Nomophobia: I Can Not Live without My Smartphone!

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Abstract

The aim of this study is to examine high school students' use of smartphones and their nomophobia levels. This research was designed using one of the mixed research methods, the Explanatory Mixed Method, with the combined use of both quantitative and qualitative paradigms. Nomophobia Scale was used to collect the quantitative data of the research study. 767 students from two different high schools in Nigde in Turkey participated in the research. The qualitative data were obtained from the semi-structured interviews held with 19 high school students selected from the above mentioned participants. Descriptive and explanatory statistics were used to analyse the quantitative data whereas the qualitative data were processed with the use of content analysis. The results of the study showed that high school students were nomophobic at a moderate level, and anxious about not being able to access information, losing connectedness, not being able to communicate, and giving up convenience. Moreover, it was found in the study that the participants' nomophobia levels varied significantly with regards to gender, self-reported time spent on the phone per day, grade level and duration of smartphone ownership. The participants' motivations for using smartphones were listed as communication, keeping in touch, social media and hobby. In this regard, we can recommend further investigation into psychological reasons underlying nomophobia, restrictions of students' daily use of smartphones and undertaking some measures such as implementation of awareness raising activities regarding nomophobia in schools and social life.

Key words: *addiction; high school; nomophobia; smartphone; smartphone addiction*

Introduction

Internet addiction paved the way to a new disorder called "Nomophobia" – "no mobile phone phobia". Nomophobia is defined as the anxiety and uneasiness experienced by individuals who have the habit of using the smartphone, the computer or other

Internet based communication devices due to the fear of not having these devices close at hand (King et al., 2013). Yildirim and Correia (2015) define nomophobia as the involuntary fear experienced by individuals when they cannot access or communicate on their mobile device. Individuals with nomophobia can display such behaviours as continuously checking their phone for any messages or calls, experiencing anxiety or stress in places where there is no service or when their use is restricted, leaving the phone on for 24 hours, and going to bed with the smartphone (Bragazzi & Giovanni, 2014).

After the use of smartphones became widespread, studies on nomophobia intensified and the literature also defines it as mobile addiction (Billieux et al., 2008; King et al., 2013; Kwon et al., 2013). Researchers who identified a close connection between mobile addiction and self-respect and extrovert personality traits revealed that particularly young participants had a high tendency to mobile addiction (Bianchi & Phillips, 2005). Individuals who experienced a feeling of nullity when their smartphones were not close by think that this device has become an indispensable part of their lives. Moreover, individuals' behaviour of checking their phones without any reason or purpose leads to problematic use of the mobile phone (Park, 2005). It is observed that auditory hallucinations of the telephone ringing or vibrating are widespread as a result of excessive use of smartphones. These imaginary ringings or vibrations are found to have an association with phone users' anxiety and depression (Lin et al., 2013). Another study conducted on the use of smartphones and psychological well-being reported that the use of smartphones increased the feelings of loneliness and depression (Park & Lee, 2012). Furthermore, individuals who experience smartphone deprivation can experience problems in concentrating on their daily tasks as their level of anxiety increases, and since they keep their phone switched on and frequently check it throughout the night, they can experience sleep irregularities (Rosen et al., 2016). With the excessive use of smartphones not only physical problems in such areas as the head, neck, spine, back and hand, but also psychological problems such as aggressiveness, stress, anxiety, tension, depression, and addiction can be observed (Lu et al., 2011; Park, 2005; Toda et al., 2008). Consistent with the findings of these studies, Tao et al. (2017) mentioned that excessive use of smartphones poses a threat to students' physical and mental health, and drew attention to the increasing growth of sleep disorders and the risk of depression.

The study conducted by Sharma et al. (2015) on medical students in India reported that approximately 73% of the students were nomophobic. Another study conducted on 163 university students in the USA revealed that there was an increase in the level of anxiety of students whose mobile phones were taken away or were asked to shut them down (Cheever et al., 2014). Yet another study carried out in France with university students (Tavolacci et al., 2015) revealed that approximately 35% of the participants in the research had negative impacts of nomphobia. The study by Adnan and Gezgin (2016) on 433 university students found that the level of students' nomophobia

was above average. Similarly, Yildirim and others (2016) conducted a study on 537 university students and found that 42.6% (n=206) of the students displayed nomophobic behaviours. Adolescents' excessive use of smartphones was found to cause aggressive behaviours towards people and objects.

Nonetheless, the number of smartphone users has increased rapidly and is still on the rise. When compared to other age groups, particularly high school teenagers quite excessively use advanced technological products providing Internet connection such as the smartphone. Indeed, Tsai and Lin (2003) stated that the period between 12 and 18 years of age is critical for Internet addiction. Hence, the investigation into the nomophobia level of individuals within this age group is believed to be important.

Thus, the aim of the present study was to examine high school students' use of smartphones and their nomophobia conditions. The level of high school students' nomophobia and whether these levels varied significantly depending on gender, the duration of smartphone ownership, and the time spent on the phone per day were investigated in the study. Hence, the research questions set within the scope of the quantitative dimension of the study are:

1 At what level is the nomophobia of high school students?
2 Does the nomophobia of high school students vary significantly with regard to gender, grade level, the duration of mobile phone ownership and time spent on the mobile phone per day?

The qualitative dimension of the study sought to answer the following questions:
3 For which purposes do you mostly use your smartphone? Could you explain your response, please?
* What is the importance of a smartphone for you? Could you, please, explain?
* Do you try to use your smartphone to find the information you need? If so, could you explain the reason?
* How would you feel if you came across obstacles while trying to access information via your phone (for example, no Internet connection, the battery running out)? Could you explain why you would feel this way?
4 Do you take additional measures against the battery in your smart phone draining? If so, what are they?
Could you explain why you felt the need to take such measures?
5 How would you feel if you did not have your smartphone/if it was inaccessible? Could you, please, explain?
* How would you feel if your smartphone had no service? Why?
* How would you feel if your smartphone did not have the Internet connection (or your package ran out)? Why?
* What is your greatest fear with respect to your smartphone? Why?
6 Do you use social media? If so, how much time on average do you spend on social media?

* How would you feel if your use of social media was hindered?
* Do you like to receive the social media notifications instantly or check them out yourself?
* Do you frequently access social media after sharing something in order to follow up on the outcome?

Method
Model

The mixed method approach, using both quantitative and qualitative research methods, was used in this study. According to Creswell and Plano Clark (2011), mixed methods are patterned; they are developed to collect, analyse and correlate both quantitative and qualitative data in a single study or multiple study sequences to understand the research problem. Therefore, mixed methodology should not be defined merely as a collection of qualitative and quantitative data obtained from two different research methods. The Explanatory Mixed Method was used as the research design of the present study. In order to find the answers to the set research problems, a descriptive survey study was conducted and followed by semi-structured interviews with a selected number of participants in order to explain the results of the survey study (Creswell, 2013). This research design was chosen to collect data from a wide range of participants through quantitative research in order to generalize the results, and then obtain in-depth information from a select number of participants by means of qualitative research.
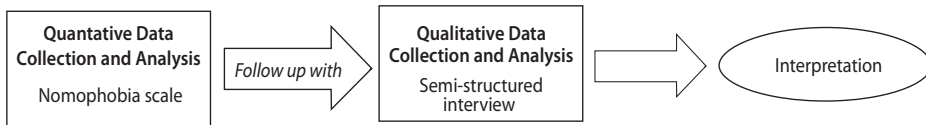

Figure 1. The Explanatoriy Mixed Methods Design

Participants

Quantitative data of the study were collected from 767 high school students from two different central schools in Turkey, in Nigde Province, during 2016-2017 academic year. The qualitative data in the study were collected on a sample of 19 participants chosen on a voluntary basis. The criteria sought from the participants were possession of an Internet-enabled mobile phone and their use of the phone for at least one year.

