

Examining Loneliness and Nomophobia in Terms of Different Variables

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ABSTRACT

The aim of the study was to investigate the relationship between nomophobia and loneliness and to what extent nomophobia and loneliness levels of university students differ in terms of different variables. The study was carried through a descriptive model. The data obtained from 486 undergraduates in Yeditepe University via demographic information form, Nomophobia Questionnaire, and UCLA Loneliness Scale. Pearson correlation coefficient was used to assess the relationship between nomophobia and loneliness levels of university students. The differences among dependent variables with regard to independent variables were determined via independent t-tests and one-way ANOVA analysis. The results showed that there was no significant correlation between nomophobia and loneliness. The findings indicated that university students' nomophobia levels differed significantly with regard to gender, whether carrying a charger, daily duration of smartphone usage, smartphone usage for social media, smartphone usage for online shopping, and smartphone checking habits (checking as soon as waking up and checking just before sleeping). Additionally, the results revealed that university students' loneliness levels showed significant differences in terms of daily duration of smartphone usage, smartphone usage for online shopping, and smartphone usage for playing games.

Keywords: Loneliness, Nomophobia, Mobile Phone Addiction.

ÖZ

Bu araştırma, üniversite öğrencilerinin nomofobi ve yalnızlık düzeyleri arasındaki ilişkinin belirlenmesi ve nomofobi ve yalnızlık düzeylerinin çeşitli değişkenlere göre incelenmesi amacıyla gerçekleştirilmiştir. Araştırma betimsel model kapsamında yürütülmüştür. Veriler demografik bilgi formu, Nomofobi Ölçeği ve UCLA Yalnızlık Ölçeği aracılığıyla Yeditepe Üniversitesinde öğrenim görmekte olan 486 lisans öğrencisinden toplanmıştır. Öğrencilerin nomofobi ve yalnızlık düzeyleri arasındaki ilişkinin belirlenmesinde Pearson Korelasyon Katsayısı kullanılmıştır. Bağımsız değişkenlere göre nomofobi ve yalnızlık puanlarındaki farklılıkların saptanmasında ise bağımsız gruplar t-testi ve tek yönlü varyans analizinden (ANOVA) yararlanılmıştır. Araştırma kapsamında nomofobi ve yalnızlık düzeyleri arasında anlamlı bir ilişki bulunmamıştır. Ayrıca, araştırma sonuçları nomofobi puanlarının cinsiyet, şarj aleti taşıma durumu, günlük akıllı telefon kullanım süresi, akıllı telefonu sosyal medya için kullanma, akıllı telefonu alışveriş için kullanma ve akıllı telefonu kontrol etme alışkanlıkları (uyanır uyanmaz ve yatmadan hemen önce) değişkenlerine göre anlamlı bir şekilde farklılaştığını göstermiştir. Yalnızlık puanlarının ise günlük akıllı telefon kullanım süresi, akıllı telefonu alışveriş için kullanma ve akıllı telefonu oyun oynamak için kullanma değişkenlerine göre anlamlı bir şekilde farklılaştığı saptanmıştır.

Anahtar Kelimeler: *Yalnızlık, Nomofobi, Cep Telefonu Bağımlılığı.*

1. INTRODUCTION

As social entities, individuals need to interact with other people to survive and to adapt the changes around them. As the individual develops, these interactions vary and serve to fulfill different needs (Hamarta, 2004). According to Maslow's Hierarchy of Needs, to fulfill the love and belonging needs, individuals need to form and maintain close relationships with other people. By the fulfillment of love and belonging needs, people overcome their feelings of loneliness (Maslow, 1981).

Peplau and Perlman (1982) defined loneliness as the unsatisfied experience that individuals experience when they cannot obtain a satisfaction (either qualitatively or quantitatively) from their social relationships. It should be underlined that loneliness is an emotion which is different from being alone. Someone alone refers to a person who is by himself, so this person may or may not feel lonely. Loneliness is an emotional response to not being satisfied with a person's need to connect with others (Svendsen, 2017).

