



International Journal of Technology in Education and Science (IJTES)

www.ijtes.net

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To cite this article:

Tukel, Y. (2020). Investigation of the relationship between smartphone addiction and leisure satisfaction of university students. *International Journal of Technology in Education and Science (IJTES)*, 4(3), 218-226.

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Article Info

Article History

Received:
19 January 2020

Accepted:
17 Nisan 2020

Keywords

University students
Leisure satisfaction
Smartphone addiction
Participation in active
sports

Abstract

The aim of this study was to examine the relationship between smartphone addiction and leisure satisfaction of university students in terms of some variables. In the study, correlational survey research model was used and smartphone addiction and leisure satisfaction of university students were examined with a comparative approach. The population of this study consists of 855 university students studying at two large universities. Smartphone Addiction and Leisure Satisfaction Scales were used to collect research data. Research findings show that leisure satisfaction and smartphone addiction among university students are high. Another finding of the research is that students who participate in active sports, social, artistic and cultural activities have low smartphone addiction. Finally, smartphone addiction among students significantly reduces their leisure satisfaction.

Introduction

Using information technologies has become one of the indispensable needs of individuals due to facilitating life, closing the distance among people, socializing, and reducing transportation cost (Aktürk, Şahin, & Sünbül, 2008; Yıldız, Sünbül, Koç, & Halis, 2004). According to TUIK (2019) report, smartphone usage in Turkey is mostly for communication, social media, news reading, health, e-mail and shopping purposes. It has been found that smartphones are also used for listening to music (web radio). The usage level of smartphones and the internet for social media in Turkey appears to be quite high. In this regard, examination and description of young people's smartphone usage in our country is especially important for the measures that can be taken and for new studies that can be conducted. Smartphones provide a broad media platform that enables two-way and simultaneous information sharing rather than one-way information sharing. It serves as a wide communication network where people can create any kind of sharing and discussion environment without time and space limits.

In addition, with the developing technology and changing living standards, the role of leisure time in the social structure has become undeniably important (Henderson, 2010). People want to spend their leisure time indoors or outdoors, passively or actively, in urban or rural areas in order for many different reasons and expectations (Lapa & Ağyar, 2012). Research conducted in recent years has revealed that the factors that have the greatest role in individuals' leisure time are related to technology and especially smartphones. In this regard, boredom among all the daily factors of individuals has been proved to be a common trigger for intensive internet and smartphones use and has been found to result in development of problematic use behaviors of the platforms (Jones, Johnson-Yale, Millermaier, & Pérez, 2009; Haller, Hadler, & Kaup, 2012; Wang, Wu, Wu, & Huan, 2012). Leisure and its components also appear as one of these main factors that cross developmental experiences with lived contexts, thus contributing to not only youth problem prevention but also to the thriving and growing processes that appear along the pathway to adulthood (Witt & Crompton, 2003; Freire & Stebbins, 2011).

Leisure Satisfaction

Leisure has been considered one of the most impactful experiences in individuals' lives. The benefits of leisure, understood as a context, an activity, or an experience, is well documented in the literature, along with the evidence that it (leisure) can be simultaneously as good as it is adverse (Caldwell & Faulk, 2013; Freire, 2017). In this sense, having or not having enough leisure time is associated with certain attitudes to life that lay the emphasis on the past, present or future and influence almost all aspects of human behavior (García & Ruiz, 2015, Shores & Scott, 2007). Leisure refers to activities that a person voluntarily engages in when they are free from any work, social or familial responsibilities. Personally meaningful and positive leisure pursuits

are powerful mechanisms for adolescent development. Elements and characteristics of leisure experiences contribute directly to the development of identity, competence, initiative, civic duty, and social connections (Caldwell & Witt, 2011).

Leisure satisfaction is the positive perceptions or feelings that an individual forms, elicits and gains as a result of engaging in leisure activities and choices (Joudrey & Wallace, 2009). For adolescents, participation in leisure activities is most likely voluntary, self-initiated and based on their own choices and interests. Although social-cultural values and opportunities may influence participation, leisure is likely to be a context for varying degrees of self-determined and autonomous behavior. Leisure of the individual plays a key role in this process (Eccles, Barber, Stone, & Hunt, 2003).