Table 1

Nomophobia Scale and Demographics of the Participants in the Semi-Structured Interview

Participant Demographics		Participants' Scale N (%)	Participants' Interview N (%)
Gender	Female	383 (49.9)	10 (52.6)
	Male	384 (50.1)	9 (47.4)
Grade level	9th Grade	244 (31.8)	6 (31.5)
	10th Grade	190 (24.8)	4 (21.2)
	11th Grade	227 (29.6)	6 (31.5)
	12th Grade	106 (13.8)	3 (15.8)
Duration of smartphone ownership	1-2 years	321 (41.9)	6 (31.5)
	3-4 years	290 (37.8)	8 (42.2)
	More than 5 years	156 (20.3)	5 (26.3)
Self-reported time spent on phone per day	0-2 hours	182 (23.9)	5 (26.3)
	2-4 hours	222 (28.9)	6 (31.6)
	4-6 hours	136 (17.7)	4 (21.1)
	6-8 hours	119 (15.5)	2 (10.5)
	More than 8 hours	107 (14.0)	2 (10.5)
SUM		767 (100.0)	19 (100.0)

Data Collection
Nomophobia Scale

The Nomophobia Scale (NMP-Q) used in this research was developed by Yildirim and Correia (2015). The Cronbach Alpha reliability coefficient of the original scale was .95. The NMP-Q consists of 20 items addressing the four sub-dimensions of nomophobia: (1) Not being able to communicate -6 items, (2) Losing connectedness -5 items, (3) Not being able to access information -4 items, and (4) Giving up convenience -5 items. The examples of some items related to NMP-Q are as follows:

Item 1: I would feel uncomfortable without constant access to information through my smartphone;

Item 5: Battery running out on my smartphone would scare me;

Item 10: I would feel anxious because I could not instantly communicate with my family and/or friends;

Item 16: I would be nervous because I would be disconnected from my online identity;

Item 20: I would feel weird because I would not know what to do.…

All items are rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Total scores are calculated by summing up responses to each item, resulting in a nomophobia score ranging from 20 to 140, with higher scores corresponding to greater nomophobia severity. NMP-Q scores are interpreted as follows: an NMP-Q score of 20 indicating the absence of nomophobia; an NMP-Q score greater than 20 and less than 60 indicating a mild level of nomophobia; an NMP-Q score greater than or equal to 60 and less than 100 indicating a moderate level of nomophobia; and an NMP-Q score greater than or equal to 100 indicating severe nomophobia.

To measure the participants' addiction to smartphones in the scope of this research study, the Nomophobia Questionnaire (NMP-Q), translated to Turkish by Yildirim and others (2016), was utilized. Given the fact that a Cronbach Alpha value above .80 indicates good reliability of a scale (Field, 2009), the reliability of the NMP-Q was high (Cronbach Alpha = .92). In addition, the Cronbach Alpha values for the four dimensions of the NMP-Q were .90, .74, .94, and .91, respectively, indicating sufficiently high reliability.

In the research, the Kaiser-Meyer-Olkin (KMO) and the Barlett's Test of Sphericity was applied. The Kaiser-Meyer-Olkin (KMO) coefficient was calculated as 0.92, and the significance value of the Barlett's Test of Sphericity was found to be 0.00. A KMO value above 0.60 and a significant Barlett's Test value indicate that the data were in consistency with the factor analysis.

The confirmatory factor analysis was used to validate the questionnaire used with the students by means of the LISREL software based on the following criteria: "the items on the measurement model are a good representative of the related construct" and "the measurement models fit the data adequately." Thus, for acceptable levels of adequate fitness, the conditions of GFI≥0.90, CFI≥0.90 and RMSEA≤0.08 were taken into consideration (Brown, 2015).

Table 2

The fit indices of confirmatory factor analysis

Model	GFI	AGFI	CFI	NFI	NNFI	RMSEA
Fit indices	.90	.85	.96	.96	.96	.069

An RMSEA value of or below 0.05 indicates a good fit while a value of 0.08 or below indicates an acceptable fit. As an outcome of the confirmatory factor analysis, the t values of the items were not found to be lower than 1.96, a critical value at a significance level of .05: RMSEA=0.069 (a value lower than .08 is acceptable), Chi-Square/df= 4.62 (a value lower than 5 is acceptable). In light of these values, it can be claimed that the items in the scale had a good level of fitness. As regards to the fitness indices, GFI and AGFI generally need to meet the criterion of >.90. However, these values are influenced considerably by the violation of the multivariate normality assumption. In conditions where the data do not meet the multivariate normality assumption, the NNFI and CFI values are taken into consideration in place of the GFI and AGFI values. Since the multivariate normality assumption is not met in the related data set, the NNFI and CFI values were taken into consideration instead of the GFI and AGFI values. Accordingly, the NNFI=.96, and CFI=.96 >.90 values indicate that the model has a good fit. As a result of the analyses, the model can be considered to fit the data at an acceptable level. These findings indicate that the 20-item version of the scale for high school students measures the target construct in a valid way.

The Cronbach Alpha reliability analysis was done in order to determine the internal consistency coefficients of the scale administered within the scope of the study. The

Alpha reliability value of the overall scale was 0.90. The reliability values for each sub-dimension, namely not being able to communicate, losing connectedness, not being able to access information, and giving up convenience were calculated to be 0.79, 0.77, 0.85 and 0.88, respectively. Accordingly, the scale's reliability level can be considered high.

Semi-structured Interviews

The interview is the most appropriate and most frequently used data collection tool for phenomenological research studies (Creswell, 2014). Hence, semi-structured interviews were conducted in the present study with each participant. Prior to the interview, the researcher determines which topic she/he will focus on and, accordingly, which questions will be asked, i.e. the researcher decides on what information need to be gathered in the interview. However, the researcher does not have to abide by the interview plan. According to the flow of the interview, the researcher can pose new questions or change their sequence; there is flexibility. Furthermore, sometimes the interviewee can combine the response of one question with that of another. In such a case there is no need to repeat the question. Since the semi-structured interview is conducted in a discussion-like mode, it is an effective mean of data collection.

Data Analysis

Dependent t-tests were conducted initially in order to reveal whether or not students' nomophobia condition varied by gender. Two assumptions of the dependent t-test are normal distribution of the data and the data with a minimum equal interval (Field, 2009). The Kolmogorov-Smirnov test was used to examine the distribution's normality. All the calculated scores confirmed the normality assumption ($p > .05$). Subsequently, the one-way analysis of variance, ANOVA, was used to identify whether or not the variables of the duration of a smartphone ownership and the time spent on a smartphone per day varied significantly in nomophobia conditions.

The content analysis method was used for the qualitative data collected in the study. During the process of content analysis, the data were categorized around similar concepts and themes which were then interpreted in the way that the readers could understand (Creswell, 2014). For the analysis of the data collected by means of the semi-structured interviews, themes were formed as the sub-dimensions of the Nomophobia scale.

Results

This section presents the analysis of the data obtained with the use of the nomophobia scale and semi-structured interviews with regards to the purpose and sub-problems of the study.

Results of the Nomophobia Scale

Table 3 presents descriptive statistical data for the participants' scores on the nomophobia scale obtained in the study.

Table 3

Descriptive statistics of the participants' scores on the nomophobia scale

Scale Sub-Dimension	N	X	SD	Skewness	Kurtosis
Not being able to reach to information	767	15.23	6.20	.201	-.825
Losing connectedness	767	18.09	7.38	.318	-.716
Not being able to communicate	767	23.49	9.61	.204	-.937
Giving up convenience	767	15.51	7.92	.545	-.526
Scale Total Score	767	72.32	24.46	.342	-.626

The skewness and kurtosis values were examined to determine the distribution of the variables used in the analysis (Table 3). For a normal distribution of the data, these values need to fall between the values of -1.5 and + 1.5 (Tabachnick & Fidell, 2013). Accordingly, the scores that the researchers obtained from the scale and its sub-dimensions can be claimed to have a normal distribution. The mean of the Nomophobia Scale was calculated (X=72.32), and the nomophobia levels of the high school students were found to be at a moderate level. While examining the subscale means, not being able to access information (X=18.09), losing connectedness (X=23.49), and not being able to communicate (X=15.51) were found to have a higher than average mean score. Thus, it can be stated that the participants had a moderate level of nomophobia and had anxieties with regards to not being able to access information, losing connectedness, not being able to communicate, and giving up convenience.

