

Üniversite Öğrencilerinde Akıllı Telefon Bağımlılığının İletişim Yetkinliği ve Aile Uyumu Üzerindeki Etkisi*

*The Effect of Smartphone Addiction on Communication Competence and Family Harmony among University Students**

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Özet: Sağladığı kolaylıklarla günlük hayatın vazgeçilmez bir unsuru olan akıllı telefonların aşırı kullanımı kişiyi bağımlı hale getirmektedir. Akıllı telefon kullanımının ve iletişim teknolojilerinin en yaygın kullanıldığı yaş grupları arasında yer alan üniversite öğrencileri, akıllı telefon bağımlılığının olumsuz etkilerinden en çok zarar gören gruplar arasındadır. Bu çalışma üniversite öğrencilerinde akıllı telefon bağımlılığının iletişim yeterliliği ve aile uyumu üzerindeki etkilerini belirlemeyi amaçlamaktadır. Tanımlayıcı ve kesitsel tipteki bu araştırmanın örneklemini, bir vakıf üniversitesinin sağlık bilimleri ve sosyal bilimler alanında öğrenim gören 317 öğrenci oluşturmaktadır. Araştırma verileri Katılımcı Bilgi Formu, Akıllı Telefon Bağımlılığı Ölçeği-Kısa Formu (ATBÖ-KF), Kişilerarası İletişim Yetkinliği Envanteri (KİYE) ve Aile Uyumu Ölçeği-Kısa Formu (AUÖ-KF) ile toplanmıştır. Öğrencilerin yaş ortalaması 20,56±3,19'dur. Öğrencilerin ATBÖ-KF puan ortalamaları ortalamanın altında (31,18±9,79), KİYE (56,81±7,15) ve AUÖ-KF puan ortalamaları (20,27±4,84) ise ortalamanın üzerindedir. Akıllı telefon kullanım süresi fazla olanların ATBÖ-KF puan ortalaması, sosyal bilimler okuyanların, sigara içenlerin, hobisi olanların KİYE puan ortalamaları yüksek iken, sağlık bilimleri öğrencilerinin ve alkol kullanmayanların AUÖ-KF puan ortalaması yüksektir (sırasıyla: $p<0.001$, $p<0.001$, $p=0.008$, $p=0.012$, $p=0.019$, $p=0.008$). Çalışma sonucunda ATB ölçek puan ortalamalarına göre öğrencilerde akıllı telefon bağımlılığı saptanmamakta, ayrıca akıllı telefon bağımlılığı ile iletişim yetkinliği ve aile uyumu arasında ilişki bulunmamaktadır (sırasıyla: $r= -0.053$, $r= -0.093$). Tek bir üniversitede yürütülen bu çalışmanın daha büyük örneklem gruplarında yinelenmesi önerilmektedir.

Anahtar Kelimeler: Aile uyumu, Akıllı telefon bağımlılığı, İletişim yetkinliği, Üniversite öğrencileri.

Abstract: The excessive use of smartphones, an indispensable element of daily life due to the convenience it provides, can lead to addiction. University students, who are among the age groups where smartphones and communication technologies are most common, are among the groups most affected by the negative effects of smartphone addiction. The study aims to determine the effects of smartphone addiction on communication competence and family harmony among university students. The sample of this descriptive and cross-sectional study consists of 317 students enrolled in health sciences and social sciences programs at a private, non-profit university. The Participant Information Form, the Smartphone Addiction Scale-Short Version (SAS-SV), the Interpersonal Communication Competence Scale (ICCS), and the Family Harmony Scale-Short Form (FHS-SF) were used for gathering the data. The mean age of the students is 20.56±3.19 years. The students' SAS-SV mean scores (31.18±9.79) are below the average level, while their ICCS (56.81±7.15) and FHS-SF mean scores (20.27±4.84) are above the average. While the mean SAS-SV score of those who use smartphones is high, the mean score of ICCS of those who study social sciences, who are smokers and who have hobbies is high, while the mean score of FHS-SF of the health sciences students and the students who do not consume alcohol is high (respectively: $p<0.001$, $p<0.001$, $p=0.008$, $p=0.012$, $p=0.019$, $p=0.008$). According to the results of this study, smartphone addiction was not detected in students according to SAS-SV scale mean scores, and there was no relationship between smartphone addiction, communication competence and family harmony (respectively: $r= -0.053$, $r= -0.093$). This study, conducted at a single university, requires to be done with a bigger sample size.