What can contribute to leisure satisfaction is to what degree an individual is currently satisfied with their leisure experiences and activities. What can contribute to leisure satisfaction is to what degree an individual is currently satisfied with their leisure experiences and activities. Participation in leisure activities and leisure satisfaction are inextricably linked (Spiers & Walker, 2009). Caldwell (2005) suspects that leisure activities may be associated with a number of defensive traits that enhance a person's resiliency to negative life experiences.

According to Ardahan and YerlisuLapa (2010), leisure satisfaction refers to the meeting of expectations from the activities attended actively or passively for the purposes of health, entertainment, pleasure, refreshment and happiness without hoping to earn any economic gain in order to obtain new skills as well as health, social, cultural, sport or artistic gains in the absence of external pressure (Ardahan & YerlisuLapa, 2010). Joudrey and Wallace (2009) conducted a study statistically demonstrating the importance of leisure activity. It has been observed that individuals show psychological symptoms in their passive leisure time, and those who are engaged in active leisure time show higher levels of mental well-being. However, research has shown that technology-based leisure activities that turn into addiction have negative consequences. For example, some research shows that increased smartphone use is associated with decreased communication among family members in a household and decreased social involvement (Kraut et al., 1998; Nie, Hillygus, & Erbring, 2002). It is crucial to study the components of satisfaction to leisure because positive attitudes tend to be associated with greater engagement in leisure.

Smartphone Addiction

Almost all university students actively use their smartphones. The most critical thing in this process is that the technologies they use are mobile and visual. It is revealed in the Pew research report (2018) that 24% of teens go online "almost constantly", facilitated by the widespread availability of smartphones. The convenience and constant access provided by mobile devices and especially smartphones is considered as the most important reason that 92% of teens report going online daily. According to the report, much of this frenzy of social media access is facilitated by mobile devices. In other words, mobile technology, like the use of social media, is present everywhere and always among young people. This generation is at the peak of social media technologies and mobile usage habits during university period.

The effects of smartphone use on young people can be addressed in two dimensions, positive and negative. As for positive features, smartphones provide creativity, information sharing, web-based interactions, access to business opportunities and rich educational content and enrich young people's digital media consumerism. However, it causes some problems such as spending excessive amounts of time, insomnia, facing cyber bullying, depression, violations of privacy, advertising and consumer rights. According to Kawabe, Horiuchi, Ochi, Oka, and Ueno (2016), pathological use of technology and the internet and frequent and uncontrolled use of these platforms is a situation that seriously harms a person's life. According to Laconi, Tricard, and Chabrol (2015), problematic internet use is a multidimensional syndrome which includes symptoms of mood changes, perceived social benefits when online, negative consequences of internet use, large amount of time spent online, compulsive internet use, deprivation when away from the internet.

Beres (2017), Fidan (2016), Strickland (2017) Özen and Topçu (2017) and World Health Organization (WHO) (2014) stated some of the problems that arise in using smartphones as follows:

- Overuse and addiction of smartphones seem to be associated with many physiological and psychological problems. While physical problems include pain in the head, neck, back, and wrist; psychiatric problems include anxiety, depression, attention deficit, decrease in social interaction, decrease in academic success, and problems in business life.

- According to the research, it was found that students spend a lot of time on social media platforms among smartphone applications. The average of every 93 minutes spent on Facebook decreases the grades of university students by 12 points.
- Excessive use of social media on smartphones destroys students' discipline and time management habits. In another study, it found that students who went on the internet in class hours at school received 20% lower scores in the tests. Thus, social media has a very negative effect on the course discipline.
- Extensive online interaction leads to many psychological symptoms such as poor social skills, narcissistic tendencies, attention deficit, addictive behaviours, depression, anxiety and loneliness especially among young people.
- Using smartphones reduces the real interaction between university students. We spend less time interacting with our loved ones face to face. 47% of users between the ages of 18-34 reported that they texted on their smartphones during meals. 10% of 25-year-olds stated that they controlled their phones and social media even during very important works.
- The excessive use of smartphones at the addictive level causes a huge amount of time loss, especially for young people. A study has revealed that when a social media user is stimulated with a new message or tweet, the average user returns to his or her main duties after 20 to 25 minutes. According to another finding of the same study, it takes two hours for 30% of users to return to their main duties.