Gender Effect

The result of the t-tests conducted to establish the significance of the connection between gender and the levels of students' nomophobia show that these levels vary significantly with regards to gender (t765=-4.029, p<.001, r=.021). This variance was in favour of male students who had higher mean averages of nomophobia.

Table 4

Nomophobia scale t-Test: Gender

Gender	N	M	SD	t	p
Female	383	68.79	23.78	-4.029	.000
Male	384	75.84	24.65		

Grade Level Effect

One-way ANOVA was used to examine whether or not nomophobia levels of high school students differ according to their grade levels. The results indicate that there was no significant difference between high school students' nomophobia levels in terms of their grade levels [F (3, 763) =1.264, p=.286]. This finding suggests that students' grade levels (it could also be considered as age) has no effect on the prevalence of nomophobia.

Table 5

One-way variance analysis of the Nomophobia scale with regard to grade level

Source	Sum of Squares	df	Mean Squares	F	p
Intergroups	2265.693	3	755.231	1.264	.286
Within Groups	455862.120	763	597.460		
Total	458127.812	766			

Duration of Smartphone Ownership Effect

One-way ANOVA was used to examine whether or not nomophobia levels of high school students differ according to the duration of students' smartphone ownership. The results indicate that there was no significant difference between high school students' nomophobia levels in terms of the duration of students' smartphone ownership [F (2, 764) =5.433, p=.005]. This finding suggests that the duration of students' smartphone ownership has no effect on the prevalence of nomophobia.

Table 6

One-way variance analysis of the Nomophobia scale with regard to the duration of smartphone ownership

Source	Sum of Squares	df	Mean Squares	F	p
Intergroups	624.148	2	3212.074	5.433	.005
Within Groups	451703.664	764	591.235		
Total	458127.812	766			

Self-reported Time Spent on the Phone per day Effect

One-way ANOVA was used to examine whether or not nomophobia levels of high school students differ according to self-reported time spent on the phone a day. The results indicate that there was a significant difference between high school students' nomophobia levels in terms of self-reported time spent on the phone per day [F (4, 762) =21.728, p=.000].

Table 7

One-way variance analysis of the Nomophobia scale with regard to self-reported time spent on the phone per day

Source	Sum of Squares	df	Mean Squares	F	p	Significant Difference
Intergroups	41209.067	4	11725.849	21.728	.000*	A-C, A-D, A-E
Within Groups	416918.746	762	559.665			B-D, B-E
Total	458127.812	766				C-E

*p<.001 There was a significant difference. (A: 0-2 hours, B: 2-4 hours, C: 4-6 hours, D: 6-8 hours, E: more than 8 hours)

The Tukey test was applied to find out which groups differed. Based on the findings of the analysis, a significant difference was found between the student group who gave self-reports about the time spent on the phone per day.

The results revealed that the nomophobia levels of the students who used their mobile phones for 4-6, 6-8 and above 8 hours a day were higher when compared to

those who used their phones between 0 and 2 hours a day. The average differences among them were 11.70, 16.60 and 23.82, respectively. The significance levels for all three groups were less than .001. Moreover, the nomophobia levels of the students who used their mobile phones for 6-8 or above 8 hours were higher than those who used their mobile phones between 2 to 4 hours. The average differences between them were 10.02 and 17.23, respectively. Their significance levels were found to be .001 and .000, respectively. Finally, the nomophobia levels of the students who used their mobile for more than 8 hours a day were higher than those who used their mobile phones between 4 to 6 hours a day. The average difference between them was 12.11 and the significance level was calculated to be .001.

Results of the Content Analysis
The Participants' Purposes for Using the Smartphone

The participants' purposes for using the smartphone can be categorized as communication, keeping in touch, social media and hobby. In addition, the participants stated that because the smartphone provided quick Internet access, they used it to access information.

To illustrate, S21, who stated that she/he used the smartphone for communication, said, *"I mostly use my phone to send messages via Whatsapp. I use it mostly to communicate with my family and friends."* On the other hand, S18, who mentioned that she/he used the smartphone to use social media, said, *"I always use it to surf and share things on social media (Facebook, Twitter and Instagram)."* As for S7, who stated that she/he used the smartphone for keeping in touch, and S3, who expressed that she/he used the smartphone as a hobby, they made the following comments:

S7: *"The smartphone enables me to talk with my beloved ones and to keep in touch with my family."*

S3: *"I mostly use the smartphone for the things I like most, for listening to music, keeping in touch via whatsapp, and watching videos."*

The Participants' Nomophobia Conditions

Themes were formed as a result of the analysis of the data obtained from the semi-structured interviews conducted to reveal the participants' nomophobia conditons. These themes were the sub-dimensions of the nomophobia scale: not being able to access information, losing connectedness, not being able to communicate, and giving up convenience.

Not being able to access information

The theme of not being able to access information, which is one of the nomophobia conditions of the participants, is focused on the participants' feelings when they cannot access information from their mobile phones. The participants stated that they would feel anger, stress, and sadness, and try to overcome this obstacle if they experienced any problem in accessing information via their smartphone.

For example, while S3 said, *"When I use the smartphone as an aid to my homework and my needs in daily life and cannot immediately access information, I get angry;"* S8 expressed his thoughts as follows, *"I should be able to access everything all the time. If this is not possible, I get annoyed and stressed."*

Losing connectedness

As one of the nomophobia conditions of the participants, losing connectedness is focused on the feelings of the participants when their mobile phones are out of service or their Internet package has run out. The participants stated that in such a situation they feel anger, fear, anxiety, sadness, uneasiness, stress and disturbance. Furthermore, the participants indicated that the greatest fear regarding their phone was it breaking down, loss or theft of information, weak Internet connection and deletion of recorded photos.

In relation to this theme, S10 expressed his thoughts by saying, *"I get really sad when my phone is shut down. If its battery runs out, I immediately try to find a charger. If its Internet package has run out, I immediately buy a new package."* Another student, S16, said, *"I get very bored and aggressive when my smartphone is shut down. Also, I really fear that my telephone will break down and has to be sent to the guarantee service and I can't use it."*

Not being able to communicate

With regards to not being able to communicate as one of the nomophobia conditions of the participants, it was deduced that more than two thirds of the participants took additional measures against their telephone batteries running out. These measures are carrying a power bank, a charger or a spare battery. The participants accounted for these measures with the fact that the possibility of their phone shutting down makes them feel very bad, experiencing not having their phone on them as a great problem, and with the need to keep their phone continuously switched on in case of urgencies.

To illustrate, while S5 expressed his/her thoughts on this issue by saying, *"I always take extra measures so that my telephone is never shut down. I never go out without my powerbank because I get very bored when my telephone shuts down;"* S9 said, *"I always carry a charger with me in case my telephone's battery runs out during the day because I got really attached to the phone. I can't do without my phone."*

Giving up convenience

With reagards to giving up convenience as one of the nomophobia conditions of the participants, it was found that when participants could not use their phones, social media in particular, they felt quite tensed, upset, stressed and annoyed. In fact, when this condition lasted a long time, they got uneasy and angry.

For example, S2 said, *"When I receive a message on social media, I get curious and would like to check it out straight away. If for any reason I am not able to use the social media, I turn into an angry and aggressive person. When I share something on the social media myself, I don't wonder about who liked it."* Another participant, S19, expressed

his/her thoughts by saying, *"I use the Instagram 12 hours a day. I must be informed of everything instantly. I would get really upset if my use of social meda was hindered. After I share something, I go on-line every five minutes to check the likes"*

Discussion and Conclusion

Various studies which reported similar findings pointed out that adolescents and university students were inflicted with nomophobia (Adnan & Gezgin, 2016; Erdem et al., 2016; Sharma et al., 2015; Tavolacci et al. 2015; Yildirim et al., 2016). The result of another study conducted with university students showed that participants experienced fears based on the sub-dimensions of nomophobia, namely "not being able to access information", "lacking the device", "losing connectedness" and "not being able to go on-line" (Erdem et al., 2016).