In literature, loneliness is typically conceptualized by a unidimensional or multidimensional approach. While the unidimensional approach to loneliness which centers the unidimensional measure (UCLA Loneliness Scale (Russell, 1996; Russell et al., 1980; Russell et al., 1978) emphasize general themes in the loneliness experience, multidimensional one tries to categorize the various forms of loneliness (Dittman, 2003). For instance, Moustakas (1961) emphasizes that the term loneliness anxiety should not be confused with existential loneliness. The concept he calls loneliness anxiety is, in his own definition, "a basic alienation between man and man". Differently, existential loneliness is an inevitable part of an individual's life experience. Weiss (1973) distinguishes between social loneliness and emotional loneliness. Emotional one occurs as a result of the individual's inability to have a relationship with someone. This version of loneliness may stem from life events such as the death of a partner, the end of a romantic relationship or divorce. In other respects, social loneliness stems from the lack of integration with society. Major life events may cause this version of loneliness. In this concept, starting college or moving from a city/an environment can be considered as major life events (Russell, Cutrona, Rose, and Yurko, 1984).

As it is seen, various theoretical views regarding loneliness have been put forward by different researchers. Generally, it has been focused on social relationships and the level of satisfaction gained from them. Brellim (1985) attributed the causes of loneliness to the inadequacies in relationships, the changes an individual wants in his relationships and personal characteristics. In another study, Demir (1990) stated that university students who do not spend their free time with others, those with few close friends, those who are not reluctant to establish

new social relationships, those who see their social skills as insufficient, those who do not open their problems to others were found to have higher loneliness levels.

University life has a potential to create an inconsistency between the individuals' desired and actual social relationships. Major life events that feed this inconsistency such as leaving behind social relationships (such as family or friends) from the previous life period, ending a romantic relationship, problems with the newly settled accommodation or roommates might be experienced. As a result of these inconsistencies, students may feel lonely. (Cutrona, 1982). In this period, students may be inclined to find friends on the internet to get rid of this feeling of loneliness and to get social support (Ren, Yang, & Liu, 2017). This is supported by Kraut et al. (2002)'s study which stated that internet use is associated with reducing loneliness in extroverts. According to Bian and Leung (2014), smartphones decrease individuals' anxiety levels related to loneliness since smartphones aim to enable people to communicate instantly even if they are not together (Townsend, 2000)

Today, most people choose the way of sending messages to communicate with their friends. The idea of being "just a click away" from friends meet the basic human need which is feeling secure. (Jesse, 2016). Valkenburg and Peter (2007)'s study revealed that students who spend more time on instant messaging have higher levels of friendship quality than the ones who do not. Another study showed that individuals who use SNSs (social network sites as Facebook) more frequently have higher levels of subjective well-being than the ones who do not (Wang, Jackson, Gaskin and Wang, 2014).

Even though the internet, smart phone usage, instant messaging, social networking sites etc. have advantages such as making communication easier and instant, they bring out some problems when they are used uncontrolled. For instance, excessive usage of social media was found to be linked with depression (Lin, Sidani, Shensa, Radovic, Miller, Colditz & Primack, 2016; Balcı & Baloğlu, 2018) low subjective well-being (Ahn & Shin, 2013; Kross, Verduyn, Demiralp, Park, Lee, Lin, Shablack, Jonides & Ybarra, 2013) and low levels of life satisfaction (Balcı & Koçak, 2017; Sahin, 2017). In a similar vein, excessive use of the internet is associated with depression (Turnalar, 2008; Odacı & Çikrikci, 2016), loneliness (Odacı & Kalkan, 2010), shyness (Odacı & Berber-Çelik, 2013) and low self-esteem (Chethana, Nelliyanil & Anil, 2020).