When we examine the users of the smartphone, especially young people stand out as the group that uses it excessively. Many studies have found that young adults are over-dependent on smartphones and show some signs of addiction (Billieux et al., 2015; Enez-Darcin et al., 2016; Jeong, Kim, Yum, & Hwang, 2016). Therefore, young people do not give up their dependence on smartphones both in the classroom and in their daily routines and they are constantly busy with their smartphones or their minds are preoccupied with the phone. Another study found that university students spend 5 hours or more on their smartphones daily (Arslan, 2013; Mok et al., 2014; van Velthoven et al, 2018).

Leisure plays an important role in Turkish society. In recent years, substantial attention has been paid to the People's Republic of Turkey in the sphere of leisure studies. Therefore, leisure satisfaction has already become one of the important leisure studies in the Western world, but it is only slightly focused on in Turkey, and its importance is often overlooked or ignored. However, few systematic studies are available to examine the relationship between smartphone use and other leisure behavior in free time. The use of smartphones means different things for different people and is used in different ways for different purposes. Therefore, it is important to examine university students' smartphone addiction and their place in leisure satisfaction. For this reason, smartphone addiction and leisure satisfaction of university students were examined in terms of gender and year of study, as well as being engaged in active sports, artistic, cultural and social activities.

Method

The study was organized according to the comparative correlational survey. This method aims to determine the causes and consequences of differences between groups of people without any intervention on conditions and participants (Büyüköztürk, KılıçÇakmak, Akgün, Karadeniz, & Demirel, 2015). This study was based on the comparative correlational survey method, and leisure satisfaction and smartphone addiction among university students were compared by variables of gender, class and interest in sports. In addition, the relationships between university students' leisure satisfaction and smartphone addiction were examined.

Participants

The population of the research consists of university students studying at different faculties two large universities. As reaching all students requires a lot of time, effort, cost and team, convenience sampling method was preferred and 1024 students were reached. 52.7% (n=451) of the students are female and 47.3% (n=404) are male. 12.2% (n=104) of them are first year, 32.6% (n=279) of them are second year, 22.5% (n=192) of them are third year and 18.1% (n=155) of them are fourth year students. The study was based on voluntary participation. The distribution of the research sample according to demographic variables is given in the Table 1.

Table 1. Distribution of the Research Sample According to Gender, Age, Family Monthly Income, and Year of Study

Variable	Category	n	%
Gender	Female	451	52.7
	Male	404	47.3
Age	17-20 years-old	155	18.1
	21-24 years-old	561	65.6
	25 and older	139	16.3
Family Monthly Income	2000-3000 TL	230	26.9
	3001-4000 TL	249	29.1
	4001-5000 TL	222	26.0
	5001 TL and over	154	18.0
Year of Study	1	104	12.2
	2	279	32.6
	3	192	22.5
	4	155	18.1
	No answer	125	14.6

Data Collection Tools

In this study, data were collected using quantitative data collection tools. In addition, a personal information form with demographic information of students was designed by the researcher. Personal information form, Smartphone Addiction Scale and Leisure Satisfaction Scale were applied to university students in the research.

Smartphone Addiction Scale

Likert type 10-item scale, developed by Kwon, Kim, Cho, and Yang (2013) and adapted to Turkish by Noyan, Darçın, Nurmedov, Yılmaz, and Dilbaz (2015), was used in the study to determine the level of smartphone addiction of university students. Exploratory factor analysis and confirmatory factor analysis performed in the sample of this study showed that the scale had one-dimensional structure and high level of validity. The Cronbach's Alpha coefficient was .89. The finding showed that the scale had high reliability to measure the smartphone addiction among university students.

Leisure Satisfaction Scale

"Leisure Satisfaction Scale", which was developed by Beard and Raghed (1980) and adapted to Turkish by Gökçe and Orhan (2011), was used in the study to measure the free time satisfaction of university students. It was found that it had one-dimensional structure in the factor analysis performed on a 5-point Likert-type scale. Cronbach Alpha internal consistency coefficient of the scale was found .91 in the research sample. High scores observed on the scale indicate that leisure satisfaction is high.