The present study revealed that high school students' levels of nomophobia varied significantly with regards to gender, and that the difference was in favour of males. The study by Karaca (2017) reported that students' Internet addiction varied significantly according to gender and that male students' Internet addiction scores were higher than those of female students.

Participants' nomophobia levels do not vary significantly with regards to the variables of grade level and duration of smartphone ownership. Considering that students at different grade levels are of different ages, the finding of the present study is different from the findings yielded in the study by Pearson & Hussain (2016), which reported an association between smartphone addiction and the variables of narcissism, neuroticism and age. Participants' nomophobia conditions show significant variance with regards to the variable of self-reported time spent on the phone per day. The nomophobia levels of students using their mobile phone for 4-6, 6-8 and above 8 hours a day were found to be higher than those of students using it for 0-2 hours a day. Also, students using their phone for 6-8 or above 8 hours a day had higher nomophobia levels than those using it for 2-4 hours a day. Finally, the nomophobia levels of students who used their phone for more than 8 hours were found to be higher than of those using it between 4 to 6 hours per day. In other words, it is observed that the longer the time spent on the mobile telephone, the higher the level of nomophobia, i.e. the more accustomed to it the students get. In support of this claim, Soni et al. (2017) postulated that teenagers who spend significant amount of time on the smartphone have an increased tendency to Internet addiction. Similarly, Erdem et al. (2016), and Karaca (2017) stated that the duration of individuals' use of the mobile phone had a positive correlation with the nomophobia condition. In another study conducted with 1151 participants using social networks, no significant variance was found in their nomophobia levels with regard to their educational level and time spent on the smartphone. However, a significant variance was in connection with the frequency of using the smartphone, the time spent on mobile Internet, and the time spent using the mobile Internet

per day (Gezgin, et al., 2017). Nomophobia levels of the social network users also vary with regards to the time spent on the mobile Internet a day. Accordingly, it was found that individuals who spent longer time on the mobile Internet per day had higher levels of nomophobia.

Participants' nomophobia conditions were examined under the themes of not being able to access information, losing connectedness, not being able to communicate and giving up convenience. The theme of not being able to access information is reflected in participants' feelings of anger, stress, sadness, and instantly trying to overcome the obstacle when they cannot access information via their mobile telephones. Furthermore, when participants lose connectedness, they hold negative feelings such as anger, fear, anxiety, sadness, uneasiness, stress and annoyance. In addition to these, the participants' greatest fears are their telephone breaking down, loss or theft of information, weak Internet connection and deletion of their recorded photographs.

Participants who are highly bothered by the possibility of not being able to communicate take additional measures against draining their telephone's battery by carrying a power bank, a charger or a spare battery. They stated that if there was a probability of their telephone shutting down, they would feel very bad and without their phones they would experience great problems. Furthermore, high school students believe that their smartphones should always be switched on in case of any emergencies. Along the lines of this result, in a study by Bahi and Deluliis (2015), 53% of the participants stated that they would feel uneasy if they lost their smartphone, if their battery ran out or their phone was out of service; 9% reported that they felt stressed when their smartphone was shut down. Nomophobic individuals start to feel anxious when they forget to take their phone with them, when their battery runs out or there is no service; they obsessively check to see if they have their telephone even when they have it (Dixit et al., 2010; Gezgin & Cakir, 2016; Pavithra & Madhukumar, 2015; Sharma et al., 2015; Yildirim et al., 2016).

Under the theme of giving up convenience, we determined that participants felt tensed, stressed and annoyed when they could not use their phones, particularly social media, and they got uneasy and angry when this condition lasted long. Positive perceptions of individuals regarding the use of social media trigger the increase in their use of social media to the degree of addiction (Hargittai, 2008; Ross et al., 2009). Furthermore, the psychological satisfaction that social media gives to teenagers in particular causes them to use social media so intensively that it significantly decreases their relationships with other people in daily life (Seo et al., 2013).

As the results of the present study and those in the related literature show, today's youth consider smartphones as their inseparable component and regard the use of a more modern and popular phone as prestige. On the other hand, they consider not having a smartphone a drawback. The youth accept that they are addicted to these devices, which can sometimes even dominate their physiological needs and social

values. For this reason, particularly family members and educators have significant responsibilities. The youth who display the mentioned behaviours should be monitored and provided with essential and sufficient help and support. For example, family members could be provided with opportunities to spend effective time without the telephone. Moreover, various awareness raising activities should be carried out at schools promoting the proper use of the telephone and other technological devices.

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Nomofobija: Ne mogu živjeti bez svojega pametnog telefona!

Sažetak

Cilj je ovoga istraživanja ispitati upotrebu pametnih telefona srednjoškolaca i njihove razine nomofobije. Dizajn istraživanja koristi jednu od miješanih istraživačkih metoda, eksplanatornu miješanu metodu, uz kombiniranu upotrebu kvantitativnih i kvalitativnih paradigmi. Skala nomofobije korištena je za prikupljanje kvantitativnih podataka u istraživanju. U istraživanju je sudjelovalo 767 učenika iz dvije srednje škole iz Nigde provincije u Turskoj. Za dobivanje kvalitativnih podataka korišteni su polustrukturirani intervjui s 19 srednjoškolaca iz spomenutoga uzorka. Deskriptivna i inferencijalna statistika korištene su za analizu kvantitativnih podataka, a kvalitativni podatci obrađeni su upotrebom analize sadržaja. Rezultati istraživanja pokazuju da su srednjoškolci umjereno nomofobični i tjeskobni kada ne mogu pristupiti informacijama, kada gube vezu, kada ne mogu komunicirati, kada gube pogodnost. Štoviše, istraživanje pokazuje da razine nomofobije ispitanika znatno variraju s obzirom na spol, vrijeme provedeno na telefonu danju, razred i duljina posjedovanja pametnoga telefona. Kao motivaciju za korištenje pametnih telefona sudionici navode komunikaciju, održavanje kontakata, društvene mreže i hobi. S obzirom na dobivene rezultate možemo preporučiti dalja istraživanja psiholoških mehanizama u pozadini nomofobije, ograničenja učeničke dnevne upotrebe pametnih telefona i poduzimanje mjera u obliku aktivnosti za podizanje razine svijesti o nomofobiji u školama i društvenom životu.

Ključne riječi: *nomofobija; ovisnost; ovisnost o pametnom telefonu; pametni telefon; srednja škola*

Uvod

Ovisnost o internetu utrla je put novom poremećaju nazvanom nomofobija – fobija od bivanja bez mobitela. Nomofobija se definira kao tjeskoba ili nelagoda koju doživljavaju pojedinci s razvijenom navikom korištenja pametnoga telefona, računala ili drugih na internetu zasnovanih komunikacijskih naprava zbog straha od neimanja tih naprava pri ruci (King i sur., 2013). Yildirim i Correia (2015) definiraju nomofobiju kao nesvjesni strah koji doživljavaju pojedinci kada nemaju pristup svojemu mobilnom telefonu ili ne mogu komunicirati putem istoga. Osobe s nomofobijom mogu pokazivati različite oblike ponašanja poput neprestanoga provjeravanja poruka na mobitelu, tjeskobe i

stresa na mjestima na kojima nema usluge ili kada je upotreba mobitela ograničena, imati uključen mobitel 24 sata i lijeganja u krevet s pametnim telefonom (Bragazzi i Giovanni, 2014).