Keywords: Family harmony, Smartphone addiction, Communication competence, University students.

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* This study was presented as an oral presentation at the 2nd International Eurasian Health Sciences Congress (IEHSC 2023). This study was supported by TÜBİTAK 2209-A University Students Research Projects Support Program.



INTRODUCTION

Smartphones have become an essential component of our lives, with their usage increasing exponentially worldwide (Monacis et al., 2017). Despite the conveniences they provide, their adaptability to all aspects of life and their constant accessibility, they can lead to excessive use, resulting in both positive and negative effects on individuals (Soyer et al., 2019). The inappropriate use of smartphones is defined as “smartphone addiction (SA)”, characterized by frequent checking of the phone by individuals and the deterioration of its functionality due to intense dealings with the phone (Sevgi, 2022). One of the age groups that uses communication technologies the most is higher education, and this group is also one that endures the greatest harm from SA (Kumcağız et al., 2020).

Studies show that SA among university students can lead to various psychological problems such as anxiety and depression (Boumesleh & Jaalouk, 2017), as well as physical problems like headaches, musculoskeletal pain, craniocervical posture, and carpal tunnel syndrome (Kee et al., 2016). Moreover, SA negatively impacts family relationships (Kabasakal, 2015; Hawi & Samahai 2016). Communication between family members is also one of the areas affected by the excessive use of smartphones. Studies suggest that individuals heavily addicted to their smartphones tend to communicate less with family members and trust them less, which can strain relationships and hinder the development of strong bonds (Lepp et al., 2016; Arslan & Bardakçı, 2020). Since healthy family dynamics play a crucial role in fostering communication, interaction, and harmony among family members, any disruption in family functioning caused by SA can contribute to risky behaviors among young people (Kabasakal, 2015). It is known that individuals who struggle to establish positive relationships with their families may turn to other forms of addiction (Arslan & Bardakçı, 2020).

SA also reduces social interactions by changing communication processes and negatively affects social relationships (Ayar & Gürkan, 2022). Young people prefer to use internet-based instant messaging applications or phone calls instead of face-to-face communication. Communicating through the internet and social networks is perceived as faster, easier, and less cumbersome (Kırca & Kutlutürkan, 2019). A study conducted with nursing and medical faculty students indicated that one-third of the students preferred using smartphones and social media to initiate communication, and these students had high scores in SA addiction (Çelikkalp et al., 2020). It is considered that most smartphone addicts use smartphones without meeting face-to-face while communicating with others due to reasons such as shyness and lack of self-confidence (Walsh et al., 2008). Young people use virtual environments more actively than the real world to socialize and their need for real interpersonal relationships decreases (Khasanah & Daulay, 2022).

It is very important to reveal the effects of SA, which will be an increasing problem, on the communication competence and family harmony of university students, who are in the most important process before entering professional life. It is considered that the research topic, which is an original subject, and is expected to have greater effects in the future, will fill this gap in the literature and shed light on new research. The study aims to investigate the effect of SA on communication competence and family harmony in university students.

MATERIAL AND METHOD

Study Design and Setting

This descriptive and cross-sectional study involved students enrolled at a private university, where the G Power 3.1.9 program was used for sample calculation. Considering the scales utilized in the study and based on previous studies, when Alpha=0.5, Beta=0.95 and effect size (cohen d) =0.41, the sample size was calculated as 258

(Güngör & Koçak, 2020). The study was intended to be conducted with 310 students; however, it was ultimately finished with 317 student data after considering the possibility of data loss owing to missing replies. The study comprised students enrolled in a foundation university during the academic year 2022–2023, could comprehend and read Turkish, fully completed the data collection tools, and willingly consented to take part in the research.