When the excessive usage of social media, the internet or smart phones are not controlled, it directly affects the anxiety levels of individuals. There are studies showing that anxiety levels of individuals were increased via excessive social media usage (Vannucci, Flannery & Ohannessian, 2017), internet addiction (Ağırtaş & Güler, 2020; Akboğa & Gürgan, 2019) and mobile phone addiction (Yang, Zhou, Liu & Fan, 2019; Jang & Oh, 2009).

Since the rapid increase in excessive usage of the internet and smartphones a new type of phobia has been defined in the literature. Feelings like anxiety and discomfort caused by being unable to stay away from the mobile phone and fear of missing something when they were away from the mobile phone were defined as nomophobia (King, Valença & Nardi, 2010). Yıldırım (2014), has defined four sub-dimensions related to nomophobia. The first sub-dimension, not being able to communicate, refers to a fear of losing instant communication with

people or not being able to access services that provide this instant communication. The second one, losing connectedness, refers to a fear of staying away from the individual's online identity or losing connection. The third sub-dimension, not being able to access information, refers to being in a position not able to reach and search for information reached through smart phones. Lastly, giving up convenience refers to concern about giving up the convenience of smartphones or the desire for the convenience of smartphones. In short, it can be said that nomophobic individuals feel anxiety when they are not able to use or check their mobile phones and try to avoid circumstances that keep them out of the convenience of mobile phones.

In Bragazzi & Del Puente (2014)'s study in which the nomophobia was proposed to be included in DSM-V The attributes of nomophobic individuals were denoted as follow:

- 1- Regular use of the phone, a considerable amount of time on the phone and carrying a charger with you all the time
- 2- Feeling anxious when the phone is not near or accessible / usable. Consciously avoiding the environments (subway, theater, plane, etc.) that will cause them
- 3- Checking the phone for a call or a message even though there is no notification alert of a call or message from the phone
- 4- Keeping the phone switched 24/7 and taking the phone with you to bed while you sleep
- 5- Preferring to communicate through technology, keeping socialization to a minimum, with the concern that it will cause anxiety
- 6- To pay a lot or to be in a big debt due to the use of the phone.

By taking into consideration these attributes, Pavithra, Madhukumar & Mahadeva (2015)'s study carried out in India with medical school students, reported that 39,5% of the participants were found to be nomophobic. In another study which was conducted in England, 66% of 1000 participants reported that they felt anxious when they were apart from their mobile phones (SecurEnvoy, 2012). In the study of Tivolacci, Meyrignac, Richard, Dechelotte & Ladner, (2015), it was found that one in three college students in France were suffered from nomophobia. Moreover, 12,3% of the students reported that they woke up because of their mobile phones during their sleep and 13,6% of the students reported that they must be reachable 24/7. In the study of Yildirim and Correia (2015), it was found that 42.6% of the college students in Turkey had nomophobia. Another study on college students indicated that their nomophobia level was above moderate (Adnan & Gezgin, 2016).

The Internet's and smartphones' intense penetration into our lives has intensified the work on nomophobia in literature over the years. Studies showed that while nomophobia was found to be positively correlated with depression (Büyükçolpan, 2019) and anxiety (Kaleli, 2020), it is negatively correlated with subjective well-being (Tivolacci et al., 2015; Güllüce, Kaygın & Börekçi, 2019) and academic success (Erdem, Kalkın, Türen & Deniz, 2016).

Besides these studies, the association between loneliness and nomophobia was examined in the literature. Several studies showed that there is a positive correlation between them (Özdemir, Çakır & Hussain, 2018; Yıldız-Durak, 2018; Gezgin, Hamutoğlu, Sezen-Gültekin & Ayaş, 2018). On the other hand, Çelebi, Metin, İncedere, Aygün, Bedir and Özbulut (2020)'s and

Chethana, Nelliyanil and Anil (2020)'s studies stated that there is no significant correlation between nomophobia and loneliness. Since the studies related to loneliness and nomophobia in literature are not consistent with each other, more studies are needed in this area. So, this study aimed to examine the relationship between nomophobia and loneliness. Besides, differences among university students' nomophobia and loneliness levels with regard to gender, daily duration of smartphone use, reasons for smart phone usage (social media, shopping and playing games) were examined. Moreover, whether university students' nomophobia levels differed significantly in terms of smart phone checking habits (checking as soon as waking up and checking just before sleeping) and carrying a charger were also checked within the scope of the study.

