discussion

Boredom is generally considered a basic existential mood. This emotional state can sometimes be difficult to define. Some researchers define boredom as the emotion that occurs when an individual cannot find meaning or interests and activities to occupy himself/herself (Budak, 1984). Social psychologists regard boredom as a fruit of the industrializing global world. If a person cannot experience his/her own values and his/her desire for meaning (will of meaning) is blocked for a long time, s/he falls into the existential void and gets stuck there. Existential void will cause people to fail. This process leads people to neurotic disorders, depression, boredom, reluctance to work, fears, phobias and nihilistic thoughts (Frankl, 1988). Likewise, it causes behavioral disorders such as laziness and addiction. Generally, views on boredom are discussed from a psychoanalytic perspective (Fenichel, 1951). Boredom, which is tried to be conceptualized with the impulse-tension relationship, gains meaning with antecedents such as passivity, boredom, distraction, self-interest, frivolity, negative egocentrism, preoccupation, ordinariness and low affection (Leary et al., 1986).

The individual who is freed from work and daily life responsibilities may experience conflicting feelings about the meaning of life by falling into an existential questioning when s/he is alone with himself/herself. This condition is named as "Sunday Syndrome". Researchers have tried to predict this emotional state with 'stimulant deprivation' and 'dissatisfaction' (Gilliam, 2013). Heidegger (Heidegger, 1995) has said that boredom is "disturbing, unpleasant, and unbearable". Boredom should be regarded as a phenomenon where time loses its meaning. It is predicted that the cultural development of humanity is based on the capacity to get bored rather than social or primary needs (Linton, 1936). The tendency to get bored is associated with a wide variety of social and psychological problems (LePera, 2011). There are several basic views for boredom, which is generally tried to be explained by mental dissonance processes (Geiger et al., 2021). First of all, the difficulty-easiness level of any activity is effective in boredom (Zomeren, 2013). Secondly, it is argued that boredom arises with the 'meaninglessness' that the individual attributes to the activity or the environment s/he is in (Miele and Scholer, 2018) Boredom continues to be a problem in modern societies and increases exponentially. The effects of personality traits and environmental factors on boredom should not be ignored (Culp, 2006; Hunter, 2016; Sulea, 2015).

Being able to use technologies in the information age is now a prerequisite for individuals, and access to information technologies is considered a necessity (Selwyn, 2003). Employment, education and leisure are shaped around digital technologies. Craig Brod (Brod, 1984) used the concept of 'technostress' to explain the pressure that this digitalization creates on people. Technostress is defined as a modern adaptation disease caused by inadequacy. Mobile phone applications are accepted as the easiest escape route for ordinary boredom for undergraduate students with digital skills (Pielot, 2015). Approximately half of the undergraduate students stated that mobile phones provide escape, and 70% stated that they benefit from mobile games and applications to overcome their problems (Panova, 2016). Some of the cross-sectional and longitudinal studies examine the results of the relationships between mobile games and applications and boredom (Elhai et al., 2018; Wolniewicz, 2020; Yang, 2020; Zhang, 2021). Almost all of these studies have obtained significant results between mobile games and applications and boredom.

With the rapid spread of digital recreation activities, people have stepped into a constantly renewed world. Every day, thousands of mobile games reach users through applications (Leung, 2020). In 2021, it is predicted that mobile game applications were downloaded 83 billion times, and 50% more profit was obtained from PC and console games at a rate of 116 billion dollars (Dinsmore, 2022). Whether online or offline, mobile game users create their own communities and cultures. These 'mobile game consumers' are driven by their own motivation.

In this study, the authors try to draw attention to the relationships between boredom and mobile gaming motivation (Table 2) of undergraduate students. In studies on mobile games, factors such as applications, user features, and pricing are examined in general. By examining mobile gaming motivations, the authors aim to make a deep analysis of their theoretical structures and relationships with boredom.

The authors of this study predict that a new dimension can be brought to boredom by creating a different perspective with the results obtained. It is generally accepted that psychoanalytic theory principles can be used to 'change direction' of anti-social behavior and boredom, explained by stimulant deprivation (Freud, 1940). The authors adhered to this general view, but also included other theoretical perspectives as well.

The authors found that there were moderate positive correlations between all sub-dimensions of MGMS and the sub-dimensions of the perception of boredom. Thus, they revealed that the restlessness caused by boredom was tried to be eliminated through mobile games. The authors benefited from different theoretical explanations regarding the structure of these relationships between boredom and mobile games.