Nakon što je upotreba mobitela postala raširena, istraživanja nomofobije su se intenzivirala, a literatura ju definira kao ovisnost o mobitelu (Billieux i sur., 2008; King i sur., 2013; Kwon i sur., 2013). Istraživači koji su utvrdili blisku vezu između ovisnosti o mobitelu i samopoštovanja i osobina ličnosti karakterističnih za ekstroverte te su otkrili da posebno mladi ispitanici imaju jaku sklonost ovisnosti o mobitelima (Bianchi i Phillips, 2005). Pojedinci koji su doživljavali osjećaj ništavila kada im mobiteli nisu bili blizu, smatraju da je ova naprava postala neodvojiv dio njihovih života. Štoviše, gledanje na mobitel bez ikakvoga razloga ili svrhe vodi problematičnoj upotrebi telefona (Park, 2005). Primijećeno je da su slušne halucinacije zvonjave ili vibriranja telefona široko raširene kao rezultati prekomjerne upotrebe pametnih telefona. Otkriveno je da te zamišljene zvonjave ili vibracije imaju veze s tjeskobom ili depresijom korisnika telefona (Lin i sur., 2013). Druga studija o korištenju pametnih telefona i psihološkoga zdravlja otkrila je da upotreba pametnih telefona povećava osjećaj usamljenosti i depresije (Park i Lee, 2012). Nadalje, pojedinci koji dožive uskraćivanje pametnoga telefona mogu iskusiti probleme u koncentraciji na dnevne zadatke kako se povećava njihova razina tjeskobe i, budući da su im telefoni uključeni tijekom noći te ih često u to vrijeme provjeravaju, mogu imati poremećaje spavanja (Rosen i sur., 2016). Prekomjerna upotreba pametnih telefona uzrokuje ne samo fizičke probleme u području glave, vrata, kičme, leđa i ruke, već i psihološke probleme poput agresivnosti, stresa, tjeskobe, napetosti, depresije i ovisnosti (Lu i sur., 2011; Park, 2005; Toda i sur., 2008). Sukladno rezultatima ovih studija, Tao i sur. (2017) navode da pretjerana upotreba pametnih telefona predstavlja prijetnju učeničkom fizičkom i mentalnom zdravlju te naglašavaju sve veći porast poremećaja spavanja i rizik od depresije.

Istraživanje Sharma i sur. (2015) provedeno na uzorku studenata medicine u Indiji pokazalo je da su približno 73 % studenata nomofobični. Druga studija provedena na 163 studenta u SAD-u otkrila je porast razine tjeskobe studenata kojima je uzet telefon ili ih se zamolilo da ga isključe (Cheever i sur., 2014). Još jedno istraživanje provedeno u Francuskoj na studentima (Tavolacci i sur., 2015) otkrilo je negativne učinke nomofobije kod približno 35 % sudionika istraživanja. Istraživanje koje su proveli Adnan i Gezgin (2016) na 433 studenta pokazalo je da su razine nomofobije studenata bile iznadprosječne. Slično tome, Yildrim i sur. (2016) proveli su istraživanje na 537 studenata i otkrili kako ih je 42,6 % (n = 206) pokazivalo nomofobična ponašanja. Rezultati pokazuju da prekomjerna upotreba pametnih telefona adolescenata uzrokuje agresivno ponašanje prema ljudima i stvarima.

Ipak, broj korisnika pametnih telefona ubrzano se povećava i još je uvijek u porastu. U usporedbi s ostalim dobnim skupinama, posebno srednjoškolci prekomjerno koriste napredne tehnološke proizvode koji pružaju internetsku vezu poput pametnih telefona. Tsai i Lin (2003) navode da je period između 12. i 18. godine starosti kritičan

za razvijanje ovisnosti o internetu. Stoga smo uvjerenja kako je istraživanje razina nomofobije i osoba u ovoj dobnoj skupini vrlo važno.

Dakle, cilj je ove studije istražiti upotrebu pametnih telefona srednjoškolaca i uvjete njihove nomofobije. Istraživanje ispituje razine nomofobije srednjoškolaca i postojanje veze između tih razina i spola, trajanja vlasništva pametnoga telefona i vremena provedenoga na telefonu tijekom dana. Iz navedenoga proizlaze istraživačka pitanja unutar kvantitativne dimenzije studije:

1. Na kojoj je razini nomofobija srednjoškolaca?
2. Razlikuje li se značajno nomofobija srednjoškolaca ovisno o spolu, razredu, trajanju vlasništva pametnoga telefona i vremenu provedenom na mobitelu tijekom dana?

Kvalitativna dimenzija istraživanja nastojala je dati odgovore na sljedeća pitanja:

3. U koje svrhe najčešće koristiš svoj pametni telefon? Možeš li, molim te, objasniti svoj odgovor?
 * Koja je važnost pametnoga telefona za tebe? Možeš li objasniti?
 * Pokušavaš li upotrebljavati pametni telefon za pretraživanje potrebnih informacija? Ako da, možeš li objasniti razlog?
 * Kako bi se osjećao/la kada bi naišla na prepreke u pristupanju informacijama putem telefona (na primjer, nepostojanje internetske veze, prazna baterija)? Možeš li objasniti zašto bi se tako osjećao/la?
4. Poduzimaš li dodatne mjere kako bi spriječio/la pražnjenje baterije? Ako da, koje? Možeš li objasniti zašto osjećaš da trebaš poduzimati takve mjere?
5. Kako bi se osjećao/la ako ne bi imala svoj pametni telefon/ako je nedostupan? Možeš li objasniti?
 * Kako bi se osjećao/la da tvoj telefon nema signala? Zašto?
 * Kako bi se osjećao/la da tvoj telefon nema vezu s internetom (ili nemaš više podatkovnoga prometa)? Zašto?
 * Koji je tvoj najveći strah povezan uz tvoj pametni telefon? Zašto?
6. Koristiš li društvene mreže? Ako da, koliko u prosjeku vremena provedeš na društvenim mrežama?
 * Kako bi se osjećao/la kada bi bila spriječena koristiti društvene mreže?
 * Voliš li primati obavijesti s društvenih mreža odmah ili ih sam/a provjeravaš?
 * Nakon što podijeliš neki sadržaj, provjeravaš li često ishod na društvenim mrežama?

Metoda
Model

U ovom istraživanju korišten je pristup miješane metode, tj. upotrijebljene su kvalitativne i kvantitativne istraživačke metode. Prema Creswell i Plano Clark (2011) miješane su metode razvijene za sakupljanje, analizu i korelaciju kvantitativnih i kvalitativnih podataka u jednom ili višestrukim istraživanjima s ciljem razumijevanja cilja istraživanja. Stoga, miješanu metodologiju ne bi trebalo definirati kao puko sakupljanje kvantitativnih i kvalitativnih podataka upotrebom dviju različitih istraživačkih metoda. Dizajn ovoga istraživanja koristi eksplanatornu miješanu

metodu. Kako bismo pronašli odgovore na postavljena istraživačka pitanja, proveli smo opisni anketni upitnik nakon čega su uslijedili polustrukturirani intervjui s odabranim sudionicima da bismo objasnili rezultate upitnika (Creswell, 2013). Ovaj dizajn istraživanja odabran je kako bi se sakupili podaci od većega broja ispitanika kroz kvantitativno istraživanje s ciljem generalizacije rezultata, a potom dobile iscrpne informacije od odabranoga broja ispitanika sredstvima kvalitativnoga istraživanja.

Slika 1.

Ispitanici

Kvantitativni podatci u istraživanju sakupljeni su na uzorku od 767 srednjoškolaca iz dvije središnje škole u Turskoj, u Nigde provinciji, tijekom školske godine 2016./2017. Kvalitativni podatci sakupljeni su na uzorku od 19 ispitanika čije je sudjelovanje bio dobrovoljno. Preduvjet za sudjelovanje bio je vlasništvo pametnoga telefona s pristupom internetu u trajanju od najmanje godinu dana.

Tablica 1.

Prikupljanje podataka
Skala nomofobije

Skalu nomofobije (NMF-U) korištenu u ovom istraživanju razvili su Yildirim i Correia (2015). Cronbach Alpha-koeficijent pouzdanosti originalne ljestvice bio je .95. Upitnik ljestvice nomofobije sadrži 20 čestica koje se odnose na četiri poddimenzije nomofobije: (1) nemogućnost komunikacije - 6 čestica, (2) gubitak veze - 5 čestica, (3) nemogućnost pristupa informacijama - 4 čestice i (4) gubitak pogodnosti - 5 čestica. U nastavku su navedeni primjeri nekih čestica upitnika:

Čestica 1: Osjećala bih nelagodu bez stalnoga pristupa informacijama na mojem pametnom telefonu

Čestica 5: Pražnjenje baterije na mojem pametnom telefonu bi me uplašilo

Čestica 10: Osjećao bih tjeskobu zato što ne bih mogao odmah komunicirati s obitelji i/ili prijateljima

Čestica 16: Bila bih nervozna jer ne bih bila povezala sa svojim *online* identitetom

Čestica 20: Osjećao bih se čudno jer ne bih znao što da radim...