2. METHOD

2.1. Research Design

This study was carried out through a descriptive model. The correlational method which aims to measure the correlation between two or more variables without interfering with the variables and the survey method which aims to describe an existing situation related to the research subject were used (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz & Demirel, 2015).

2.2. Participants

In the present study, data was collected via convenience sampling method in which the sample is taken from a group of people that the researcher can contact easily (Büyüköztürk et al., 2015). In this regard, the research sample included 486 undergraduates (383 females, 103 males) of Yeditepe University in the academic year of 2018 and 2019.

2.3. Data Collection Tools

2.3.1. Demographic Information Form

A demographic information form consisting of questions related to gender, whether carrying a charger, daily duration of smartphone use, reasons for smartphone usage and smartphone checking habits was developed by the researchers.

2.3.2. Nomophobia Questionnaire (NMP-Q)

Nomophobia Questionnaire was developed by Yildirim and Correia (2015) to measure college students' nomophobic behaviors. Turkish adaptation of NMP-Q was conducted by Yıldırım, Sumuer, Adnan and Yıldırım (2016). NMP-Q consists of 20 items and has four dimensions (Not Being Able to Access Information, Losing Connectedness, Not Being Able to Communicate, Giving up Convenience). In the original study, Cronbach's alpha coefficient was 0,95 and for sub-dimensions were 0,94, 0,87, 0,83, and 0,81, respectively. In Turkish adaptation study, Cronbach's alpha coefficient was found as 0,92 and for sub-dimensions were calculated as 0,90, 0,74, 0,94, and 0,91, respectively. In the present study, the sub-dimensions of NMP-Q were not used in the analysis and the Cronbach's alpha value was found as 0,94 which was consistent with the results of original and adaptation studies.

2.3.3. UCLA Loneliness Scale (UCLA-LS)

UCLA (University of California, Los Angeles) Loneliness scale was developed by Russell, Peplau and Ferguson (1978) and revised by Russell, Peplau and Cutrona (1980). UCLA-LS is a 4-

point Likert type scale consisting of 20 items. The Turkish adaptation of the scale was undertaken by Demir (1989). Cronbach's alpha coefficient of the scale was reported as 0,94 in the original study and 0,96 in the adaptation study. In the present study, the Cronbach's alpha coefficient of UCLA-LS was 0,84.

2.4. Data Analyses

Before conducting the analyses, extreme values were checked via a box-plot chart and exclude from the sample. After, normal distributions of variables were tested via kurtosis and skewness coefficients. According to Büyüköztürk (2015), if these coefficients are in the range of -1 and +1, this points out a normal distribution. Since the kurtosis and skewness coefficients are in the acceptable range (0,123 and -0,665 for NMP-Q; 0,627 and -0,268 for UCLA-LS), parametric tests are used. Pearson correlation coefficient was conducted to assess the relationship between nomophobia and loneliness levels of university students. The differences among dependent variables with regard to independent variables were determined via independent t-tests and one-way ANOVA analysis. For gender, whether carrying a charger, reasons for smartphone usage (social media, shopping and playing games) and smartphone checking habits (checking as soon as waking up and checking just before sleeping) variables, independent samples t-tests were carried out. For the daily duration of smart phone use variable, one way ANOVA was computed. All statistical analyses were conducted through SPSS version 25.0.