Data Analysis

In the study, the collected data were analyzed using independent samples t-test and ANOVA. In addition, Pearson correlation analysis and regression analysis were used to examine the relationship between leisure satisfaction and smartphone addiction variables. Skewness and kurtosis values were calculated and the distribution of the scores obtained from the measurement tools was examined (Yılmaz & Sünbül, 2004). In order to meet the assumption of normal distribution, the coefficients of skewness must be less than 2 and kurtosis must be less than 7 (George & Mallery, 2010). The values related to the variables in the research revealed that the scores of the scale applied in the study displayed a normal distribution.

Findings

Table 2 below shows the mean scores of smartphone addiction among university students and leisure satisfaction.

Table 2. Smartphone Addiction among University Students and Leisure Satisfaction

Variable	Minimum	Maximum	Mean	Std. Deviation	Result
Smartphone Addiction	1.00	6.00	3.03	1.03	Medium
Leisure Satisfaction	1.00	5.00	3.58	0.53	High

According to the Table 2, it is seen that the mean score of smartphone addiction among university students is 3.03 ± 1.03 . It shows that smartphone addiction among university students were moderate. The score of university students' leisure satisfaction was 3.58 ± 0.53 . It shows that university students' leisure satisfaction is high and positive. According to the Table 3, there was no significant difference in the mean scores of leisure satisfaction and smartphone addiction by gender ($p > 0.05$).

Table 3. Comparison of Mean Scores of Smartphone Addiction and Leisure Satisfaction among University Students by Gender

Variable	Gender	N	Mean	Std. Deviation	t	p
Smartphone Addiction	Male	404	2.97	1.06	-1.417	.156
	Female	451	3.07	1.01		
Leisure Satisfaction	Male	404	3.58	0.55	.321	.748
	Female	451	3.57	0.51		

According to the Table 4, is seen that there was no significant difference in the mean scores of leisure satisfaction and smartphone addiction by year of study ($p > 0.05$).

Table 4. Comparison of University Students' Leisure Satisfaction and Smartphone Addiction by Year of Study

Variable		Sum of Squares	df	Mean Square	F	p
Smartphone Addiction	Between Groups	2.650	3	.883	.869	.457
	Within Groups	738.066	726	1.017		
	Total	740.716	729			
Leisure Satisfaction	Between Groups	.676	3	.225	.816	.485
	Within Groups	200.582	726	.276		
	Total	201.258	729			

As can be seen in the Table 5, a significant difference was found in the mean scores of smartphone addiction depending on participating in active sports ($p < 0.05$). Scores of smartphone addiction among university students participating in active sports are significantly lower. Participation in active sports has a reducing effect on smartphone addiction.

Table 5. Comparison of Scores of Smartphone Addiction among University Students According to their Participation in Active Sports

Variable	N	Mean	Std. Deviation	t	p
Participating in active sports	385	2.90	1.03	-1.98	.048
Not participating active sports	470	3.14	1.3		

According to the Table 6, a significant difference was found in mean scores of smartphone addiction depending on active participation in social activities ($p < 0.05$). The mean scores of smartphone addiction among university students who are active in social activities are significantly lower. Being active in social activities has a reducing effect on smartphone addiction.

Table 6. Comparison of University Students' Smartphone Addiction Scores According to their Active Participation in Social Activities

Type of Social Activity	N	Mean	Std. Deviation	t	p
Active	532	2.93	1.01	-3.451	.001
Passive	323	3.18	1.05		

As it is seen in the Table 7, a significant difference was found in the mean scores of smartphone addiction depending on being active in cultural and artistic activities ($p < 0.05$). Smartphone addiction scores of university students who are active in cultural and artistic activities are significantly lower. Being active in social activities has a reducing effect on smartphone addiction.

Table 7. Comparison of University Students' Smartphone Addiction Scores According to Their Active Participation in Cultural and Artistic Activities

Cultural and Artistic Activities	N	Mean	Std. Deviation	t	p
Active	532	2.93	1.01	-2.077	.038
Passive	323	3.18	1.05		

When the Table 8 is analyzed, it is seen that there is a low negative significant correlation between university students' satisfaction scores in leisure activities and smartphone addiction ($p < 0.01$). Leisure time activities explained 5.3% of the change in smartphone addiction among students ($R^2 = 0.053$; $F = 37.062$; $p < 0.001$). Satisfaction of university students with their leisure activities negatively affects their smartphone addiction ($\beta = -0.21$; $p < 0.01$).