Sve čestice evaluirane su na sedmostupanjskoj Likertovoj ljestvici, od 1 (izrazito neslaganje) do 7 (izrazito slaganje). Ukupni rezultati izračunavaju se zbrajanjem odgovora na svaku česticu rezultirajući vrijednošću nomofobije u rasponu od 20 do 140, s višim vrijednostima koje znače višu razinu nomofobije. Rezultati upitnika nomofobije protumačeni su na sljedeći način: rezultat 20 znači odsutnost nomofobije; rezultat između 20 i 60 znači blagu razinu nomofobije; rezultat veći od ili jednak 60 i manji od 100 ukazuje na umjerenu razinu nomofobije; vrijednost veća ili jednaka 100 ukazuje na ozbiljno stanje nomofobije.

Za mjerenje ovisnosti o pametnim telefonima sudionika u ovom istraživanju korišten je Upitnik nomofobije (NMF-U) koji su na turski jezik preveli Yildirim i sur. (2016). S

obzirom na činjenicu da vrijednost Cronbach Alpha-koeficijenta viša od .80 ukazuje na visoku pouzdanost ljestvice (Field, 2009), pouzdanost upitnika nomofobije bila je visoka (Cronbach Alpha = .92). Dodatno, Cronbach Alpha vrijednost za četiri dimenzije upitnika nomofobije bile su .90, .74, .94, i .91, tim redom, ukazujući na dovoljno visoku pouzdanost.

U istraživanju su primijenjeni Kaiser-Meyer-Olkin (KMO) i Barlettov test sferičnosti. Izračunat Kaiser-Meyer-Olkin (KMO) koeficijent iznosi 0,92, a vrijednost značajnosti Barlettova testa sferičnosti je 0,00. KMO vrijednost iznad 0,60 i značajna vrijednost Barlettova testa ukazuju na činjenicu da su podatci sukladni faktorskoj analizi.

Konfirmatorna faktorska analiza korištena je za potvrđivanje valjanost upitnika na koji su odgovarali učenici uz upotrebu LISREL programskoga paketa zasnovanoga na sljedećim kriterijima: „čestice mjernoga modela dobar su predstavnik povezanoga konstrukta” i „mjerni modeli primjereni su podatcima.” Stoga, za prihvatljive razine dobre prilagodbe uzete su u obzir vrijednosti GFI ≥ 0,90, CFI ≥ 0,90 i RMSEA ≤ 0,08 (Brown, 2015).

Tablica 2.

RMSEA vrijednost 0,05 ili niža ukazuje na dobru prilagodbu, dok vrijednost 0,08 ili niža ukazuje na prihvatljivu prilagodbu. Rezultati konfirmatorne faktorske analize pokazuju da t vrijednosti čestica nisu niže od 1,96, a da je kritična vrijednost na razini značajnosti od .05: RMSEA = 0,069 (vrijednost niža od ,08 je prihvatljiva), hi-kvadrat/df = 4,62 (vrijednost niža od 5 je). U svjetlu ovih vrijednosti možemo ustvrditi da čestice ljestvice imaju dobru razinu prilagodbe. S obzirom na indekse prilagodbe, GFI i AGFI vrijednosti općenito trebaju zadovoljiti kriterij >,90. Ipak, na te vrijednosti znatno utječe kršenje multivarijantne pretpostavke normalnosti. U uvjetima u kojima podatci ne zadovoljavaju multivarijantnu pretpostavku normalnosti, NNFI i CFI vrijednosti uzimaju se u obzir umjesto GFI i AGFI vrijednosti. Prema tome, vrijednosti NNFI = ,96 i CFI = ,96 > ,90 ukazuju da model ima dobru prilagodbu. Rezultati analize govore u prilog tomu da model odgovara podatcima na prihvatljivoj razini. Ti rezultati potvrđuju činjenicu da verzija ljestvice od 20 čestica za srednjoškolce mjeri ciljani konstrukt na valjani način.

Cronbach Alpha analiza pouzdanosti provedena je kako bi se utvrdili unutarnji koeficijenti pouzdanosti skale primijenjene u istraživanju. Alpha vrijednost pouzdanosti cijele skale je 0,90. Izračunate vrijednosti pouzdanosti za svaku poddimenziju - nemogućnost komunikacije, gubitak veze, nemogućnost pristupa informacijama i gubitak pogodnosti - iznose 0,79, 0,77, 0,85 i 0,88, tim redom. Prema tome, možemo zaključiti kako je razina pouzdanosti ljestvice visoka.

Polustrukturirani intervjui

Intervju je najprimjerenija i najčešće korištena metoda sakupljanja podataka u fenomenološkim istraživačkim studijama (Creswell, 2014), stoga su u ovom istraživanju provedeni polustrukturirani intervjui sa svakim sudionikom. Prije intervjua istraživač

je utvrdio žarišne teme prema kojima su određena pitanja, tj. istraživač je donio odluku o tome koje informacije treba sakupiti upotrebom intervjua. Ipak, istraživač se ne treba pridržavati plana intervjua, nego prema njegovom tijeku može postavljati nova pitanja ili mijenjati njihov slijed – postoji fleksibilnost. Naime, ponekad ispitanici kombiniraju odgovore na više pitanja u jednom odgovoru pa u tom slučaju nema potrebe ponavljati pitanja. Budući da se polustrukturirani intervju provodi u obliku sličnom raspravi, predstavlja učinkovitu metodu sakupljanja podataka.

Analiza podataka

Na početku su provedeni zavisni t-testovi kako bi se utvrdilo variraju li značajno učenički uvjeti nomofobije s obzirom na spol. Dvije pretpostavke zavisnih t-testova su normalna distribucija podataka s minimalnim jednakim intervalom (Field, 2009). Kolmogorov-Smirnov test upotrijebljen je za testiranje normalnosti distribucije. Svi izračunati rezultati potvrdili su pretpostavku normalnosti (p > ,05). Posljedično, jednosmjerna analiza varijance (ANOVA) korištena je kako bi se utvrdilo variraju li značajno varijable trajanja posjeda pametnoga telefona i vremena provedenoga na telefonu danju u uvjetima nomofobije.

Metoda analize sadržaja upotrijebljena je za obradu kvalitativnih podataka prikupljenih u istraživanju. Tijekom procesa analize sadržaja podatci su kategorizirani oko sličnih koncepata i tema koje su zatim tumačene na način razumljiv čitateljima (Creswell, 2014). Za analizu podataka sakupljenih upotrebom polustrukturiranih intervjua teme su predstavljale poddimenzije ljestvice nomofobije.

Rezultati

Ovaj dio rada predstavlja analizu podataka dobivenih upotrebom ljestvice nomofobije i polustrukturiranih intervjua s obzirom na svrhu i problem istraživanja.

Rezultati skale nomofobije

U tablici 3. prikazani su podatci deskriptivne statistike za rezultate ispitanika na skali nomofobije dobivene u istraživanju.

Tablica 3.

Vrijednosti asimetrije i spljoštenosti izračunate su kako bi se utvrdila distribucija varijabli korištenih u analizi (tablica 3.). Za normalnu distribuciju podataka te vrijednosti kreću se između -1,5 i + 1,5 (Tabachnick i Fidell, 2013). Prema tome, za rezultate koje su dobili istraživači iz skale i njezinih poddimenzija može se reći da imaju normalnu distribuciju. Aritmetička sredina skale nomofobije je izračunata (X = 72,32), a razine nomofobije srednjoškolaca su umjerene. Pri analizi aritmetičkih sredina podskala utvrđeno je kako poddimenzije nemogućnost pristupa informacijama (X = 18,09), gubitak veze (X = 23,49) i nemogućnost komunikacije (X = 15,51) imaju iznadprosječnu aritmetičku sredinu. Stoga, može se tvrditi da sudionici imaju umjerenu razinu nomofobije i osjećaju tjeskobu u vezi s nemogućnosti pristupa informacijama, gubitkom veze, nemogućnosti komuniciranja i gubitkom pogodnosti.