3. RESULTS

3.1. Results Related to Correlation Between Nomophobia And Loneliness

To determine the relationship between nomophobia and loneliness levels of university students, Pearson Correlation Coefficient was computed. According to the results, there was no significant correlation between nomophobia and loneliness scores ($r=0,03$, $p=0,485$).

3.2. Results Related to Nomophobia With Regard To Different Variables

In order to assess whether university students' nomophobia levels differed in terms of independent variables, independent samples t-tests and one-way ANOVA were carried out. With regard to gender, there was a significant difference among university students' nomophobia levels [$t(484)= 4,20$, $p<0,05$]. Female students ($M=77,04$; $SD=27,52$) had higher levels of nomophobia than male students ($M=64,30$; $SD=26,38$). In terms of whether carrying a charger, there was a significant difference among nomophobia levels [$t(484)= 3,77$, $p<0,05$]. University students who carried a charger with them ($M=78,62$; $SD=27,35$) were prone to nomophobia than the ones who did not carry a charger ($M=69,21$; $SD=27,40$). Additionally, participants' nomophobia levels differed significantly with respect to the daily duration of smart phone usage [$F(2,483)= 34,48$, $p<0,05$]. The daily duration of smart phone usage variable was categorized as group 1: less than 3 hours; group 2: between 3 and 5 hours; group 3: more than 5 hours. LSD test results revealed that group 3 ($M=84,42$; $SD=27,24$) were more prone to nomophobia than group 1 ($M=60,03$; $SD=24,52$) and group 2 ($M=69,46$; $SD=25,18$). In a similar vein, group 2 ($M=69,46$; $SD=25,18$) were more prone to nomophobia than group 1 ($M=60,03$; $SD=24,52$).

When the reasons for smart phone usage were taken into consideration, nomophobia levels showed significant differences in terms of social media and shopping [$t(484)= -2,94$, $p<0,05$;

$t(484) = -3,27, p < 0,05$ respectively]. According to results, participants who used smartphones for social media ($M=75,70; SD=27,52$) had higher levels of nomophobia than the ones who did not ($M=64,34; SD=27,56$). Similarly, participants who shopped online via smart phone ($M=80,15; SD=27,08$) were prone to nomophobia than the ones who did not ($M=71,52; SD=27,67$). On the other hand, there was no significant difference among nomophobia levels with regard to game-playing [$t(484) = -0,56, p > 0,05$].

Finally, when the smartphone checking habits were taken in to account, significant differences were detected among nomophobia levels in accordance with checking smartphone as soon as waking up and checking smartphone just before sleeping [$t(484) = -8,50, p < 0,05; t(484) = -4,90, p < 0,05$ respectively]. University students who checked their smartphones as soon as waking up ($M=83,02; SD=26,22$) had higher levels of nomophobia than the ones who did not ($M=62,84; SD=25,49$). Similarly, university students who checked their smartphones just before sleeping ($M=77,95; SD=27,68$) had higher levels of nomophobia than the ones who did not ($M=64,25; SD=25,44$).

3.3. Results Related to Loneliness With Regard To Different Variables

To determine whether university students' loneliness levels differed in accordance with independent variables, independent samples t-tests and one-way ANOVA were carried out. With regard to gender, no significant difference was detected among university students' loneliness levels [$t(484) = -1,74, p > 0,05$]. On the other hand, participants' loneliness levels differed significantly with respect to the daily duration of smartphone usage [$F(2,483) = 5,62, p < 0,05$]. Independent variable was categorized as group 1: less than 3 hours; group 2: between 3 and 5 hours; group 3: more than 5 hours. According to results, group 1 ($M=41,54; SD=8,93$) were lonelier than group 3 ($M=37,92; SD=8,61$).