Data Collection

Research data was gathered through face-to-face interviews. Volunteers participated in the study by completing the data collection form, and students were provided with detailed information about it.

Data Collection Tools

The research utilized the Participant Information Form, Smartphone Addiction Scale-Short Form (SAS-SV), Interpersonal Communication Competence Scale (ICCS) and Family Harmony Scale-Short Form (FHS-SF) to collect data.

Participant Information Form

The form, developed based on relevant literature, consists of 15 questions that inquire about students' sociodemographic characteristics and their patterns of smartphone usage (Çelikkalp et al., 2020; Güngör & Koçak, 2020).

Smartphone Addiction Scale- Short Version (SAS-SV)

The scale developed to assess individuals' SA consists of 10 items, graded on a Likert scale ranging from 1 to 6 (Kwon et al., 2013). Noyan et al. (2015) conducted a Turkish validity and reliability study on this scale (Noyan et al., 2015). Higher scores on the scale, which spans from 10 to 60, indicate a higher level of SA. In the original version of the scale, male participants scoring above 31 and female participants scoring above 33 were classified as “smartphone addicts”, while participants below these scores were categorized as “not smartphone addicted”. The Cronbach's alpha reliability coefficient of the scale, which does not have a cut-off point in the Turkish version, was

calculated as 0.92 (Noyan et al., 2015). In the current study, the Cronbach's alpha coefficient of the scale was determined to be 0.83.

Interpersonal Communication Competence Scale (ICCS)

Huang and Lin (2018) developed the scale used in this study to assess university students' communication competence, focusing on four essential skill domains: listening, empathy, expression, and social relaxation skills. The scale was designed in alignment with the relational approach (Huang & Lin, 2018). The assessment tool utilized in this study consists of 15 items, measured on a 5-point Likert-type scale. Scores on the scale range from 15 to 75, with higher scores indicating a higher level of interpersonal communication competence. The Turkish validity and reliability study for this scale was conducted by Cıkrıkçı & Çinpolat (2021), resulting in a Cronbach's alpha reliability coefficient of 0.78 (Çıkrıkçı & Çinpolat, 2021). In the present study, the Cronbach's alpha coefficient for the scale was calculated as 0.94.

Family Harmony Scale- Short Form (FHS-SF)

The scale, originally developed by Kavikondala et al. (2016), was created to explore the influence of positive family relationships on societal well-being and measure family harmony in this context (Kavikondala et al., 2016). The Turkish version of the scale employs a 5-point Likert-type rating system for scoring (1=Strongly disagree, 5=Strongly agree). The possible total score range for the scale falls between 5 and 25. As the scores on the scale increase, family harmony also increases. In the Turkish validity and reliability study, Cronbach's alpha reliability coefficient for the scale was determined to be 0.92 (Duman-Kula et al., 2018). However, in this current study, the Cronbach's alpha coefficient for the scale was calculated as 0.70.

Ethical Approval

Written consent for the study's conduct was obtained from the university's health sciences

research ethics committee (Date: 18.10.2022, Decision No: 170). Additionally, the authors who conducted the Turkish validity and reliability studies of the scales used in the study obtained permission to use the scales via e-mail. Participants who volunteered to take part in the study provided their consent and the principles of the Declaration of Helsinki were adhered to at every stage of the research.

Statistical Analysis

Statistical software SPSS 26.0 was used for analyzing the research data. For categorical variables, percentages and numbers were utilized in descriptive statistical analyses, while continuous variables were represented by means, standard deviations, minimum and maximum values. The normal distribution of the data was assessed through Kolmogorov-Smirnov analysis, and parametric tests were used because the data had a normal distribution. For comparing the mean scores of two groups (Gender, faculty, smoking, alcohol use, place of residence, presence of a hobby, thinking that smartphone use negatively affects health, Frequency of checking smartphone per day), Student's t-test was utilized, and ANOVA test was employed for multi-group comparisons (The daily smartphone usage duration). Significant relationships were examined using Bonferroni forward analysis. The relationship between mean scores on the scale was assessed using the Pearson correlation test. Pearson correlation values are typically interpreted as follows: 0.05-0.30 (low or insignificant correlation), 0.30-0.40 (low moderate correlation), 0.40-0.60 (moderate correlation), 0.60-0.70 (good correlation), 0.70-0.75 (very good correlation), and 0.75-1.00 (excellent correlation) (Hayran, 2023). Cronbach's alpha was used to evaluate the scale's reliability, and a significance level of $p < 0.05$ was adopted for making all statistical decisions.

