|Research Article|

An Analysis of University Students' Fear of Mobile Phone Deprivation (Nomophobia) and Levels of Happiness

Üniversite Öğrencilerinin Mobil Telefon Yoksunluğu (Nomophobia) ve Mutluluk Düzeylerinin İncelenmesi

Bayram GÖKBULUT[1]

Abstract

Despite the undeniable fact that smartphones make our lives easier, their excessive use can have negative consequences leading to nomophobia and unhappiness. In this regard, this study aims to determine the nomophobia and happiness levels of preservice teachers studying at the faculty of education at a public university in the West Black Sea Region, Turkey. The data were collected from 424 preservice teachers through the Oxford Happiness Questionnaire and the Nomophobia Questionnaire. Descriptive statistics, independent samples t-test and one-way analysis of variance (ANOVA) were used in the analysis phase of the study conducted by the survey method. The relationship between nomophobia and happiness levels of preservice teachers was determined with the Pearson Correlation Coefficient (r). As a result of the study, the nomophobia and happiness levels of the preservice teachers were found moderate. No statistical significance was observed between the gender and levels of happiness of the preservice teachers, whereas a significant difference was observed between the levels of nomophobia, which were found higher in the female preservice teachers than those of the men. Similarly, no significant difference was found between the class levels and the nomophobia levels of the preservice teachers, while a significant difference was found between the class levels and the happiness levels. Considering the difference at the class level, it appeared that the happiness levels of the third-year students were higher than those of the first and second-year students. A high positive correlation was observed between the preservice teachers' levels of nomophobia and its sub-factors (Lack of Access to Information, Relinquishing the Comfort, Failing to Communicate, Loss of Online Connection), whereas no significant relationship was found between nomophobia and happiness levels.

Öz

Akıllı cep telefonları hayatımızı kolaylaştırdığı gibi, aşırı kullanımları kişiler üzerinde nomofobi, mutsuzluk gibi olumsuz etkilere neden olabilmektedir. Yapılan bu araştırma ile Batı Karadeniz Bölgesinde bir devlet üniversitesi eğitim fakültesinde öğrenim gören öğretmen adaylarının nomofobi ve mutluluk düzeylerinin belirlenmesi amaçlanmıştır. Araştırmada, *Oxford Happiness Ölçeği* ve *Nomophobia Ölçeği* kullanılarak 424 öğretmen adayından veriler toplanmıştır. Tarama yöntemiyle gerçekleştirilen çalışmanın analiz aşamasında betimsel istatistikler, bağımsız örneklem t-testi ve tek yönlü varyans analizi (ANOVA) kullanılmıştır. Öğretmen adaylarının nomofobi ve mutluluk düzeyleri arasındaki ilişki Pearson Korelasyon Katsayısı (r) ile belirlenmiştir. Araştırma sonucunda, öğretmen adaylarının nomofobi ve mutluluk düzeylerinin orta düzey olduğu görülmüştür. Öğretmen adaylarının cinsiyetleri ile mutluluk düzeyleri arasında anlamlı bir farka rastlanamazken, nomofobi düzeyleri arasında anlamlı bir farka rastlanmış olup, kadın öğretmen adaylarının nomofobi düzeylerinin erkeklerden daha yüksek olduğu görülmüştür. Öğretmen adaylarının öğrenim gördükleri sınıf düzeyleri ile nomofobi düzeyleri arasında anlamlı bir farka rastlanamazken, sınıf ve mutluluk düzeyleri arasında anlamlı bir farka rastlanmıştır. Sınıf düzeyinde bu fark, 3. sınıfta öğrenim gören öğretmen adaylarının mutluluk düzeyleri, 1. ve 2. sınıfta öğrenim görenlerden daha yüksek olduğu görülmüştür. Öğretmen adaylarının nımıfobi ve alt faktörleri (Bilgiye Erişememe, Rahatlıktan Feragat Etme, İletişim Kuramama, Çevrimiçi Bağlantıyı Kaybetme) arasında pozitif yönlü yüksek düzey bir ilişki bulunurken, nomofobi ile mutluluk düzeyleri arasında anlamlı bir ilişkiye rastlanılmamıştır.

[1] Assoc. Prof. Dr. Bayram Gökbulut, Zonguldak Bülent Ecevit University, Department of Educational Sciences, Zonguldak/Ereğli, Turkey; https://orcid.org/0000-0002-7218-5900