Učinak spola

Rezultati t-testa provedenoga kako bi se utvrdila značajnost veze između spola i razine učeničke nomofobije pokazuju da te razine značajno variraju s obzirom na spol (t765 = -4,029, p < ,001, r = ,021). Ova je razlika u korist dječaka za koje su izračunati viši prosjeci aritmetičkih sredina nomofobije.

Tablica 4.

Učinak razreda

Jednosmjerna ANOVA analiza korištena je kako bi se ispitalo razlikuju li se razine nomofobije srednjoškolaca s obzirom na razrede koje pohađaju. Rezultati ne ukazuju na postojanje statistički značajne razlike u razinama nomofobije srednjoškolaca s obzirom na razred [F (3,763) = 1,264, p = ,286]. Ovaj rezultat pokazuje kako razred (može se promatrati i kao dob) ne utječe na prisutnost nomofobije.

Tablica 5.

Učinak trajanja vlasništva pametnoga telefona

Jednosmjerna ANOVA analiza korištena je kako bi utvrdili razlikuju li se razine nomofobije srednjoškolaca s obzirom na trajanje vlasništva pametnoga telefona. Rezultati ne pokazuju statistički značajnu razliku između razina nomofobije srednjoškolaca s obzirom na trajanje vlasništva pametnoga telefona [F (2, 764) = 5.433, p = ,005]. Ovaj rezultat pokazuje da trajanje vlasništva pametnoga telefona srednjoškolaca ne utječe na prisutnost nomofobije.

Tablica 6.

Učinak samoizviještenoga vremena provedenoga na telefonu

Jednosmjerna ANOVA analiza provedena je kako bi se ispitalo ovise li razine nomofobije srednjoškolaca o samoizviještenom vremenu provedenom na telefonu tijekom dana. Rezultati pokazuju postojanje statistički značajne razlike između razina nomofobije srednjoškolaca s obzirom na vrijeme koje dnevno provedu na telefonu [F (4,762) = 21,728, p = ,000].

Tablica 7.

Tukey test korišten je kako bi se utvrdilo koje se skupine razlikuju. Rezultati analize pokazuju da su razine nomofobije učeničke skupine koja je izvijestila da koristi pametne telefone 4-6, 6-8 i iznad osam sati dnevno više kada se usporede s onima koji svoje telefone koriste između 0 i 2 sata dnevno. Prosječne razlike među njima iznosile su 10,02 i 17,23, tim redom. Razine značajnosti iznose ,001 i ,000. Zaključno, nomofobija učenika koji koriste mobitel više od 8 sati dnevno je viša od one učenika koji koriste svoje mobitele između 4 i 6 sati dnevno. Prosječna razlika među njima iznosila je 12,11, a izračunata razina značajnosti ,001.

Rezultati analize sadržaja

Razlozi korištenja pametnih telefona ispitanika

Svrhe korištenja pametnih telefona ispitanika su komunikacija, održavanje veza, društvene mreže i hobiji. Dodatno, sudionici su izjavili da koriste pametne telefone kako bi pristupili informacijama jer im pružaju brzu internetsku vezu.

Radi ilustracije navodimo riječi učenika 21 koji je naveo/la da telefon koristi zbog komunikacije: *„Većinom koristim svoj telefon kako bih slao poruke na Whatsappu. Najviše ga koristim radi komunikacije s obitelji i prijateljima.”* S druge strane, U18, koji je naveo/la da koristi telefon zbog društvenih mreža, rekao/rekla je: *„Uvijek koristim telefon kako bi surfao i dijelio stvari na društvenim mrežama (Facebook, Twitter i Instagram).”* Učenik/ica 7, koji navodi da koristi pametni telefon za održavanje veza, i učenik/ica 3 koji navodi da koristi pametni telefon kao hobi, komentirali su:

S7: *„Pametni telefon omogućuje mi razgovor s voljenima i održavanje veza s mojom obitelji.”*

S3: *„Većinom koristim pametni telefon za stvari koje najviše volim, slušanje glazbe, održavanje veza putem Whatsappa i gledanje videozapisa.”*

Uvjeti nomofobije ispitanika

Kao rezultat analize podataka dobivenih u polustrukturiranim intervjuima, koji su provedeni kako bi se otkrili uvjeti nomofobije ispitanika, formirane su teme, tj. poddimenzije skale nomofobije: nemogućnost pristupa informacijama, gubitak veze, nemogućnost komunikacije, gubitak pogodnosti.

Nemogućnost pristupa informacijama

Tema nemogućnosti pristupa informacijama kao jedan od uvjeta nomofobije ispitanika odnosi se na osjećaje ispitanika kada nemaju pristup informacijama na svojem mobilnom telefonu. Ispitanici su naveli da osjećaju ljutnju, stres i tugu te odmah pokušavaju svladati ovu prepreku kad se s njom susretnu, tj. imaju bilo kakvih problema u pristupu informacijama na svojem pametnom telefonu,

Na primjer, U3 je izjavio: *„Kada koristim pametni telefon za pisanje zadaće i svoje potrebe u svakodnevnom životu i ne mogu odmah pristupiti informacijama, naljutim se;”* a U8 izrazio je svoje misli na sljedeći način: *„Trebao bih moći pristupiti svim informacijama cijelo vrijeme. Ako to nije moguće, živčan sam i pod stresom.”*

Gubitak veze

Kao jedan od uvjeta nomofobije sudionika navodi se gubitak veze koji se odnosi na osjećaje sudionika u situacijama kada im mobiteli nemaju usluge ili im je paket interneta istekao. Ispitanici navode da u takvim situacijama osjećaju ljutnju, strah, tjeskobu, tugu, nelagodu, stres i uznemirenost. Nadalje, učenici su kao najveći strah vezan uz njihove telefone istaknuli kvar, gubitak ili krađu informacija, slabu internetsku vezu i brisanje snimljenih fotografija.

Vezano uz ovu temu U10 je izrazio svoje misli: „*Stvarno se rastužim kada mi je telefon ugašen. Ako se baterija ispraznila, odmah pokušavam pronaći punjač. Ako je istekao paket interneta, odmah kupujem novi.*" Drugi je učenik, U16, rekao: „*Postaje mi jako dosadno i postanem agresivan kada mi je telefon isključen. Također, stvarno sam u strahu od toga da mi se telefon pokvari i mora biti poslan na servis pa ga ne mogu koristiti.*"

Nemogućnost komunikacije

Vezano uz nemogućnost komunikacije kao jedan od uvjeta nomofobije ispitanika, zaključeno je da više od trećine ispitanika poduzimaju dodatne mjere kako im se baterija na telefonu ne bi ispraznila. Te mjere uključuju nošenje punjača ili rezervne baterije. Ispitanici su objasnili te postupke činjenicom da mogućnost pražnjenja mobitela čini da se osjećaju vrlo loše, doživljajem situacije u kojoj nemaju telefona kao velikog problema i potrebom da stalno imaju uključen mobitel zbog mogućih hitnih slučajeva.

Na primjer, učenik 55 ilustrirao je svoje misli sljedećim riječima: „*Uvijek poduzimam dodatne mjere kako bi spriječio gašenje telefona. Nikada ne idem van bez izvora napajanja jer mi je vrlo dosadno kada mi se telefon ugasi.*" Učenik 59 je rekao: „*Uvijek sa sobom nosim punjač kako mi se baterija na telefonu ne bi ispraznila tijekom dana jer sam stvarno vezan za svoj telefon. Ne mogu bez njega.*"

Gubitak pogodnosti

S obzirom na gubitak pogodnosti kao jedan od uvjeta nomofobije ispitanika utvrdili smo da, u slučaju kada ne mogu koristiti svoje telefone, posebno društvene mreže, ispitanici osjećaju jaku napetost, stres i iritaciju. U stvari, kada ovaj uvjet dugo traje, osjećaju nelagodu i ljutnju.