RESULTS

Araştırmaya The students in the study had ages spanning from 17 to 50, with a mean age of 20.56 ± 3.19 years. The mean age at which they initially owned a smartphone was 13.44 ± 2.48 years. Among the participants, the majority (85.2%) were female, and a notable proportion (76.3%) were enrolled in health sciences programs. Comprehensive sociodemographic and descriptive characteristics of the students can be found in Table 1. The students exhibited a mean SAS-SV score of 31.30 ± 10.11 , a mean ICCS score of 56.81 ± 7.15 , and a mean FHS-SF score of 20.27 ± 4.84 (Table 2). Given that the students' mean SAS-SV score falls below the normal value, it can be inferred that they are not experiencing SA. Moreover, the mean scores of the ICCS and FHS-SF scales surpassed the average values, implying that the students' interpersonal communication competence and family harmony were above the norm.

In Table 3, the mean scores of the students on the scales are compared based on certain characteristics. The outcomes indicate noteworthy differences in the mean SAS-SV scores concerning gender, alcohol use, having a hobby, and perceiving negative health effects of smartphones ($p = 0.031$, $p = 0.001$, $p = 0.022$, $p < 0.001$, respectively). Analyzing the scale score averages in relation to the duration and frequency of smartphone usage unveiled that increased usage led to a rise in the mean ABI score ($p < 0.001$). Further, social science students, smokers, and those who have a hobby displayed higher means (respectively; $p = 0.001$, $p = 0.008$, $p = 0.012$). Conversely, health science students and non-alcohol consumers demonstrated higher FHS-SF mean scores (respectively; $p = 0.019$, $p = 0.008$).

Table 4 signifies the absence of any correlation among the students' SAS-SV, ICCS, and FHS-SF scale scores.

Table 1. Distribution of students by sociodemographic and descriptive characteristics (N=317)

	Mean±SD	Min-Max
Age (years)	20.56 ± 3.19	17-50
Age to own a phone for the first time (years)	13.44 ± 2.48	7-32
	N	%
Gender		
Male	47	14.8
Female	270	85.2
Faculty		
Health Sciences	242	76.3
Social Sciences	75	23.7
Which grade		
Freshman	122	38.5
Sophomore	177	55.8
Junior	18	5.7
Smoking		
Yes	77	24.3
No	240	75.7
Alcohol use		
Yes	90	28.4
No	227	71.6
Place of residence		
At home and with family	194	61.2
Others*	123	38.8
Presence of a hobby		
Yes	276	87.1
No	41	12.9
Applications used on smartphones**		
Social media	284	89.6
Lecture and research	242	76.3
Communication	283	89.3
Game and entertainment	159	50.1
Thinking that smartphone use negatively affects health		
Yes	176	55.5
No	141	44.5
The daily smartphone usage duration		
1-4 hours	106	33.4
4-6 hours	130	41.0
More than 6 hours	81	25.6
Frequency of checking smartphone per day		
<10 times	9	2.8
10-20 times	64	20.2
20-30 times	85	26.8
30-40 times	74	23.4
>40 times	85	26.8
The first time you look at your phone when you wake up in the morning		
First 5 minutes	204	64.4
5-15 minutes	70	22.1
15-30 minutes	27	8.5
>After 30 minutes	12	3.8
I don't look in the morning	4	1.2

Table 2. Scale means of students (N=317)

