Original Article

Smartphone Addiction and Peer Relations in Nursing Students

Sebnem Bilgic, PhD, RN
Assistant Professor, Faculty of Health Sciences, Fundamentals of Nursing Department, Trakya University, Edirne, Turkey

Aysenur Aktas
Undergraduate nursing student, Faculty of Health Sciences, Nursing Department, Trakya University, Edirne, Turkey

Melike Atila
Undergraduate Nursing Student, Faculty of Health Sciences, Nursing Department, Trakya University, Edirne, Turkey

Irem Masalci
Undergraduate Nursing Student, Faculty of Health Sciences, Nursing Department, Trakya University, Edirne, Turkey

Correspondence: Sebnem Bilgic, PhD, RN. Trakya University, Faculty of Health Science, Nursing Department, Edirne, Turkey.   E-mail: sebnembilgic@trakya.edu.tr

Abstract

Background: Smartphone addiction has become a global problem because of its high incidence and serious undesired results. It has been reported that excessive use of smartphones isolates the individual and distances them from the society, damages the face-to-face socialization process, and leads to the development of negative relationships.
Aim: This study was planned to determine smartphone addiction levels among nursing students and to exhibit how this addiction affects peer relations.
Methods: The descriptive study was performed with 541 nursing students at a public university (541). Data were collected using a personal information form, the Smartphone Addiction Scale-Short Form (SAS-SV), and the Peer Relations Scale (PRS).
Results: The SAS-SV scores of the students were found to be below average while their PRS scores were found to be above average. When the relationship between scale scores was examined, a low level negative correlation between SAS-SV and PRS scores was found.
Conclusion: In this study, it was observed that the peer relationships of nursing students determined to be smart phone addicts were negatively affected.

Keywords: Smartphone, addiction, peer relations, nursing student

Introduction

The rapid development of information technologies has shortened distances and sped up business across the globe, increasing the utilization of smartphones (Liu et al. 2020). Smartphones are widely preferred by younger people because of their various functions, mobility, ease of use compared to computers, the autonomy they create within the family, and the entertainment they provide (Han et al. 2017; Ozkan and Solmaz 2015; Miri et al. 2019). Smartphones have become an integral and indispensible part of daily life for younger people, and are used for communication through phone calls to family members and friends, text messaging, and internet connection as well as gaming, listening to music, and general relaxation (Ozkan and Solmaz 2015).

In recent years, smartphone use has seen a rapid increase across developed and developing countries (Liu et al. 2017). Smartphones have the benefits of making social communication easier, improving

relationships, and helping individuals make new friends. However, the inappropriate use of smartphones can disrupt the concentration of individuals and decrease learning, prevent face to face communication, and cause several physical and mental problems (Chen et al. 2016). It is known that through increased smartphone use, smartphones can even cause addiction (Liu et al. 2017).

In the literature, smartphone addiction has been reported to vary between 10 and 46% among university students (Liu et al. 2018). In a study by Samaha and Hawi (2016), 44.6% of the students within the scope of the study were found to be under high risk of smartphone addiction. In a study conducted by Lee and Lee (2017) with Korean students, 35.6% of the students were found to be addicted to smartphones and adolescents were found to widely use smartphones to be accepted among peers. Smartphone addiction has become a global problem because of its high incidence and serious undesired results (Liu et al. 2018). It has been stated in the literature that, despite the novelties and improvements they bring, the excessive use of smartphones can lead to addiction. Smartphone addiction has been reported to be closely related to negative emotions and addicts have been reported to experience problems such as depression, loneliness, social isolation, stress, and sleep disorders more prevalently compared to other individuals. Samaha and Hawi 2016; Hu et al. 2020; Liu et al. 2017; Han et al. 2017).

University years constitute a phase in life where interpersonal relationships change very rapidly. Student who start university face many stressful situations such as separation from the family, finding new friends and social environments, loneliness, dormitory life, and adapting to a future professional life (Yilmaz and Ocakci 2010). Young people spending more time with their peers compared to their family members causes the socialization processes to expand in the direction of peer groups, and peers thus take a more important role in the development of young people (Sun et al. 2020). Peer relations are necessary for the adaptation, socialization, and psychosocial development of individuals. Good peer relations have been reported to positively affect the development of

individuals and help maintain interpersonal relationships (Xie, Tao, Liu and Lei 2020). Additionally, positive peer relationships have been reported to be important with regard preventing individuals from drifting towards harmful activities (Wang et al. 2017).