Na primjer, U2 je rekao: „*Kada dobijem poruku na društvenim mrežama, znatiželjan sam i odmah ju pročitam. Ako zbog nekog razloga nisam u mogućnosti koristiti društvene mreže, pretvorim se u ljutu i agresivnu osobu. Kada dijelim sadržaje na društvenim mrežama, ne pitam se komu se svidjelo.*" Druga ispitanik/ca, U19, izrazila je svoje misli sljedećim riječima: „*Koristim Instagram 12 sati dnevno. O svemu moram odmah biti obaviještena. Bila bih vrlo uznemirena kada ne bih mogla koristiti društvene mreže. Nakon što nešto podijelim, svakih pet minuta sam online kako bih provjerila komu se svidjelo.*"

Rasprava i zaključak

Brojna istraživanja došla su do sličnih rezultata koji svjedoče nomofobiji adolescenata i studenata (Adnan i Gezgin, 2016; Erdem i sur., 2016; Sharma i sur., 2015; Tavolacci i sur. 2015; Yildirim i sur., 2016). Rezultat jednog istraživanja provedenoga na populaciji studenata naglašava da su iskusili strahove zasnovane na poddimenzijama nomofobije, poglavito „nemogućnosti pristupanja informacijama", „neimanju mobitela", „gubitku veze" i „nemogućnosti uspostavljanja internetske veze" (Erdem i sur., 2016).

Ovo istraživanje otkrilo je da razine nomofobije srednjoškolaca značajno variraju s obzirom na spol i da su te razlike u korist muškoga spola. Istraživanje koje je

proveo Karaca (2017) otkrilo je da učenička ovisnost o internetu značajno varira prema spolu i da su rezultati ovisnosti muških učenika bili viši od onih učenica.

Razine nomofobije ispitanika ne razlikuju se značajno s obzirom na varijable razreda i trajanja vlasništva pametnog telefona. S obzirom da su učenici u različitim razredima različite dobi, rezultat ove studije ne podudara se s rezultatima koje su dobili Pearson i Hussain (2016) koji su izvijestili o povezanosti između ovisnosti o pametnom telefonu i varijabli narcisoidnosti, neurotičnosti i dobi. Uvjeti nomofobije ispitanika pokazuju značajnu varijancu s obzirom na varijablu samoizvješštenog vremena provedenoga na telefonu tijekom dana. Razine nomofobije učenika koji koriste mobitel 4-6, 6-8 i iznad 8 sati na dan više su od razina onih učenika koji koriste telefon 0-2 sata dnevno. Također, učenici koji koriste mobitel 6-8 sati dnevno ili više od osam sati imali su više razine nomofobije od onih koji ga koriste 2-4 sata dnevno. Konačno, razine nomofobije učenika koji koriste mobitel više od osam sati dnevno više su od onih koji ga koriste 4-6 sati dnevno. Drugim riječima, dokazano je da su vrijeme provedeno na mobitelu i razine nomofobije učenika u pozitivnoj korelaciji, tj. navika učenika raste. Podrška ovoj tvrdnji nalazi se i u istraživanju Soni i sur. (2017) koji tvrde da tinejdžeri koji provedu značajnu količinu vremena na svojim pametnim telefonima imaju izrazitu sklonost ovisnosti o internetu. Slično tomu, Erdem i sur. (2016) i Karaca (2017) tvrde da je dužina upotrebe mobitela u pozitivnoj korelaciji s uvjetima nomofobije. Još jedna studija provedena na 1151 ispitaniku o korištenju društvenih mreža ne pronalazi značajnu varijancu u njihovim razinama nomofobije s obzirom na razinu obrazovanja i vrijeme provedeno na pametnom telefonu. Ipak, značajna varijanca je povezana s učestalosti korištenja pametnoga telefona, vremenom provedenom na mobilnom internetu i vremenom dnevnoga korištenja mobilnoga interneta (Gezgin i sur., 2017). Razine nomofobije korisnika društvenih mreža također variraju s obzirom na vrijeme koje dnevno provedu na mobilnom internetu. Prema tomu, dokazano je da pojedinci koji dnevno provedu više vremena na mobilnom internetu imaju više razine nomofobije.

Uvjeti nomofobije ispitanika istraživani su unutar tema nemogućnosti pristupa informacijama, gubitka veze, nemogućnosti komunikacije i gubitka pogodnosti. Tema nemogućnosti pristupa informacijama odražava se u osjećajima ljutnje, stresa, tuge i trenutačnim pokušajima ispitanika uklanjanja prepreke kada ne mogu pristupiti informacijama putem svojih mobilnih telefona. Nadalje, kada ispitanici gube vezu, doživljavaju negativne osjećaje poput ljutnje, straha, tjeskobe, tuge, nelagode, stresa i iritacije. Dodatno, najveći strahovi ispitanika su kvar telefona, slaba internetska veza i brisanje snimljenih fotografija.

Ispitanici koji su vrlo uznemireni eventualnom nemogućnosti komunikacije poduzimaju dodatne mjere kako im se baterija ne bi ispraznila noseći sa sobom dodatni izvor napajanja, punjač ili rezervnu bateriju. Naveli su kako bi se u slučaju vjerojatnosti da im se telefon ugasi osjećali vrlo loše i da bi bez svojih telefona imali velike probleme. Nadalje, srednjoškolci vjeruju da njihovi telefoni trebaju uvijek biti

uključeni zbog eventualnih hitnih slučajeva. Sukladno ovim rezultatima, u istraživanju Bahi i Deluliisa (2015) 53 % sudionika izjavljuje da bi osjećalo nelagodu u slučaju gubitka pametnoga telefona, pražnjenja baterije ili gubitka signala, 9 % navodi da su pod stresom kada im je mobitel isključen. Nomofobični pojedinci osjećaju se tjeskobno kada zaborave sa sobom ponijeti mobitel, kada im se isprazni baterija ili kada nema usluge, opsesivno provjeravaju imaju li telefon čak i kada ga imaju (Dixit i sur., 2010; Gezgin i Cakir, 2016; Pavithra i Madhukumar, 2015; Sharma i sur., 2015; Yildirim i sur., 2016).

U okviru teme gubitka pogodnosti utvrdili smo da ispitanici osjećaju napetost, stres i iritaciju kada ne mogu koristiti svoje telefone, posebno društvene mreže te da osjećaju nelagodu i ljutnju kada taj uvjet traje dugo. Pozitivne percepcije pojedinaca u vezi s upotrebom društvenih mreža potiču njihovu upotrebu istih do razine ovisnosti (Hargittai, 2008; Ross i sur., 2009). Nadalje, psihološko zadovoljstvo koje društvene mreže daju posebno tinejdžerima uzrokuje njihovu prekomjernu upotrebu što značajno slabi odnose tinejdžera s drugim ljudima u svakodnevnom životu (Seo i sur., 2013).

Prema rezultatima ovoga istraživanja i onih u povezanoj literaturi, današnja mladež doživljava pametne telefone kao svoj neodjeljivi dio i smatra upotrebu modernijega i popularnijega telefona prestižem. S druge strane, neposjedovanje mobitela smatraju manom. Mladi prihvaćaju da su ovisni o tim napravama i da one ponekad čak dominiraju njihovim psihološkim potrebama i društvenim vrijednostima. Zbog toga članovi obitelji i edukatori imaju izrazito značajnu odgovornosti. Mlade koji pokazuju spomenuta ponašanja treba nadgledati i pružiti im esencijalnu i dostatnu pomoć i podršku. Na primjer, članovima obitelji mogle bi se pružiti prilike kvalitetnoga provođenja vremena bez telefona. Štoviše, u školama bi se trebale provoditi razne aktivnosti podizanja svijesti radi promocije ispravne upotrebe telefona i drugih tehnoloških naprava.