When the reasons for smart phone usage were taken into account, loneliness levels showed no significant difference in terms of social media [$t(484) = 1,54, p > 0,05$]. On the other hand, there were significant differences in terms of shopping and game-playing [$t(484) = 2,09, p < 0,05; t(484) = -1,97, p < 0,05$ respectively]. According to results, participants who used smartphones for online shopping ($M=37,96; SD=8,88$) had lower levels of loneliness than the ones who did not ($M=39,81; SD=9,22$). Also, students who did not use smartphones for game-playing ($M=38,66; SD=9,03$) were lonelier than the ones who used smartphones for game-playing ($M=40,43; SD=9,30$).

4. DISCUSSION

This study investigated the relationship between nomophobia and loneliness, and to what extent these variables differ according to gender, carrying a charger, the daily duration of smartphone usage, reasons for smartphone usage, and smartphone checking habits.

The results of this study revealed no significant correlation between nomophobia and loneliness. While this finding of the present study does not correspond with the results of several studies (Özdemir, Çakır & Hussain, 2018; Yıldız-Durak, 2018; Gezgin, Hamutoğlu, Sezen-Gültekin & Ayaş, 2018), it is consistent with the results of Çelebi et al. (2020)'s and Chethana, Nelliyanil and Anil (2020)'s studies. One of the possible explanations of why there is

no significant correlation between nomophobia and loneliness might be that nowadays the internet via smartphones is mostly used for communication. According to the statistical data of the research called Proportion of Internet Activities of Individuals who have Accessed the Internet in the Last 3 Months, instant messaging via Skype, Messenger etc. (95,1%), making calls (including video calls) via Skype, Facetime etc. (88,1%), participating in social networks such as Facebook, Twitter etc. (80,2%) were placed in the top three purposes (TurkStat, 2020). As it is seen, the internet is mostly used for communication purposes which leads to a decrease in loneliness levels of individuals. For instance, in Shaw and Gant (2002)'s study, individuals who chatted on the internet over the course of 4-8 weeks of study declared a decrease in their loneliness levels. Moreover, Kujath (2011)'s study showed that individuals mostly used social network sites such as Facebook, MySpace etc. for keeping in touch with people who they already knew. In the light of these informations, it can be said that smartphones appear to be the supporters in maintaining and strengthening communication with the social environment. By this way, individuals do not feel lonely. Another possible explanation of why there is no significant correlation between nomophobia and loneliness might be that nowadays smartphones make individuals' lives easier by providing them different applications to maintain daily life necessities faster. For instance, individuals can instantly shop for groceries, access personal health records online, make an appointment with a practitioner, read the news, use internet banking, pay bills, listen to music or audio books, search for information etc. via different smartphone applications. In other words, people might have nomophobia not because they are lonely but because smartphones facilitate their work and ease their lives.

Another finding of the study was that females were found to have higher levels of nomophobia compared to males. This result is not consistent with Nagpal and Kaur (2016)'s study in which males had higher levels of nomophobia than females. Additionally, Uysal, Özen, Madenoğlu (2016) and Dixit, Shukla, Bhagwat, Bindal, Goyal and Zaidi (2010) did not state any significant difference among nomophobia levels in terms of gender. On the other hand, the finding of the current study is consistent with the studies (Yoğurtçu, 2018; Arpacı, Baloğlu, Kozan & Kesici, 2017 and Hoşgör et al., 2017; Gezgin et al., 2017; Erdem et al., 2017 and Kanmani et al., 2017). These inconsistencies among the results of the studies may be derived from the time and context where the studies were carried out.

In this study, it was detected that university students who carried a charger with them had higher levels of nomophobia compared to those who did not. Several studies support the finding of the current study (Yoğurtçu, 2018; Hoşgör et al., 2017; Akıllı & Gezgin, 2016). Additionally, Pavithra and Madhukumar (2015) indicated that 23% of the students felt stress and had focusing problems due to battery running out of their phones. In fact, Bragazzi and Del Puente (2014) defined this situation as one of the clinical characteristics of nomophobia. Therefore, it can be said that nomophobic individuals have a tendency to carry charging devices with them in order to reduce anxiety about not being able to access to important things that they can reach via smartphones.