	Mean± sd	Min- max	Scale min-max values
Smartphone addiction scale-short version	31.18±9.79	10.00- 60.00	10.00- 60.00
Interpersonal communication competence scale	56.81±7.15	22.00- 73.00	15.00- 75.00
Family harmony scale-short form	20.27±4.84	5.00- 25.00	5.00- 25.00

Table 3. Comparison of the scale means according to characteristics of the students (N= 317)

	Smartphone addiction scale-short version		Interpersonal communication competence scale		Family harmony scale-short form	
	Mean±SD	Test Statistic p	Mean±SD	Test Statistic p	Mean±SD	Test Statistic p
Gender						
Male	28.34±8.89	t= -2.168	56.72±6.38	t= -0.074	19.55±5.23	t= -1.146
Female	31.67±9.87	0.031	56.80±7.30	0.941	20.42±4.76	0.252
Faculty						
Health Sciences	31.46±9.97	t= 0.561	56.08±7.01	t= -3.207	20.65±4.72	t=2.351
Social Sciences	30.72±10.37	0.575	59.08±7.22	0.001	19.16±5.06	0.019
Smoking						
Yes	30.44±8.52	t=-0.660	58.68±7.24	t=2.691	19.72±5.14	t=-1.194
No	31.29±10.17	0.510	56.18±7.04	0.008	20.48±4.73	0.234
Alcohol use						
Yes	33.91±8.65	t=3.226	57.63±7.16	t=1.313	19.16±5.15	t=-2.650
No	30.01±10.05	0.001	56.46±7.15	0.190	20.74±4.64	0.008
Place of residence						
At home, with family	30.97±9.56	-0.476	57.42±7.11	t=1.907	20.39±4.85	t=0.547
Others*	31.51±10.18	0.635	55.85±7.14	0.057	20.08±4.84	0.585
Presence of a hobby						
Yes	30.69±9.58	t=-2.296	57.20±7.02	t=2.535	20.40±4.73	t=1.222
No	34.43±10.70	0.022	54.19±7.56	0.012	19.41±5.49	0.223
Thinking that smartphone use negatively affects health						
Yes	33.27±9.67	t=4.362	56.80±6.83	t=-0.028	20.09±20.50	t=-0.756
No	28.57±9.35	<0.001	56.82±7.57	0.978	20.50±4.81	0.450
The daily smartphone usage duration						
1-4 hours	27.29±8.86 ^a	F=21.752	56.91±6.61	F=0.281	19.89±5.34	F=0.579
4-6 hours	31.19±8.45 ^b	<0.001	56.48±7.56	0.756	20.58±4.34	0.561
More than 6 hours	36.25±10.70 ^c	c>a>b	57.22±7.23		20.28±4.94	
Frequency of checking smartphone per day						
<30 times	28.41±9.02	t=-5.212	56.34±7.65	t=-1.167	20.30±4.93	t=0.114
≥30 times	33.93±9.78	<0.001	57.28±6.61	0.244	20.24±4.76	0.909

Table 4. Correlation between students' smartphone addiction, communication competence and family adjustment (N=317)

Scales	SAS-SV	ICCS	FHS-SF
SAS-SV	1		
ICCS	-0.053	1	
FHS-SF	-0.093	0.080	1

SAS-SV: Smartphone Addiction Scale-Short Version, ICCS: Interpersonal Communication Competence Scale

