An Assessment of Nomophobia Situation of IT Students: An Example of Eastern Mediterranean University

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ABSTRACT

The rapid improvement of technology among technical devices such as smart phone, provide more learning opportunities beyond the classroom in educational environment. However, beside these advantages and effects of smartphone use on educational setting, there are disadvantages, which have negative effect on learners. One of which is a phenomenon known as nomophobia. This is a psychological condition regarded as fear of being without mobile phone or not being able to access the Internet on mobile phone.

The aim of this study is to investigate an assessment of nomophobia situation among IT students in Eastern Mediterranean University (EMU). The research method of the study was quantitative survey approach using Nomohpobia Questionnaire (NMP-Q). To reach this aim, 205 questionnaires were gathering among Information and Technology (IT) students from four different age group and two diverse genders.

The gathered data of the study is analyzed with descriptive statistics, mean, frequency standard deviation, percentage, t-Test and Anova. The Findings revealed that participants have almost high-level nomophobic behavior and female participants have more predisposed to nomophobic situations in comparison with male participants and the students between ages 21-25 struggled more with the effects of nomophobia when compared to the other age groups. Additionally, according to t-Test analysis, nomophobia is significant on gender of IT students. Moreover, consistent with Anova analysis, nomophobia has significance on age of participants.

Keywords: Nomophobia, Nomophobia behavior, IT Students

ÖZ

Akıllı telefon teknolojisinin, hızlı bir şekilde geliştirilmesinden dolayı eğitim ortamında sınıfın ötesinde daha fazla öğrenme fırsatı sunmaktadır. Literatür göre, akıllı telefon kullanımının eğitim ortamına getirdiği bu avantaj ve etkilerinin yanı sıra, öğrenciler üzerinde olumsuz etkisi olan dezavantajlar da bulunmaktadır. En önemli dezavantaj bir tanesi dir.

Bu çalışmanın amacı, Doğu Akdeniz Üniversitesi'nde (DAÜ) Bilgi ve Teknoloji (BT) bölümüne kayıtlı öğrencilerin nomofobi durumunun incelenmesidir. Bu amaca ulaşmak için Nomofobia anketi (NMP-Q) kullanılmış ve dört farklı yaş grubundaki BT öğrencileri arasında 205 anket toplanmıştır.

Bu çalışmada toplanan veriler; tanımlayıcı istatistik, ortalama, frekans standart sapması, yüzde, t-Testi ve Anova gibi testlerle analiz edilmiştir. Araştırmanın bulgularında, katılımcıların neredeyse üst düzeyde nomofobik davranışa sahip oldukları belirlenmiştir. Ayrıca, kadın katılımcılar erkek katılımcılarla karşılaştırıldığında nomofobik durumlara daha yatkın olduklarını görülmüş ve 21-25 yaş arasındaki katılımcıların, diğer yaş gruplarına göre nomofobi etkilerinin daha fazla olduğu araştırma neticesinde ortaya çıkmıştır.

Anahtar Kelimeler: Nomofobia, Nomofobik davranış, BT öğrencileri

DEDICATION

To My Mom……

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Chapter1

INTRODUCTION

The invention and advancements in Information Communication Technology (ICT) has revolutionized the world into a global village. It has undoubtedly become an integral part of everyday life of people, having a global impact on social, economic, political and educational activities. Globally, amongst the numerous ICT ever invented, the mobile phone has been an unprecedented technological success story. It has remained one of the most valuable gadgets designed, and have continuously been improved to evolve into what is presently known as smartphones.

The increased use of smartphone as computing devices on college campuses has presented new options for higher education students and the exploration of mobility and social media as an instructional tool (Gikas & Grant, 2013). These devices can provide students with access to course content, as well as interact with colleagues and instructors from any location (Cavus & Ibrahim, 2008; Cavus & Ibrahim, 2009). Until date, ICT has served the purpose of learning and transfer of knowledge from instructors and providing e-learning platforms supported by educational policies. Likewise, it has led academic institutions to use and access technology, although the access to these technologies is few in the classroom (Waddell, 2015).

The learning and teaching fields in education are powered by technology progress evaluations that offer insight for instructors and communication evidence. The benefits

of these technologies have been extended beyond classroom learning into other sections of educational institutions including libraries, laboratory etc. Furthermore, ICT has provided varied e-learning programs that offer opportunities for disabled and mentally challenged individuals' who are able to learning. To support the above assertions, made by studies towards understanding the role of ICT in education, the United States department of education suggests that there is a need for further research on the pros and cons of using technology in education in future (Thomas, 2016).