INTRODUCTION

Developments in mobile phone technology have had a great impact on people's use of mobile phones, eventually making mobile phones an integral part of daily life. The fact that smartphones provide access to the Internet from anywhere and have the capacity to serve as a computer has been effective in making them indispensable (Chóliz, Pinto, Phansalkar, Corr, Mujjahid, Flores, & Barrientos, 2016). As an expected consequence, smartphones have begun to replace computers, especially with their functions of sending and receiving e-mails, opening and editing documents as well as scanning them, besides online shopping, which used to be performed only with desktop computers (Alfawareh & Jusoh, 2014; Thomée, Härenstam & Hagberg, 2011). In addition to these, the number of smartphone users continues to increase day by day due to such conveniences as taking pictures, listening to music, video talking, playing games, and using social media, besides facilitating e-government and banking transactions. This figure has increased by 2.4% every year in the world and reached 5.19 billion people today (We Are Social, 2020). In a similar manner, today, the number of people who are using mobile phones is 31 million that constitute 38% of the population in Turkey, which ranks 17th in the world in terms of using mobile phones (Information and Communication Technologies Authority, 2018). Despite the existence of clear differences between communities, societies and cultures around the world, smartphone use has become a global phenomenon (Chóliz et al., 2016). Having become so widely used, smartphones present a number of positive features such as accessing information, communicating and socializing, as well as giving the sense of freedom to individuals, but when used excessively, they are likely to cause addiction (Roberts, Yaya & Manolis, 2014). Addiction is not only a biopsychosocial process or a behaviour limited to drug use, but any kind of excessive behaviour can be an indicator of addiction (Griffiths, 2005). One of such addictive behaviours is smartphone addiction despite not having an intoxicating aspect (Yıldırım & Kişioğlu, 2018). Addiction is defined as the loss of control over an object or an action that a person uses and the inability to live without it (TBM, 2015). In the digital age, the first type of addiction that comes to mind is technology addiction or Internet addiction. Recently, since access to the Internet via smartphones has become easier, the Internet addiction has been directed towards smartphone addiction (Kuyucu, 2017). Similar to other behavioural addictions such as pathological gambling and playing video games, the ease of access to the Internet via smartphones increases the likelihood of addiction (Chóliz et al., 2016; Thomée, Härenstam & Hagberg, 2011). Besides this, smartphones can easily make people become addicted by enabling them to experience a sense of temporary relief (Kim, Seo & David, 2015). A type of social network addiction (Kuss & Griffiths, 2017), nomophobia is a mental disorder in the form of feeling anxious, tense, and uneasy that emerge as a result of being unable to access digital technologies such as via mobile phones and computers (Bragazzi, & Del Puente, 2014), or the fear of being deprived of a smartphone connection (Bhattacharya, Bashar, Srivastava & Singh, 2019). Smartphone addiction causes psychological problems such as feeling loneliness and anxiety, as well as sleep disorders (Beranuy, Oberst, Carbonell, & Chamarro; Ezoe & Toda, 2013; Jenaro, Flores, Gomez-Vela, Gonzalez-Gil, & Caballo, 2007; Lu, Watanabe, Liu, Uji, Shono & Kitamura, 2011; Park, 2005; Sánchez-Martínez & Otero, 2009; Thomée, Härenstam & Hagberg, 2011). Especially during adolescence, the release of growth and other hormones depend on regular sleep; therefore, excessive use of mobile phones during this period can cause various health problems due to sleep disorders (Gezgin, 2018; Punamäki, Wallenius, Nygård, Saarni, & Rimpelä, 2007). The consequences of excessive use of smartphones include sudden reactions, withdrawal syndrome, intolerance, and relational problems (Chóliz, Pinto, Phansalkar, Corr, Mujjahid, Flores & Barrientos, 2016). Such negative consequences can result in low motivation and unhappiness in people. Accepted as the basic component of a good life, happiness means pleasure, life satisfaction, positive emotions, and making sense of life (Çankaya & Meydan, 2018).

According to the 2018 Youth Report by the Turkish Statistical Institute, young people's Internet usage rate has risen to 93%. As a source of happiness of the young people participating in the study, health came first and success the second, while the rate of the young people who said they were happy was 55.4% (Press Advertising Agency, 2019). According to those data, 44.6% of the young people could not define themselves as happy. However, in general, individuals who define themselves as happy have positive emotions, which bring along various benefits (Genç, Şahin, & Altuntaş, 2020). The emotional state of a human that is regarded a whole with feelings, thoughts and behaviours end up affecting his/her behaviours and thoughts (Can & Cantez, 2018). Happy individuals also have higher self-efficacy (Hampton, 2004). They appear to be successful in many aspects, including marriage, friendship, income, job performance, and health; their happiness is the basis of their success (Lyubomirsky, King & Diener, 2005). Happiness is the condition that an individual feels good, enjoys life and maintains it (Wodehouse, 2005). In psychology, subjective well-being is the scientific term used as the equivalent of the term happiness, and is an individual's evaluation of his/her life to express a judgment about his/her feelings (Eryılmaz, 2011). Happiness includes various concepts such as life satisfaction of individuals as well as their pleasure, mood, and positive impacts (Diener, 1984). As the happiness levels of individuals increase, their psychological resilience increases (Can, & Cantez, 2018).

Feeling happy or being happy is likely to trigger people to give out positive energy. Especially in the classroom environment, not only teachers' eagerness to increase the motivation of students towards the lesson and create an interactive classroom environment, but also their happiness is of great importance in increasing the quality of education. However, beyond their intended purpose, the excessive use of smartphones, which are offered to us as a blessing of technology, causes an addiction called nomophobia. The literature shows that smartphone addiction is the source of a variety of mental problems such as anxiety, loneliness, sleep disorders, sudden reactions, and intolerance. It is very likely that in the event of teachers and preservice teachers

The second scale used in the study is the *Oxford Happiness Questionnaire*. The original version of the scale, the shorter form of which was developed by Hills and Argyle (2002), has a single factor, 8 items, and a 6-point Likert-type rating. Adapted to Turkish by Doğan and Çötok (2016), the scale consisted of a single factor, 7 items, and a 5-point Likert rating. The lowest score that could be obtained from the scale was 7, while the highest score was 35. The internal consistency coefficient of the scale (Cronbach's alpha) was .74. The same Cronbach's alpha = .74 value was obtained as the internal consistency coefficient obtained in this study. High scores obtained from the scale were interpreted as high levels of happiness (Doğan & Çötok, 2016).

Data Analysis

Descriptive statistics were used to determine the nomophobia and happiness levels of the preservice teachers. The normality test of the data was examined through the Kolmogorov-Smirnov test. The results of the Kolmogorov-Smirnov test conducted to ensure the normality of the data obtained from the nomophobia scale indicated $p>.05$. According to that result, the data were considered to show normal distribution. The Kolmogorov-Smirnov test results of the happiness scale indicated $p <.05$. The Skewness-Kurtosis test results were examined from among the happiness scale test results in order to decide the normality value. According to the results, Kurtosis value was found as -0.14 and Skewness value as 0.091. When Kurtosis and Skewness values are between -1.5 and +1.5, the data can be considered as normally distributed (Tabachnick & Fidell, 2013).