Peers use smartphones widely to interact and communicate. Although it has been shown in literature that smartphones contribute to peer solidarity, excessive use has been reported to possibly isolate the individual and draw him/her away from society, harm the face to face socialization process, and cause the development of negative relationships (Zorbaz and Dost, 2014). This was posited to negatively impact the development of young people (Xie, et al. 2020).

The nursing occupation is based on good interpersonal relationships. Starting from their educational years, nurses are expected establish good interactions with individuals. However, the effects of smartphones, which can create addiction though excessive use, on the peer relations of nursing students are unknown. For this reason, the aim of this study was to determine smartphone addiction levels among nursing students and to exhibit how this addiction affects peer relations.

Methods

Study sample: This descriptive study was conducted with the students studying at the nursing department of a public university between the 3rd and 23rd of February 2020. 683 students were enrolled in the nursing department in the spring semester of the 2019-2020 educational year. Without sample selection, the all of the students were tried to be reached. 541 students who attended courses in the time frame when the study was conducted who accepted to participate in the study and filled out the forms completely were included in the study (79.2% of the universe). The students were informed on the aim of the study by the researcher and gave verbal consent before filling out the forms.

Data collection: The Personal Information Form: This form was prepared by the researchers according to literature and included questions regarding demographic characteristics such as age and sex as well as questions regarding smartphone use and peer relationship status.

The Smartphone Addiction Scale – Short Version (SAS-SV): This scale was developed by Kwon et al to measure the risk of smartphone addiction in individuals. The scale was tested for validity and reliability in Turkish by Noyan et al (2015). The scale is a six way likert type scale with 10 items. Scores that can be attained from the scale vary between 10 and 60, where increasing scores indicate a higher risk of smartphone addiction. The Cronbach alpha coefficient of the original scale was 0.91 (Noyan et al. 2015).

The Peer Relationships Scale (PRS): This scale was developed by Kaner (2000) to examine peer relationships. The scale consists of 18 items and 4 sub dimensions, and each item is scored between 1 and 5. The sub dimensions of the scale were determined as Attachment, Trust and Identification, Self expression, and Loyalty. The scale is evaluated through its total score, which can vary between 18 and 90. Higher scores from the scale indicate better peer relations. The Cronbach alpha coefficient of the original scale was 0.93 (Kaner, 2000).

Data analysis

The statistical analyses were performed with the SPSS 22.0 software. In the analysis of the data, descriptive (numbers, percentages, mean values, standard deviation) and comparative (Mann Whitney U Test, Kruskall Wallis test) statistics were used. Pearson correlation analysis was used to determine the relationship between variables.

Ethical approval Ethical approval was obtained from the Trakya University, Faculty of Medicine Scientific Research Ethics Committee (reference number: TUTF-BAEK 2020/50/22) and written permission from the institution where the study would be conducted were taken. Additionally, each student who participated in the study was informed on the study and gave consent.

Results

A 78.9% of the students participating in the study were female, and no statistical relationship between sex and smartphone addiction could be found. 51.0% of the students stated that they used their smartphones for 3 to 5 hours a day while 31.1% stated that they checked their smartphone 10 to 20 times a day and 75% stated that they were not addicted to their smartphones. A statistically significant difference between the daily smartphone use durations, smartphone checking frequencies, and smartphone addiction rates was found. Addiction scores were found to increase alongside increasing daily use durations and smartphone checking frequencies. Additionally, the SAS-SV scores of the students who stated that they were addicted to their smartphones were found to be higher than other students. (Table 1).

Most of the students stated that they could easily make friends (%66.2), that they were not lonely (%80.6), that they had friends with whom they could share their problems (%91.9), and that their smartphone use did not affect their friendships (%83.4). The SAS-SV scores of the students who stated that they could not make friends easily, that they were lonely, that smartphones affected their friendships, and that they had no friends to share their problems with were found to be higher (Table 1).

A 36.2% of the students were found to experience health problems related to smartphone use, and the SAS scores of the students who had such problems were found to be higher (Table1).

The mean age of the students who participated in the study was 20,17±1.75 and no correlation between age and SAS-SV scores could be found. The total mean SAS-SV score of the students who participated in the study was found to be 26,10±11,16 while their mean total PRS score was found to be 67,35±12,43.

When the relationship between scale scores was examined, a low level negative correlation between SAS-SV and PRS scores was found (Table 2).