FHS-SF: Family Harmony Scale-Short Form r: Pearson correlation coefficient

DISCUSSION

The study's conclusions revealed that the students' mean SAS-SV score was 31.30. SA tends to rise together with the SAS-SV score, which doesn't have a set cutoff point in the Turkish version. Similar results (31.40) were also reported in a study conducted by Sönmez et al. (2021) with nursing students, indicating consistency with the current study (Sönmez et al., 2021). There are studies suggesting that SA is lower among university students (Aker et al., 2017; Öcal & Öztürk, 2022). For instance, Öcal and Öztürk (2022) reported a mean SAS-SV score of 28.12, while Aker et al. (2017) reported 28.91 in their study with 494 health science students. In a study conducted with university students in Japan, this mean SAS-SV score mean was found to be 26.1 (Tateno et al., 2019). It is considered that the difference in the mean scores of SAS-SV may be due to the fact that it is carried out with students studying in different departments and having different socio-cultural and individual characteristics. This numerical data, which is similar to the literature, is interpreted as a moderate level of dependency and should be perceived as a signal that the subject will be of greater importance in the future. SA is more prevalent in females than males, according to numerous researches in the literature (Grant et al., 2019; Öcal & Öztürk, 2022). Smartphone use for social communication is higher among females than males, which promotes more addictive behaviors (Chen et al., 2017). This may have led to a higher SAS-SV score among female students. In a study of medical and dental students in Malaysia, it was found that men were found to be at higher risk of SA (Said et al., 2022). Additionally, in studies conducted with university students in Turkey (Aker et al., 2021; Sönmez et al., 2021), it was reported that there was no significant relationship between SA and gender, and a similar finding was reported in a study conducted with university students in China (Liu et al., 2022). These variations may be due to the fact that

different student groups study in various fields and have various cultural, economic and social traits.

Students who think that the smartphone negatively affects their health and do not have any hobbies have a high mean score of SAS-SV. In a study conducted in China, it was stated that students who are addicted to smartphones are less physically active (Alotaibi et al., 2022). Being online in social media applications, using instant messaging applications, taking photos and videos have become some of the most popular activities, keeping young people away from social activities and hobbies (Çelikkalp et al., 2022). On the other hand, it has been found that students who participate in physical, cultural, and artistic activities have lower SA (Gedik & Gezgin, 2022).

The amount of time spent using a smartphone increases with addiction (Sönmez et al., 2021; Öcal & Öztürk, 2022). The high mean SAS-SV scores among those in this study who use smartphones for more than six hours per day (Alotaibi et al., 2022) and check them more than thirty times per day also corroborate the findings, which are consistent with the literature.

Forms of interpersonal communication have altered and been redefined in recent years as a result of the creation and application of smartphone technology. Smartphones also play an important role in initiating and maintaining relationships among young people (Çelikkalp et al., 2020). However, despite these developments in communication technology, real-life communication skills of young people who are quite active in virtual environments are negatively affected. The use of smartphones at the addictive level leads to individualization of young people in daily life, and even their daily routines, habits, interpersonal and family relationships are changing (Huang & Lin, 2018; Khasanah & Daulay, 2022). The findings of this study indicate that there is no relationship between SA and communication competence or family harmony. Most studies in the literature show that as the addiction score of university students increases, their communication skills are negatively affected (Kırca & Kutlutürkan, 2019; Çelikkalp et

al., 2020; Ayar & Gürkan, 2022). In a study conducted in Lebanon, no relationship was found between SA and family relationships, similar to our study (Hawi & Samaha, 2017). In this study, it is evaluated that the result being different from the literature may be due to the difference in family relations between cultures. Family relationships are extremely important in Turkey and may not have been affected by the SA score. In addition, students' scale score averages are at a moderate level, and no dependency that will affect family relationships.

Limitations

The scope of this study is confined to the data obtained from health and social science students enrolled in a private, non-profit university. Additionally, it's essential to note the data for this descriptive study are derived solely from participants' self-reports. The Turkish version of the SAS-SV utilized in the research lacks a defined cutoff point, thereby hindering the ability to definitively classify the addiction status of the students.

CONCLUSION

SA will inevitably grow and become one of the most significant types of addiction given that smartphone use becomes more and more common every day. One should be aware of the negative effects of smartphones, which seize the time and attention of all family members, especially female students with higher addiction scores. The positive effects of smartphones, which have become indispensable in all areas of life with the convenience they provide, such as increasing and facilitating communication should be utilized. In order to increase family harmony and communication, the use of smartphones as entertainment and learning tools within the family can be encouraged. Additionally, it is appropriate to direct students toward physical, cultural, and artistic activities to protect them from the harmful effects of smartphones and to strengthen their social relationships and communication processes.

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