Independent sample t-test was applied in order to determine whether there was a statistically significant difference in nomophobia and happiness levels of preservice teachers according to gender. One-way analysis of variance (ANOVA) was conducted to determine the statistical difference between the scores obtained from the nomophobia and happiness questionnaires and their class levels.

The relationships were determined with the Pearson Correlation Coefficient (r) according to the scores obtained from the responses given to the happiness and nomophobia questionnaires. SPSS.21 software was used in the analysis of the data. The hypotheses of the study were interpreted at a 0.95 confidence interval (p = 0.05).

RESULTS

Table 2 shows the descriptive statistics obtained from the respondents in the nomophobia and happiness questionnaires

Table 2. Arithmetic Means of Nomophobia and Happiness Levels

Questionnaires	Factor	N	Minimum	Maximum	$\underline{X}$	Ss	Level
Nomophobia	Lack of Access to Information	424	4.00	28.00	18.08	5.99	Moderate
	Relinquishing the Comfort	424	5.00	35.00	20.17	7.50	Moderate
	Failing to Communicate	424	6.00	42.00	26.28	10.07	Moderate
	Loss of Online Communication	424	5.00	35.00	14.41	7.65	Mild
	Nomophobia (Total)	424	20.00	140.00	78.95	25.16	Moderate
Happiness		424	7.00	35.00	22.89	5.10	Moderate

As seen in Table 2, according to the arithmetic mean of the scores obtained from the nomophobia questionnaire, *Lack of Access to Information* ($\underline{X}$=18.08), *Relinquishing the Comfort* ($\underline{X}$=20.17), *Failing to Communicate* ($\underline{X}$=26.28), and *Nomophobia*-Total ($\underline{X}$=78.95) seem to be moderate. On the other hand, the mean score of the variable, *Loss of Online Connection* ($\underline{X}$=14.41), appears to be mild. Based on the happiness questionnaire, the preservice teachers ($\underline{X}$=22.89) seem moderately happy.

Table 3 presents the independent sample t test results between nomophobia and its sub-factors and happiness levels according to the gender of university students.

Table 3. The t test results for nomophobia and happiness scores according to gender

			N	$\underline{X}$	Ss	Sd	t	p
Nomophobia	Lack of Access to Information	Male	126	18.33	6.16	422	.56	.57
		Female	298	17.97	5.92			
	Relinquishing the comfort	Male	126	18.65	7.53	422	-2.72	.00*
		Female	298	20.82	7.41			
	Failing to Communicate	Male	126	23.00	10.20	422	-4.37	.00*
		Female	298	27.67	9.70			
	Loss of Online Connection	Male	126	13.95	7.98	422	-0.80	.42
		Female	298	14.60	7.51			
	Nomophobia (Total)	Male	126	73.93	26.26	422	-2.61	.01*
		Female	298	81.08	24.42			
Happiness		Male	126	22.96	5.87	422	0.16	.87
		Female	298	22.87	4.74			

*p<0.05

As can be seen in Table 3 showing the differences between the Nomophobia Questionnaire and its sub-factors according to gender variable, no statistically significant difference was found according to gender in the following factors: Lack of Access to Information [t (422) = 0.57; p> .05] and Loss of Online Connection [t (422) = - 0.80; of p> .05]. Nevertheless, the factors named Relinquishing the comfort [t (422) = 0.00; p <.05], Failing to Communicate [t (422) = 0.00; p <.05] and Nomophobia-Total [t (422) = 0.01; p <.05] were found to present a statistical significance according to gender, and as to these three dimensions, female preservice teachers were found to be at a higher level than males.

According to the data obtained from the Happiness Questionnaire, no significant difference was found between male and female preservice teachers [t (422) = - 0.87; p> .05].

One-way analysis of variance (ANOVA) was applied to identify whether the nomophobia levels of university students differ according to their class levels, and the test results are given in Table 4.

Table 4. ANOVA results regarding the nomophobia scores of the preservice teachers according to class levels

	N	$\underline{X}$	Source of Variance	Total Sum of Squares	sd	Mean Squares	F	p	Difference
Year 1	108	77.74	Inter-groups	624.14	3	208.04	.327	.80	---
Year 2	215	80.07	Intra-groups	267310.17	420	636.45			
Year 3	41	78.97	Total	2679334.31	423				
Year 4	60	77.15							
Total	**424**	**78.95**							

As shown in Table 4, no significant difference [F (3.420) = .327, p> .05] was found in the nomophobia levels of preservice teachers according to their class levels.

One-way analysis of variance (ANOVA) was used to identify whether the happiness levels of the preservice teachers differ according to their class levels, and the test results are given in Table 5.

Table 5. ANOVA results regarding the happiness scores of the preservice teachers according to class level

	N	$\underline{X}$	Source of Variance	Total Sum of Squares	sd	Mean Squares	F	p	Difference
Year 1	108	22.32	Inter-groups	240.16	3	80.05	3.12	.02	1-2*
Year 2	215	22.60	Intra-groups	10766.47	420	25.63			2-3*
Year 3	41	24.80	Total	11006.63	423				
Year 4	60	23.68							
Total	**424**	**22.89**							

*p<0.05

The ANOVA test presented a statistically significant difference (p <.05) between the classes attended and preservice teachers' happiness levels. The Scheffe's test, which is one of the Post Hoc Tests, was applied in order to determine between which classes the difference could be observed; however, it was not clear in the test results. The LSD test was, therefore, applied, according to whose results [F (3.371) = 3.12, p <.05] the preservice teachers studying in year 3 were found to feel happier ($\underline{X}$=24.80) than those studying in year 2 ($\underline{X}$=22.60), whereas those studying in year 2 turned out to feel themselves happier ($\underline{X}$=22.60) than those studying in year 1 ($\underline{X}$=22.32).