Table 1. Students' characteristics and comparison of students' characteristics with SAS-SV (n=541)

Variables	n	%	SAS-SV M±SD
Gender			
Female	427	78.9	25.85 ±10.69
Male	114	21,1	27.04±12.78
			0.672*
Daily smartphone usage time / hour			
0-2	177	32.7	21.95±9017
3-5	276	51.0	27.05±11.08
6-8	63	11.7	29.38±11.13
9 hours and above	25	4.6	36.68±13.39[a]
			0.000**
Number of phone checks per day			
Less than 10	50	9.2	18.64±8.81
10-20 times	168	31.1	24.23±10.17
21-30 times	162	29.9	26.80±10.88
31-40 times	58	10.7	27.74±10.29
More than 41	103	19.0	30.73±12.25[a]
			0.000**
Thinking smartphone addict			
Yes	135	25	34.01±12.36
No	406	75	23.47±9.37
			0.000*
Easily make friends			
Yes	358	66.2	24.53±10.77
No	183	33.8	29.16±11.31
			0.000*
Feeling lonely			
Yes	105	19.4	29.72±12.88
No	436	80.6	25.22±10.54
			0.002*
Having a friend to share her/his problems			
Yes	497	91.9	25.75±10.91
No	44	8.1	30.06±13.16
			0.043*
Smartphone affecting friendships negatively			
Yes	90	16.6	30.91±13.26
No	451	83.4	25.14±10.45
			0.001*
Health problems related to phone use (headache, sleeplessness, eye problems, etc.)			
Yes	196	36.2	30.61±11.84
No	345	63.8	23.53±9.90
			0.006*

Note: SAS-SV, The Smartphone Addiction Scale – Short Version, [a]The statistical difference is because of this group, * Mann Whitney U Test, ** Kruskall Wallis Test

Table 2. Averages of age, SAS-SV and PRS and comparison of the relationship between scales (n=541)

Variables	M±SD	SAS-SV	
		p	r
Age (years)	20.17±1.75	0.020	
		0.638	
SAS-SV	26.10±11.16	---	
PRS	67.35±12.43	-0.170	
		0.000	

Note: SAS-SV, The Smartphone Addiction Scale – Short Version; PRS, The Peer Relationships Scale, Correlation is significant at the 0.01 level

Discussion

With smartphone use becoming indispensible among younger people, the number of people who own smartphones and the rate of smartphone addiction have both increased (Buctot, Kim, and Kim, 2020). According to the results of the 2019 Household Information Technologies Use Survey conducted by the Turkish Institute of Statistics, the rate of smartphone use in Turkey was found to be 98.7% (TUIK, 2019). In a study conducted in Turkey, the rate of smartphone addiction was found to be 48.6% among female students and 42.8% among male students. In the same study, although almost half of the students were found to be addicted to smartphones, the addiction levels of those students were found to be low (Celikkalp et al. 2020). Similarly, in a study conducted by Yilmaz et al (2017) with nursing students, the smartphone addiction severities of the students were found to be low. In another study conducted by Miri et al, 75% of the students included in the study exhibited moderate to severe smartphone addiction. In the current study, smartphone addiction rates were found to be 26.5% among female students and 36.8% among male students, and the addiction levels of the students were found to be low (26.10±11.16). When the findings in the literature and the current study were examined, smartphone addiction statuses can be seen to be different. Although the addiction severities in our country being lower compared to other countries is good news for our country, the necessity of taking precautions to prevent increases in addiction levels is great.

The basic function of smartphones is to help with interpersonal communication, the establishment of healthy social relations, and the maintenance of those. However, excessive use brings an increased possibility of addiction (Hao et al. 2019). Addiction is related to a person encountering certain unwanted problems as a result of repeating certain activities often. Smartphone addiction emerges as a result of a person not being able to regulate his/her daily smartphone use (Chen et al. 2016; Sun et al. 2020). In this study, a large majority of the students stated that they used their smartphones for more than 3 hours a day and that they checked their phones more than 10 times a day. It has been established that the smartphone addiction rates of students increase alongside their daily use duration and the frequency of checking one's phone. Similarly, in a study conducted by Kunt et al. (2020), a large majority of the students involved in the study were found to spend more than 3 hours a day using their smartphones and smartphone addiction levels were found to increase alongside daily use duration. In another study conducted by Haug et al (2015), more than half of the students included in the study were found to use their smartphones for more than 3 hours a day and almost three quarters were found to use their phones for more than 10 times a day. In a study conducted by Chan et al. (2016), a large majority of the participants were found to spend more than two hours a day using their smartphones. Other studies have reported increased smartphone use to cause addiction as well (Nayak 2018). The fact that the smartphone addiction total score of the students who thought that they were addicted to smartphones was significantly higher in the current study shows that the students had high awareness on the subject.