Table 8. The Prediction Level of Leisure Satisfaction on Smartphone Addiction Scores

	R	R Square	Beta	F	p
Leisure Satisfaction	.214	.053	-.21	37.062	<0.001

Discussion

This study aimed to investigate and compare smartphone addiction and leisure satisfaction among university students in terms of demographic factors. According to the research findings, there was no difference in leisure satisfaction scores according to gender and class variable. These findings are similar to the results of the studies of Ayyıldız (2015), YerlisuLapa (2010) and VongTze (2005). According to the literature, university students reported high satisfaction from leisure activities regardless of their gender.

Another variable addressed in the study is about the smartphone addiction of university students. The study found that participants' smartphone addiction was above the middle. In addition, smartphone addiction did not differ according to the gender and year of study of the participants. According to the literature, university students spend more time on their smartphones and show addictive features. In the studies conducted by Meral (2017) on high school students, Süler (2016) and Minaz and Bozkurt (2017) on university students, no significant difference was found in smartphone addiction in terms of gender. In the literature, however, there are quite different results regarding gender. Çakır and Oğuz (2017), Lee and Lee (2017) conducted a study on high school students and found that the level of smartphone addiction were significantly high. Şar (2013), Lee, Chang, Lin, and Cheng (2014), on the other hand, found that internet addiction is higher in males than in females.

The final finding of the research is about the significant relationships between university students' smartphone addiction and leisure satisfaction. According to the regression analysis, smartphone addiction among university students explained 5.1% of the change in leisure satisfaction. Smartphone addiction among university students negatively affects their satisfaction with leisure activities. The findings in Lloyd and Auld's (2002) study revealed that satisfaction in leisure activities has positive effects on individuals' quality of life.

In addition, it was found that smartphone addiction among university students engaged in active sports, artistic, cultural and social activities are low while their leisure satisfaction is high. Active sports, artistic, cultural and social activities have a lowering effect on smartphone addiction. In a study conducted by Karaman (2015) it was found that the individuals who engage in sports for recreational purposes have a high level of life satisfaction. Furthermore, Aydın (2016) found that the participants who actively engage in fitness activities have high leisure satisfaction, but their undesirable behavior and addiction are low.

According to the literature, the unhealthy and asocial lifestyle of young people can lead to physical, mental and social problems (Alosaimi, Alyahya, Alshahwan, Al Mahyijari, & Shaik, 2016; Kim, Lee, & Lim, 2017; Sinsomsack & Kulachai, 2018). In our country, the study of Yayan, Düken, Dağ, and Ulutaş (2018) on university students studying in the health sciences and the study conducted by Haug et al. (2015) in Switzerland showed that insufficient physical and sports activities are closely related to high level of smartphone addiction. Similarly, the research by Bhardwaj and Ashok (2015) supports the findings of this study. According to

Bhardwaj and Ashok (2015), when students overused smartphones, it was seen that they were detached from social life and had a passive life.

Conclusion

This study was carried out to display the relationship between smartphone addiction and leisure satisfaction of university students in terms of some variables. Research findings show that leisure satisfaction and smartphone addiction among university students are high. Another finding of the research is that students who are interested in active sports, social, artistic and cultural activities have low smartphone addiction.

Finally, smartphone addiction of students significantly reduces their leisure satisfaction. In the light of these, it is determined that the leisure satisfaction levels of participants who are active in sports, social and cultural and artistic activities are high. When smartphone addiction and leisure satisfaction are analyzed according to various demographic variables, it is seen that there are significant differences. It can be argued that smartphone addiction decreases leisure satisfaction levels.

Based on the results of this research, it is recommended to analyze the variables of leisure satisfaction and smartphone addiction in many ways in different sample groups. In addition, it is recommended to organize seminars, conferences and multi-faceted activities in order to reduce the smartphone addiction among university students and to evaluate their free time. In larger samples involving different age groups, it may be advisable to conduct research and plan awareness-raising projects to use the right technology and positive leisure.

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