In the current study, Pearson Correlation Coefficient analysis was conducted to determine whether there was a significant relationship between the nomophobia levels and its sub-factors and happiness levels of university students. Analysis results can be seen in Table 6. The absolute value being between 0.70-1.00 was considered as high, between 0.70-0.30 as moderate, and between 0.30-0.00 as a low correlation (Büyüköztürk, Akgün, Demirel, Karadeniz & Kılıç-Çakmak, 2012) .

Table 6. Correlation coefficient results between students' nomophobia and happiness levels

	1	2	3	4	5	6
Lack of Access to Information	1					
Relinquishing the comfort	.516**	1				
Failing to Communicate	.456**	.654**	1			
Loss of Online Connection	.386**	.573**	.512**	1		
Nomophobia (Total)	.692**	.857**	.860**	.772**	1	
Happiness	-.077	-.103*	.052	-.058	-.046	1

*p<0.05, **p<0.01

As can be seen in Table 6, statistically significant correlations were observed between nomophobia and its sub-factors. In this context, there appeared a moderate positive correlation between the nomophobia levels and *Lack of Access to Information* variable (r=.692, p <.05), in addition to a high positive correlation with the *Relinquishing the Comfort* variable (r = .857, p <.05), a high positive correlation with the *Failing to Communicate* variable (r=.860, p <.05), and a high positive correlation with the *Loss of Online Connection* variable (r=.772, p <.05).

On the other hand, no significant correlation was observed between the happiness and any factors of nomophobia, except for the *Relinquishing the Comfort* factor (r=-.103, p<.05), which presented a low negative correlation with the level of happiness.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Nomophobia, which came out along with smartphones and became an integral part of our lives with technology, has negative emotional consequences such as anxiety, worry, and communication breakdown. Such negative emotions are also likely to affect people's motivation and happiness. This study has attempted to reveal the relationship between the nomophobia and happiness levels of preservice teachers studying at education faculties.

Nomophobia levels of preservice teachers appeared to be moderate in the current study. In particular, the nomophobia level was mild (close to moderate) in the subfactor of *Loss of Online Connection*, while it was found moderate in the other subfactors called the *Lack of Access to Information*, *Relinquishing the Comfort*, and *Failing to Communicate*.

Among the studies conducted with university students in the literature are those in which the feelings of nomophobia are above the average (Adnan & Gezgin, 2016; Akıllı & Gezgin, 2016; Gezgin & Şahin, 2017; Burucuoğlu, 2017; Yılmaz, Köse & Doğru, 2018). According to a study conducted with associate degree students by Sırakaya (2018), the researcher pointed out that as the frequency of checking on the smartphone increases, so does nomophobia.

A study conducted with medical faculty students reported that the prevalence of nomophobia was as high as 71.39% (Myakal & Vedpathak, 2019). Similarly, another study conducted with patients admitted to university hospitals revealed that the level of nomophobia was above the average (Kocabaş & Korucu, 2018). Moreover, a study conducted with teachers found that teachers' nomophobia levels were also observed above the average (Ercan & Tekin, 2019). A comparative study with young adults in different countries noted that the highest rate of addiction was among the Irish youth, followed by young people in Pakistan, India, Spain, Mexico, Guatemala, and Peru (Chóliz et al., 2016). A metaphor study conducted with preservice teachers in Turkey showed that smartphones are presented with connotations indicating that they are considered vital like "a friend, an organ, food, a need, or a lover" (Gezgin, Hamutoğlu, Sezen-Gültekin, & Yıldırım, 2019). Given this fact, various studies have been carried out in different countries with young people, university students, teachers, and adults. It seems clear that nomophobia is not only a problem of a country or a certain age group, but a global problem, and appears to pose a risk for all age groups.

This study found a significant relationship between nomophobia and its sub-factors: *Relinquishing the Comfort* and *Failing to Communicate* according to the gender variable of the preservice teachers, while no significant relationship was found in the subfactors of *Lack of Access to Information* and *Loss of Online Connection*. Female preservice teachers' nomophobia levels turned out to be higher than those of the male preservice teachers in relation to nomophobia and two of its sub-factors, namely, *Relinquishing the Comfort* and *Failing to Communicate*. In a way that supports our findings, other academic studies conducted with university students reported that nomophobia levels of female participants were observed to be higher than those of males' (Burucuoğlu, 2017; Gezgin, Şumuer, Arslan & Yıldırım, 2017; Yılmaz, Köse, & Doğru, 2018). Contrary to these research findings, there are also studies in which the nomophobia levels of males were found higher (Myakal & Vedpathak, 2019). In a study conducted with teachers, it was observed that male teachers had higher nomophobia levels compared to female teachers, and those who were younger had higher nomophobia tendencies than those who were older (Ercan & Tekin, 2019). There are also studies in the literature where there is no significant difference between gender and nomophobia (Adnan & Gezgin, 2016; Demir, Kutlu, & Kaya, 2016; Turgut & İnce, 2022). In a comparative study with young people from different countries, the smartphone addiction levels of females in Peru, Guatemala, Mexico and Spain were higher than those of males, while no significant difference was found among the Irish, Pakistani and Indian participants (Chóliz et al., 2016). The distress caused by nomophobia in individuals also varies according to gender. Thomée, Härenstam and Hagberg (2011) reported that females had higher levels of stress, sleep disorders and depression than males in their study conducted with 4156 young participants. Considering the findings of this study and other studies together, it is seen that nomophobic tendencies tend to differ according to gender in different countries and to whether the participants are students, teachers, or adolescents.