Peer relations form the most important type of interpersonal relationships providing individuals with adaptation (Xie, et al. 2020). Positive peer relations provide emotional support to younger people, increase self-esteem, and decrease problematic behavior. Studies have found positive peer relations to be an important protective factor against smartphone addiction in adolescents (Badenes-Ribera et al. 2019; Bae 2015; Wang et al. 2017). In a study performed with Chinese adolescents, Wang et al (2017) found that adolescents who were closer to their peers had a lower possibility of becoming addicted to smartphones. In the literature, students have been reported to feel more lonely and unhappy as their smartphone addiction levels increase Özdemir et al 2018, and smartphone addiction has been reported to be seen more frequently among individuals who feel lonely (Mert and Ozdemir 2018). Similarly, in a study by Kim et al (2018), individuals who had close friends were found to have lower possibility of becoming addicted to smartphones. In this study, most of the students stated that they could easily make friends, that they were not lonely, and that they had friends with whom they could share their problems; and the peer relationship scores of the students in the study were found to be above average (67.35±12.43). Alongside this, the smartphone addiction scale scores of the students who stated that they could easily make friends, that they were not lonely, and that they had friends with whom they could share their problems were found to be significantly lower compared to other students. The fact that the smartphone addiction scores of the students who stated that their friendships were negatively affected by their smartphone use were higher in our study further reinforces our other findings. Although all of those results are similar to the results found throughout the literature, they are important with regard to showing that smartphone addiction can negatively affect the social lives of individuals.

The excessive use of smartphones increases the duration of radiation exposure and the blue light emanating from smartphone screens has been reported to disrupt the circadian rhythm, causing sleep problems (Chongchitpaisan et al. 2020; Oh, Yoo, Park and Do 2015) Smartphones have also been shown to cause various other health problems besides sleep problems such as headaches, neck pain, and visual problems (Demir and Sumer 2019). In a study by Waheed et al. (2019), medical students have been reported to experience headaches, neck pain, or hand pain, sleep disorders, and visual problems related to smartphone use, and the number of students experiencing such problems has been reported to increase as daily smartphone use durations increased. In a manner similar to literature, more than a third of the students included in this study stated that they experienced health problems related to smartphone use. Such problems included headaches, visual problems, neck pain, and sleeplessness. Additionally, the fact that the smartphone addiction scores of the students who stated that they experienced health problems were higher compared to the other students supports our findings.

Conclusion: In this study, the daily smartphone use durations of the students and their daily number of checking their smartphones were very high. Alongside this, it was found that the smartphone addiction scores of the students were low and that their peer relations scores were above average. The increase in the SAS-SV scores of the students was found to negatively affect peer relations. When it is considered that we are living in an age of technology and that most processes in our daily life can now be easily handled using smartphones, the interest shown to smartphones by younger people can be seen to be inevitable. However, the findings of our study show that the excessive use of smartphones both negatively affect peer relations and cause health problems.

Healthy human relations depend on good interpersonal relationships. When it is considered that the participants of this study will carry out the human centric occupation of nursing, which also requires good teamwork, in the future, such addictions can be foreseen to cause problems in patient-nurse or nurse-health team member relations. In this context, the ability of the students in this study to establish positive relations with current peers is undeniably important with regard to forming a basis for their future professional relationships. For this reason, it is very important to prevent smartphone addiction in

such a population. In the light of these results, it can be said that efforts to increase the awareness of the students on smartphone addiction would be very important. Additionally, activities to bring students together and increase their interactivity should be planned. It can further be suggested that students should be supported in all educational environments, that addiction risks should be determined and protective services and treatment services should be provided to the students, and that the necessary trainings should be regularly arranged on those subjects.

The present study has some limitations. One limitation is that the answers are only based on student reporting. Second, the population of the present study consisted of a small number of male participants. Another limitation is that the study was conducted only in one center.

Implications for nursing practice: Nursing is a human-centered profession that requires teamwork. For this reason, interdependence, cooperation and good interpersonal relations among healthcare professionals become important. However, smartphone addiction, which has become an important addiction of today, can negatively affect interpersonal communication and relationships. Therefore, it is important to closely monitor nursing students' smartphone addiction levels and peer relationships and to implement preventive interventions.

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