Considering another finding of the study, a significant difference among nomophobia scores with regard to daily duration of smartphone usage was found. As the daily duration of smart phones increased, nomophobia levels of students increased. This finding is consistent with the literature. There are studies that provided evidence that there is a positive correlation between the daily duration of smartphone usage and nomophobia (Kara, Baytemir & İnceman-Kara, 2019; Gonçalves, Dias & Correia, 2020). All these findings are supported by the fact that since nomophobic individuals feel anxious when they are away from their smartphones, they spend more time on their smartphones. Bragazzi and Del Puente (2014) also denoted that spending a considerable amount of time on the smartphone is one of the characteristics of nomophobia. So, it can be interpreted as smartphone usage intensity is an important indicator of nomophobia.

When the reasons for smartphone usage were taken into consideration, while the nomophobia levels of university students who used smartphones for social media and shopping were higher than those who did not, using smartphone for gaming did not reveal a significant difference among nomophobia scores. Findings related to social media usage are consistent with the studies of Ayar, Gerçeker, Özdemir and Bektas (2018) and Yıldız-Durak (2018). Both the communication and influence power of social media draw people to use social media actively. At the same time, its constant self-updating pushes individuals to control their social media accounts actively. Hoffman & Novak (2012) conducted a qualitative study to investigate the reasons for social media usage. The study results revealed that individuals' primary reason for using social media was found to be the goals. It was observed that individuals who used social media in line with a goal (being friends with more people, making money, becoming famous etc.) were more intensive social media users. Therefore, social media users do not want to miss the agenda and frequently use social media in order to reach their goals faster. For this reason, it can be said that the use of smartphones by individuals who use social media intensively is increasing proportionally.

Findings related to shopping were found to be consistent with the study of Sırakaya (2018) in which the nomophobia levels of university students who used their mobile phones for shopping were also higher. Since online shopping is more advantageous in terms of both accessibility and physical effort, many people have started to shop online. Household Information Technology (IT) Usage Survey was conducted by TurkStat (2020) and the results showed that the rate of shopping over the internet was 36.5% among Turkish citizens. Therefore, the time spent physically in the store is now spent on shopping sites through smartphones and this change through time results in using smartphones more frequently.

Using a smartphone for gaming activities was also one of the responses obtained from students. According to the finding of the study, no significant difference was found among nomophobia levels in terms of this variable. Variables such as how many hours in a day individuals use their smartphones for playing games, whether they have game addiction symptoms were not investigated within the frame of this study. So, the distinction between addiction and online game playing should be underlined. Previous studies on addiction and

game-playing behavior advocated that achieving success at the end of the game, the pleasure of moving in a different world supported addictive behavior. On the other hand, Charlton and Danforth (2007)'s study revealed that this description of addictive behaviors is quite limited when it comes to online gaming and arousals like euphoria. Therefore, within the scope of this study, it can be concluded that using the smartphone for gaming is not related to having nomophobic characteristics.

Moreover, it was detected that participants who controlled their smartphones as soon as waking up were found to have more nomophobic characteristics than those who did not. Considering the definition of nomophobia, individuals become more dependent on their smartphones and the changes occur in their daily behavior patterns and habits (Yıldırım, 2014). The finding is congruent with the literature (Akıllı & Gezgin, 2016; Yıldırım, 2014) supporting that checking the smartphone right after waking up in the morning is an important determinant of nomophobia. According to Przybylski, Murayama, DeHaan and Gladwell (2013), feeling uneasy about that your peers know and own more than you do or that you have missed something or that you are left behind is defined as the fear of missing out. In the light of this definition, it can be said that the need for checking smartphone as soon as waking up in the morning arises from the fear of missing out. The intensity of this effort to keep up with what others might have and to be in constant flow also supports the nomophobic behavior patterns of university students.