In this study, no significant difference was found between the happiness levels of university students and their gender. There are other studies in the literature in which no significant relationship was found between gender and happiness, supporting the findings of this study (Akyüz, Yaşartürk, Aydın, Zorba & Türkmen, 2017; Can & Cantez, 2018; Çankaya & Meydan, 2018; Öztürk, Meral & Yılmaz, 2017; Yeter, 2019). Similarly, in another study conducted with teachers, no significant difference was found according to gender (Genç, Şahin, & Altuntaş, 2020). According to these results, it can be asserted that gender is not a determining factor for people to feel happy.

As a result of the study, no significant difference was found among the levels of nomophobia according to the students' class levels. In a study by Adnan and Gezgin (2016), the researchers did not find a statistically significant difference according to the class level, supporting the results of this study. Apak and Yaman (2019) stated in their study that no significant difference was found between the class levels of male students and nomophobia, while the nomophobia levels decreased as the class levels of female students increased. Ramazanoğlu (2020) reported that year one and year four preservice teachers had higher levels of nomophobia than those of preservice teachers studying in other classes. In a study conducted with university students, Taştan (2020) concluded that the second-year students had the highest nomophobia levels, while first-year students had the lowest.

The study revealed a statistically significant difference between the class level of university students and their level of happiness. The difference is that while third-year students appeared to feel happier than second-year students, second-year students appeared to feel happier than first-year students. It can be assumed that as the class level increases, the happiness level of the preservice teachers increases as well. Aksoy, Aytar, and Kaytez (2017) obtained a number of results that support the research findings in this study. The reason for this is that the students who have just started university feel unhappy due to such reasons as leaving the family, changing the living environment, adapting to school, finding friends, having accommodation problems, and starting to live with people they do not know, while on the other hand, students in upper classes have a lower school stress, which may stem from graduation excitement and students' dreams about possessing a profession. Yeter (2019), on the contrary, did not come up with a result indicating a clearly significant difference between class levels in a study with university students.

According to the last finding obtained in the study, no statistically significant relationship was found between the nomophobia and happiness levels of preservice teachers. Only a low negative correlation was found between happiness levels and a sub-factor-the *Relinquishing the comfort*. In relation to this, it can be assumed that no relationship exists between the happiness levels of university students and their symptoms of nomophobia. While there are very few studies examining the relationship between nomophobia and happiness in the literature, there are also many other studies conducted with different variables. In a study conducted with secondary school students by Yıldırım (2019), the researcher concluded that there is a low negative correlation between nomophobia and happiness. In another study conducted with associate degree students by Aşık (2018), the author concluded that there is a weak and opposite correlation between the sense of belonging and nomophobia. Büyükalim (2020) concluded in a master's degree research conducted with university students that the sense of belonging has a predictive effect on nomophobia and life satisfaction. Apak and Yaman (2019) detected a low positive relationship in their study examining the relationship between nomophobia and social phobia. In another study conducted with athletes, a moderate positive correlation was found between nomophobia and Internet addiction (Yıldız, Kurnaz, & Kırık, 2020). According to a study examining the happiness, self-efficacy and psychological resilience of university students, the psychological resilience of the students appeared to increase as their happiness levels increased (Açıkgöz, 2016; Can & Cantez, 2018). A study conducted with adolescents found that as loneliness increases, happiness decreases (Demir, Kutlu, & Kaya, 2016), and a sense of hope significantly suggests happiness (Çankaya & Meydan, 2018). Furthermore, another study conducted with university students suggested that optimism positively affects happiness and life satisfaction (Gülcan & Bal, 2014; Sapmaz & Doğan, 2012). In a similar sense, a study conducted with teachers concluded that happiness positively affects optimism (Genç, Şahin, & Altuntaş, 2020). Happiness influences participatory humour and self-enhancing humour in a positive way, while affecting aggressive and self-destructive humour in a negative way (Açıkgöz, 2016). The feeling of happiness has been observed to positively indicate the values of power, achievement, hedonism, stimulation, self-direction, traditionalism, conformity, security, universalism, and benevolence (Özdemir & Koruklu, 2011). In a study conducted with managers, it was observed that the innovation management self-efficacy levels of managers with positive emotional states were higher than those with negative moods (Mürtezaoğlu, 2015).

Recommendations

This study is limited to students studying at the education faculty in a public university in the West Black Sea Region, Turkey. It is recommended that this study be conducted in the faculties of education and other departments in other regions of Turkey to contribute to the relevant literature. The sample group in this study consisted of preservice teachers. Such a study can also be carried out with students studying in teaching departments with high probability of being appointed and those with low probability of being appointed. Thereby, the impacts of being appointed as a teacher on students' happiness and nomophobia levels can be revealed. In the literature, most of the studies have been conducted with university students. Today, the use of smartphones has dropped to elementary school levels. A similar study can, therefore, be carried out especially for secondary and high school students. The source of spiritual activities such as happiness, sadness, and joy may differ according to people and the culture in which they are raised. Consequently, further intercultural comparative studies involving different cultures and nations can be conducted to contribute to the relevant literature.

The author received no financial support for the research, authorship, and/or publication of this article.

Statements of publication ethics

We hereby declare that the study has no unethical issues and that research and publication ethics have been observed carefully.

Researchers' contribution rate

The article has a single author. The contribution rate of the first author is 100%.