Ericson (Hulsizer et al., 1981), based on the principles of epigenetic development, defined the complexes of young adult individuals as proximity versus distance. Young adulthood is accepted as a period that individuals should complete in a balanced and healthy way. If the individual cannot overcome the crises of this period in a healthy way, s/he may experience an intense sense of isolation. It is considered normal for the lonely individual to experience boredom (Li et al., 2021). Mobile games are accepted as the tool with which this boredom can be compensated most easily (Wack, 2009). Thus, mobile games serve as a developmental predictor for LBS's sub-dimensions 'boredom' and 'satisfaction'. It is accepted that the positive relations between the sub-dimension of 'developmental tasks' and boredom are handled with the principles of developmental psychology. However, this predictor should be examined in more depth and qualitative research methods should be included in the process.

When negative reinforcers are added to the environment, the organism shows escape behavior. Negative reinforcers are defined as all stimuli that disturb the person (Bacanlı, 2007). If the individual is in an environment that will cause boredom, s/he will act to avoid this stimulus (Rescorla, 1965). In the digital age, mobile games and applications stand out as the easiest way to apply this avoidance behavior (Botella, 2011; Garcia-Oliva and Piqueras, 2016; Turnwald, 2016). The authors reached supportive conclusions about the importance of the relationship between the 'escape and competition' sub-dimension and boredom. They also focused on the performative basis

of these results. Undergraduate students see mobile games as an 'emergency exit' to get rid of boredom.

The authors explained the significant relationships between the 'mobile flow' sub-dimension and the 'boredom' and 'satisfaction' sub-dimensions of the individuals experiencing boredom with the concept of 'flow' by Csikszentmihalyi. At the opposite pole of boredom, Csikszentmihalyi (Csikszentmihalyi, 2000) advocates the flow experience view. The flow experience, as an alternative to boredom expresses the highest enjoyment, energetic focus and creative concentration experienced by people engaged in adult games. In that case, any activity that causes emotional states that cannot be experienced in the flow experience can be associated with 'boredom'. The flow experience essentially serves two purposes. The first can be defined as relaxation, relaxation, and the second as developing the potential (Abuhamdeh and Csikszentmihalyi, 2012). When a person experiences boredom or anxiety, s/he is incapable of flow (Khang, 2013). Undergraduate students experiencing boredom, on the other hand, experience flow through mobile games for relaxation, adhering to the first explanation. Individuals resort to mobile games and applications, especially when they are bored or feel a lack of meaningful participation, and want their free time to continue (Leung, 2020). Recent studies have concluded that mobile phone and game applications provide flow experience to get rid of boredom In a special study, the authors of this study found significant relationships between mobile gaming motivation and boredom through the 'mobile flow' sub-dimension.

Another important result obtained by the authors in this study is that when MGMS is accepted as the dependent variable, it explains the 'perception of boredom' by 33% (Table 3). Resorting to mobile games when getting bored is still considered a negative situation today (Billieux, 2012; Ebling, 2015; Siricharoen, 2021). Researchers with the opposite view emphasize the positive social and psychological effects of mobile games on the individual (Marques, 2021; Seok, 2018; Wang, 2016). Most of the studies on boredom seem to agree that boredom will eventually turn into anti-social behavior (Mann, 2016; Martin, 2012; Morris, 2004; Wegner, 2011). With these results, the authors found that a significant portion of individuals who experience boredom tend to play mobile games, and revealed some positive effects. In other words, mobile games can be used as an alternative to prevent anti-social behavior. Today, it is known that 89% of urban youth own mobile phones and approximately 94% of these mobile phones have at least one mobile game . Some researchers consider loneliness and boredom as the stepping-stone from which a creative passion is born (Abuhamdeh and Csikszentmihalyi, 2012; Bench and Lench, 2013; Gomez-Ramirez and Costa, 2017; Hunter, 2016). Considering the effects of the digital world on the individual, it can be said that the quality of these behaviors differs. The authors concluded that these

tendencies are satisfied by mobile games. Undergraduate students can get rid of boredom through intelligence, strategy, violence, entertainment and word games in accordance with their interests. Due to the developments in the individualized world, the production and consumption habits that change every 15-20 years and the socio-psychological data shaped accordingly should be renewed every 4-5 years. For this reason, researchers argue that the relationships between boredom and mobile games/applications should be updated. Chin et al. (Chin, 2017) concluded in their study that boredom is a more common emotion among men, young people, singles, and people with low-income. Therefore, the focus of studies need to be updated again in the light of the data.

Conclusion

In conclusion, the authors drew attention to verifiable relationships between boredom and gaming motivations of undergraduate students playing mobile games. It is recommended that the quality of these relationships be supported by longitudinal studies and qualitative research. Especially young adult researchers are expected to contribute to the literature on mobile games and applications. Since digital natives have a higher level of identification with their peers, it is likely to obtain meaningful results.

Ethical Permission Information

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Statement of Researchers' Contribution Rates

Both authors contributed equally at all stages of the research.

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Conflicts of Interest

No potential conflict of interest was reported by the author(s).

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