Lastly, it was detected that university students who checked their smartphones just before sleeping had higher nomophobia levels than those who did not. This finding of the current study is congruent with the previous studies (Akıllı & Gezgin, 2016; Pavithra, Madhukumar & Mahadeva, 2015; Jilisha, Venkatachalam, Menon & Olickal, 2019). According to Pavithra, Madhukumar and Mahadeva (2015), checking the phone just before sleeping is one of the characteristic features of nomophobia. Individuals want to check the flow of the online world for the last time before they go to sleep and they want to make sure that they are not lagging behind what is happening in this world while they are awake. This behaviour is also congruent with the nomophobia description of Yıldırım (2014), the fear of staying away from the individual's online identity or losing connection. With the fear of staying away from their online identities, the individuals start to use their smartphones more frequently and develop the habit of checking their smartphones in many areas of their lives.

Another finding obtained from the study was that the loneliness levels of university students did not differ significantly with regard to gender. Whereas the finding does not correspond with the study of Yılık, Sancak-Aydın and Demir (2018) in which males had higher levels of loneliness, it is supported by several studies (Siyahtaş, 2020; Chang, 2018; Buluş, 1997). McWhirter (1997) argued that loneliness in men and women occurs due to the lack of different resources. While the lack of a support group causes loneliness in men, the lack of close relationships in women causes loneliness. Based on these explanations, it can be said that loneliness exists in both genders even though it originates from different deficiencies.

In this study, it was found that students who used their smartphones less often reported higher loneliness scores compared to their correspondents. This finding is supported by the study of Gao, Li, Zhu, Liu and Liu (2016) stating that individuals who feel loneliness receive fewer phone calls and less social interaction through their smartphones. As individuals use their smartphones, they feel belonging to a social network and thus they actually feel less lonely. So, it can be said that students who use their phones less often feel lonelier.

Another finding obtained from the study was that participants who used their smartphones for social media had lower scores on the loneliness scale than those who did not. But, this difference was not statistically significant. Although there are studies supported that social media usage cause an increase in loneliness (Savci & Aysan, 2016; Hunt, Marx, Lipson, & Young, 2018) , there are also studies that showed the opposite (a decrease in loneliness) (Pittman, 2015; Pittman & Reich, 2016). At this point, the perspective on understanding this situation becomes very important. The first possible point of view is that people spend a lot of time on social media because they are alone. The second point of view is that people do not feel lonely because they can communicate and socialize through social media. The findings of this study related to loneliness support the second point of view on this issue. According to Fugate (2011), social media reduces the distance between individuals by facilitating participation in an active and effective dialogue. Many people see social media as an option when they cannot satisfy their communication needs in real life. Additionally, social media enable individuals to maintain and strengthen their existing friendships which lead to attenuation of loneliness.

Regarding the findings of the current study, university students who used their smartphones for shopping purposes were found to have lower levels of loneliness. In the literature reviewed within the scope of this study, no study examining loneliness in terms of smartphone usage for shopping was found. Csikszentmihalyi (1975) defined flow as a state in which a person is fully focused on what he/she is doing without being interfered by irrelevant thoughts. According to Rajendran and Arun (2020), online shopping generates a flow experience for individuals. Therefore, it may be said that using smartphones for shopping enables people to experience the state of flow which may lead to a decrease in their loneliness levels.

Additionally, the current study revealed that the university students who used smartphones in order to play games had higher loneliness levels than those who did not. This finding of the current study is congruent with the literature (Wang, Sheng, & Wang, 2019; Tian et al., 2018). Wang, Sheng and Wang (2019) stated that online game addiction results in social isolation and relatively poorer emotional health. The time individuals spend for playing games via smartphones is a time that is stolen from social relationships. In this direction, it may be said that individuals who use smartphones to play games prefer the pleasure and satisfaction obtained from games instead of social interactions. Therefore, they fall behind from socializing and become lonelier

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