Ethics Committee Approval Information

Ethics committee approval was obtained from Zonguldak Bülent Ecevit University with protocol number 769, dated 12.03.2020.

REFERENCES

Açıkgöz, M. (2016). *Çukurova üniversitesi tıp fakültesi öğrencilerinin psikolojik sağlamlık ile mizah tarzları ve happiness düzeyi arasındaki ilişkinin incelenmesi*, (Yayımlanmamış yüksek lisans tezi). Çağ Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Adnan, M., ve Gezgin, D. M. (2016). Modern çağın yeni fobisi: Üniversite öğrencileri arasında nomophobia prevalansı. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi, 49*(1), 141-158.

Akıllı, G. K. ve Gezgin, D. M. (2016). Üniversite öğrencilerinin nomophobia düzeyleri ile farklı davranış örüntülerinin arasındaki ilişkilerin incelenmesi. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi, 1*(40), 51-69.

Aksoy, A. B., Aytar, A. G. ve Kaytez, N. (2017). Üniversite öğrencilerinin happiness ve alçak gönüllülük düzeylerinin bazı değişkenlere göre incelenmesi. *Kastamonu Eğitim Dergisi*, *25*(3), 1119-1132.

Akyüz, H., Yaşartürk, F., Aydın, İ., Zorba, E. ve Türkmen, M. (2017). Üniversite öğrencilerinin yaşam kalitesi ve happiness düzeyleri arasındaki ilişkinin incelenmesi. *Uluslararası Kültürel ve Sosyal Araştırmalar Dergisi, 3*(2), 253-262.

Alfawareh, H. M. and Jusoh, S. (2014). Smartphones usage mong university students: Najran University Case. *International Journal of Academic Research, 6*(2), 321-326. doi: 10.7813/2075-4124.2014/6-2/B.48

Apak, E. ve Yaman, Ö. M. (2019). Üniversite öğrencilerinde nomophobia yaygınlığı ve nomophobia ile sosyal fobi arasındaki ilişki: Bingöl Üniversitesi örneklemi. *Addıcta: The Turkısh Journal on Addıctıons, 6(*3), 609–627. doi: 10.15805/addicta.2019.6.3.0078

Aşık, N. A. (2018). Aidiyet duygusu ve nomophobia ilişkisi: Turizm öğrencileri üzerinde bir araştırma. *Turar Turizm ve Araştırma Dergisi*, *7*(2), 24-42.

Beranuy, M., Oberst, U., Carbonell, X. and Chamarro, A. (2009). Problematic Internet and mobile phone use and clinical symptoms in college students: The role of emotional intelligence. *Computers in Human Behavior, 25*(5), 1182–1187.

Bhattacharya, S., Bashar, M. A., Srivastava, A. and Singh, A. (2019). Nomophobia: No mobile phone phobia. *Journal of family medicine and primary care*, *8*(4), 1297.

Bragazzi, N. L., & Del Puente, G. (2014). A proposal for including nomophobia in the new DSM-V. *Psychology research and behavior management*, *7*, 155.

Basın İlan Kurumu, (2019). *TÜİK'in istatistiklerle gençlik 2018 raporu*. Erişim tarihi: 15.01.2020, https://www.bik.gov.tr/tuikin-istatistiklerle-genclik-2018-raporu-aciklandi/

Bilgi Teknolojileri ve İletişim Kurumu. (2018). Türkiye elektronik haberleşme sektörü. Üç aylık Pazar verileri raporu. Erişim Tarihi: 12.09.2019 https://www.btk.gov.tr/uploads/pages/pazar-verileri/2019-1-ceyrekraporu-kurumdisi-5d3579a08c809.pdf

Burucuoğlu, M. (2017). Meslek yüksekokulu öğrencilerinin nomophobia düzeyleri üzerinde bir araştırma. *Karabük Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *7*(2), 482-489.

Büyükalim, M. (2020). *Üniversite öğrencilerinde genel aidiyet, nomophobia ve yaşam doyumu arasındaki yordayıcı ilişkiler.* (Yayınlanmamış yüksek lisans tezi). Necmettin Erbakan Üniversitesi Eğitim Bİlimleri Enstitüsü, Konya.

Büyüköztürk, Ş., Akgün, Ö. E., Demirel, F., Karadeniz, Ş. ve Kılıç Çakmak, E. (2012). *Bilimsel araştırma yöntemleri,* (Geliştirilmiş 12. Baskı). Ankara: Pegem Akademi.

Can, M. ve Cantez, E. K. (2018). Üniversite öğrencilerinin happiness, psikolojik sağlamlık ve öz yeterlik düzeyleri arasındaki ilişki. *Aydın İnsan ve Toplum Dergisi*, *4*(2), 61-76.

Chóliz, M., Pinto, L., Phansalkar, S. S., Corr, E., Mujjahid, A., Flores, C. and Barrientos, P. E. (2016). Development of a brief multicultural version of the test of mobile phone dependence (TMDbrief) questionnaire. *Frontiers in psychology*, *7*, 650.

Çankaya, Z. C. ve Meydan, B. (2018). Ergenlik döneminde happiness ve umut. *Electronic Journal of Social Sciences*, *17*(65), 207-22.

Demir, Y., Kutlu, M. ve Kaya, O. (2016). *Ergenlerde happiness ve yalnızlık arasındaki ilişkilerinin incelenmesi*. I.Avrasya Pozitif Psikoloji Kongresi, İstanbul, 28-30 Nisan 2016.

Diener, Ed, Subjective Well-Being (1984). Psychological Bulletin, 95,(3). Erişim Tarihi: 02.02.2020 https://ssrn.com/abstract=2162125

Doğan, T. ve Çötok, N. A. (2016). Oxford happiness ölçeği kısa formunun Türkçe uyarlaması: Geçerlik ve güvenirlik çalışması. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, *4*(36), 165-172.

Ercan, Ö. ve Tekin, N. (2019). Beden eğitimi öğretmenlerinin nomophobia düzeylerinin incelenmesi. *Journal of Global Sport and Education Research*, *2*(1), 24-34.

Eryılmaz, A. (2011). Ergen öznel iyi oluşunun, öznel iyi oluşu arttırma stratejilerini kullanma ile yaşam amaçlarını belirleme açısından incelenmesi. *Dusunen Adam: Journal of Psychiatry & Neurological Sciences*, *24*(1), 44-51.

Ezoe, S. and Toda, M. (2013). Relationships of loneliness and mobile phone dependence with Internet addiction in Japanese medical students. *Open Journal of Preventive Medicine*, *3*(6), 407-412. http://dx.doi.org/10.4236/ojpm.2013.36055

Fraenkel, J. R. and Wallen, N. E. (2005).*How to design and evaluate research in education,* New York: McGraw-Hill, Inc.

Genç, H., Şahin, Y. ve Altuntaş, S. (2020). Öğretmenlerde happiness ve iyimserlik üzerine bir araştırma. *İnönü Üniversitesi Eğitim Fakültesi Dergisi 21*(1), 178-192. doi: 10.17679/inuefd.555345

Gezgin, M. D. ve Şahin, L. Y. (2017). Sosyal ağ kullanıcılarının nomophobia düzeylerinin çeşitli faktörler açısından incelenmesi. *Eğitim Teknolojisi Kuram ve Uygulama, 7*(1), 1-15.

Gezgin, D. M. (2018). Understanding Patterns for Smartphone Addiction: Age, Sleep Duration, Social Network Use and Fear of Missing Out. *Cypriot Journal of Educational Sciences*, *13*(2), 166–177. https://doi.org/10.18844/cjes.v13i2.2938.

Gezgin, D. M., Şumuer, E., Arslan, O., & Yıldırım, S. (2017). Nomophobia prevalence among pre-service teachers: A case of Trakya University. *Trakya Üniversitesi Eğitim Fakültesi Dergisi*, *7*(1), 86-95.

Gezgin, D. M., Hamutoğlu, N. B., Sezen-Gültekin, G. ve Yıldırım, S. (2019). Preservice teachers' metaphorical perceptions on smartphone, no mobile phone phobia (nomophobia) and fear of missing out (FoMO). *Bartın University Journal of Faculty of Education, 8*(2), 733-783.

Griffiths, M. (2005). A "components" model of addiction within a biopsychosocial framework. *Journal of Substance Use, 10*(4), 191–197. doi:10.1080/14659890500114359

Gülcan, A., ve Bal, P. N. (2014). Genç yetişkinlerde iyimserliğin happiness ve yaşam doyumu üzerindeki etkisinin incelenmesi. *Asian Journal of Instruction*, *2*(1), 41-52.

Hampton, N. Z. (2004). Subjective well-being among people with spinal cord injuries*. Rehabilitation Counseling Bulletin, 48*(1), *31–37.* doi:10.1177/00343552040480010401

Hills, P. and Argyle, M. (2002). The Oxford Happiness Questionnaire: a compact scale for the measurement of psychological well-being. *Personality and Individual Differences* 33, 1073–1082.

Jenaro, C., Flores, N., Gomez-Vela, M., Gonzalez-Gil, F. and Caballo, C. (2007). Problematic Internet and cell-phone use: Psychological, behavioral, and health correlates*. Addiction Research & Theory, 15*(3), 309–320

Karasar, N. (2017). B*ilimsel araştırma yöntemi: kavramlar ilkeler teknikler* (2. Yazım, 32. Basım). Ankara: Nobel Akademik Yayıncılık.

Kim, J., Seo, M. And David, P. (2015). Alleviating depression only to become problematic mobile phone users: Can face-to-face communication be the antidote? *Computers in Human Behavior 51*(2015) 440–447.

Kocabaş, D. ve Korucu, K. S. (2018). Dijital çağın hastalığı nomophobia üzerine bir araştırma. *Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi*, *5*(11), 254-268.

Kuss, D. J., & Griffiths, M. D. (2017). Social networking sites and addiction: Ten lessons learned. *International journal of environmental research and public health*, *14*(3), 311.

Kuyucu, M. (2017). Gençlerde akıllı telefon kullanımı ve akıllı telefon bağımlılığı sorunsalı: "akıllı telefon(kolik)" üniversite gençliği. *Global Media Journal*, *7*(14).

Sánchez-Martínez, M. and Otero, A. (2009). Factors associated with cell phone use in adolescents in the community of Madrid (Spain*). CyberPsychology & Behavior, 12(*2), 131–137*.* doi:10.1089/cpb.2008.0164

Sapmaz, F. ve Doğan, T. (2012). Happiness ve yaşam doyumunun yordayıcısı olarak iyimserlik. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, *8*(3), 63-69.

Tabachnick, B. G. and Fidell, L. S. (2013). *Using multivariate statistics*. Boston: Pearson

TBM. (2015). *Türkiye bağımlılıkla mücadele eğitim programı. Teknoloji yerinde yeterince*. TBM Alan Kitaplığı Dizisi 9.

Taştan, S. (2020). *Spor yapan ve yapmayan üniversite öğrencilerinde Internet bağımlılığı ve nomophobia düzeylerinin incelenmesi.* Yayımlanmamış yüksek lisans tezi. Süleyman Demirel Üniversitesi Sağlık Bilimleri Enstitüsü Spor Bilimleri Anabilim Dalı, Isparta.

Thomée, S., Härenstam, A., and Hagberg, M. (2011). Mobile phone use and stress, sleep disturbances, and symptoms of depression among young adults-a prospective cohort study. *BMC public health*, *11*(1), 66.

Turgut, M., and İnce, M. (2022). Investıgatıon Of The Relationship Between Teachers' use Of Educational Technologies And Nomophobia. *European Journal Of Alternative Education Studies*, *7*(1).

Lu, X., Watanabe, J., Liu, Q., Uji, M., Shono, M. ve Kitamura, T. (2011). Internet and mobile phone text-messaging dependency: Factor structure and correlation with dysphoric mood among Japanese adults. *Computers in Human Behavior, 27*(5), 1702–1709

Lyubomirsky, S., King, L. and Diener, E. (2005). The Benefits of Frequent Positive Affect: Does Happiness Lead to Success? *Psychological Bulletin, 131*(6), 803–855. doi:10.1037/0033-2909.131.6.803

Mürtezaoğlu, S. (2015). *Pozitif-negatif duyguların, otomatik düşüncelerin ve bazı kişisel değişkenlerin okul yöneticilerinin yenilik yönetimi yeterlik inanç düzeyleri üzerindeki etkisi*. (Yayımlanmamış Yüksek Lisans tezi). İstanbul Aydın Üniversitesi, Sosyal Bilimler Enstitüsü, İstanbul.

Myakal, V. V. and Vedpathak, V. L. (2019). Nomophobia-mobile phone dependence, a study among students of a rural medical college. *International Journal of Community Medicine and Public Health*, *6*(5), 2034.

Özdemir, Y. ve Koruklu, N. (2011). Üniversite öğrencilerinde değerler ve happiness arasındaki ilişkinin incelenmesi. *Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi*, *8*(1), 190-210.

Öztürk, L., Meral, G. ve Yılmaz, S. S. (2017). Lisans öğrencilerinin happiness ve akademik başarı ilişkisi: Kırıkkale Üniversitesi örneği. *17th International Symposium on Econometrics, Operations Research and Statistics,* Sivas, Turkey 2-4 June 2016.

Park, W. K. (2005). Mobile Phone Addiction. Computer Supported Cooperative Work. *Mobile Communications: Re-Negotiation Of The Social Sphere* (31), 253–272. doi:10.1007/1-84628-248-9_17

Punamäki, R.-L., Wallenius, M., Nygård, C.-H., Saarni, L. and Rimpelä, A. (2007). Use of information and communication technology (ICT) and perceived health in adolescence: The role of sleeping habits and waking-time tiredness. *Journal of Adolescence, 30*(4), 569–585. doi:10.1016/j.adolescence.2006.07.004

Ramazanoğlu, M. (2020). Öğretmen adaylarının nomophobia düzeylerinin belirlenmesi. *Ekev Akademi Dergisi, 24*(81).

Roberts, A., J., Yaya, P., H., L., and Manolis, C., 2014). The invisible addiction: Cell-phone activities and addiction among male and female college students. *Journal of Behavioral Addictions 3*(4), 254–65 (2014). DOI: 10.1556/JBA.3.2014.015

Sırakaya, M. (2018). Ön lisans öğrencilerinin nomophobia düzeylerinin akıllı telefon kullanım durumlarına göre incelenmesi. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, *14*(2), 714-727.

We Are Social (2020). Digital 2020 global digital overview. Retrieved on: 18/03/2020 https://wearesocial.com/blog/2020/01/digital-2020-3-8-billion-people-use-social-media

Wodehouse, P. G. (2005). What is happiness? Editör Layard, R. (2005). Happiness: Lessons from a new science. London: Penguin Books

Yeter, S. İ. (2019). *Üniversite öğrencilerinin happiness düzeylerinin aile aidiyeti ve manevi yönelimlerine göre yordanması.* (Yayınlanmamış Yüksek Lisans Tezi). Marmara Üniversitesi, Eğitim Bilimleri Fakültesi, İstanbul.

Yıldırım, O. (2019). *Ergenlerde akıllı telefondan yoksun kalma korkusu (nomophobia) ile sosyodemografik değişkenler, temel psikolojik ihtiyaçlar, sürekli kaygı ve happiness arasındaki ilişkinin incelenmesi.* (Yayınlanmamış yüksek lisans tezi). İnönü Üniversitesi, Eğitim Bilimleri Enstitüsü, Malatya.

Yıldırım, C., Sumuer, E., Adnan, M. ve Yıldırım, S. (2016). A growing fear: Prevalence of nomophobia among Turkish college students. *Information Development, 32*(5), 1322-1331.

Yıldırım, S. ve Kişioğlu, A. N. (2018). Teknolojinin getirdiği yeni hastalıklar: Nomophobia, netlessfobi, FoMO. *Medical Journal of Suleyman Demirel University*, *25*(4), 473-480.

Yıldız, K., Kurnaz, D., ve Kırık, A. M. (2020). Nomophobia, netlessfobi ve gelişmeleri kaçırma korkusu: Sporcu genç yetişkinler üzerine bir araştırma. *Manisa Celal Bayar Üniversitesi Sosyal Bilimler Dergisi*, *18*(Özel Sayı), 321-338.

Yılmaz, M., Köse, A. ve Doğru, Y. B. (2018). 2018- Informatics and communication technologies special issue. *İletişim ve Bilişim Teknolojileri, özel sayı, 9*(35). doi: 10.5824/1309-1581.2018.5.003.x

Yildirim, C., & Correia, A. P. (2015). Exploring the dimensions of nomophobia: Development and validation of a self-reported questionnaire. *Computers in Human Behavior*, *49*, 130-137.