The use of technology in classroom is needed to bring students out from their daily activities and todays it's possible to combine technology tools and classroom activities such as broad cast technologies, electronic whiteboards, flipped classroom, computers, laptops, tablets or smartphones to look out lectures from education department servers (Jackie, 2017). These technological combinations with education also possess several challenges in teaching and learning environment due to differences in individual adaptability because people have various levels of suitability when it comes to familiarizing something new. This has posed a challenge of finding a balance on the effects of usage and addictions to these technologies (Gaille, 2018).

Smartphones are among the most popular technology devices in the recent decade (Munoz, 2018; Barney, 2008). Prior to this innovation in ICT, people had to write letters or go to post offices miles away from their locations to deliver messages. Similarly, photographs were taken in photo studios or even had to pay to have their picture taken. These activities have taken a tremendous turn with the upgrades made in mobile phone, turning them into smartphones (Munoz, 2018; Barney, 2008).

Today, these functionalities are combined to one, four-sided revolutionist technology that holds onto getting smarter daily. In so far as, smartphones are never kept out of reach from people. Smartphones have become a principal part of our daily life, which offers countless benefit like Short Message Systems (SMS), Multimedia Messaging Services (MMS), mobile gaming, virtual interactions, data presentations, photography as well as application for health, entertainment and educational purposes (Munoz, 2018; Barney, 2008).

Although smartphones have provided several educational advantages for its users, it has also presented some disadvantages born out of addiction or inappropriate use including phobia, anxiety, violent, cyberbullying trap, inevitable cheating, and especially distraction during the class when students have their smartphones or other technologies out (Ramey, 2013).

Similarly, smartphone addiction has been shown to cause both bodily and mental exhaustion that may lead to anxiety, restlessness, nervousness, and tantrum (Puente & Balmori, 2007).

Phobia situations are determined when an explicit condition recommends a forceful, illogical anxiety that hints to a strong feedback that can have effect over physical and mental state. For example, anxiety of flying, which is named aviophobia, is the most public situation on fears. Aviophobia patients struggle to escape from heights as much as possible. If they had to fly because of some causes, they would suffer high levels of anxiety and tension (Skolnick, Schare, Wyatt & Tillman, 2012).

Likewise, the situation of nomophobia derived from a combination of the words “no, mobile phone” and “phobia”. Nomophobia is described as the fear of being without your phone. Individuals, who suffer this psychological syndrome, may face anxiety due to inability of reaching or checking their smartphone, which eventually forces them into moods of nervousness, and anxiety (Igarashi, Motoyoshi, Takai & Yoshida, 2008). This anxiety negatively affects the individual’s focus on daily activities. High levels of smartphone usage give increase to nomophobia especially for youths, according to Kaplan & Mertkan Gezgin (2016) which is evidenced to have harmful effects on their academic performance.

Additionally nomophobia has been referred to as craving without the use of drug in the twenty first century and time wasting is extremely evaluated as a harmful side on smartphones craving (Lepp, Barkley & Karpinski, 2015). According to Yildirim & Correia (2015), the escape of feared situation, an object or situation that makes immediate anxiety and the fear on who has anxiety, because of not being able to carry and use of smartphone, can be considered as a symptom of nomophobia which as result was shown the females suffered from this kind of nervousness more than males.

There are evidences to present on positive findings, which are related to higher addiction behaviors like gambling and alcohol that showed western culture and gender have influence on negative behaviors between youths (Shell, Newman & Xiaoyi, 2010). On the other hand, other psychological suffering like unhappiness because of anxiety, can be the other type of psychological distress which the results showed that 55.3% of participants on this study had anxiety and 56.0% suffered from depression (Lin & Pakpour, 2017). The study conducted by Anushri, Darshana, Minakshi, Pranali, Sneha & Lakshmanan (2018) on a high school students in India revealed that

more than five percent of students had high level of nomophobic behavior and around forty percent of them, suffered from minor level of nomophobia.

Furthermore, another study carried out by Prasad, Patthi, Singla, Gupta, Saha, Jishnu, Krishna, Malhi & Pandita (2017) on a Collage in India, showed that more than thirty percent of students had low results in their exams if they spend more time on their smartphone during the day. As well, the investigation conducted by Securenevoy (2012) considered that sixty-six percent of United Kingdom population suffered from nomophobic behavior and smartphone users believe that their phone has vital role on their life.

As it can see from the literature, an assessment of nomophobia situation is being a very popular subject for last decade and students typically struggle with their smartphone usage. In addition, there are very limited studies done in North Cyprus on the nomophobia situation of students. Therefore, this study intends to bridge the gap in the research subject under investigation.

1.1 Aim of the Study

The main purpose of this thesis is to investigate the Nomophobia situation of Information and Technology (IT) students of EMU.

1.2 Research Questions

To achieve the aim of this research, the following questions are considered:

1. What are the Nomophobia situations of IT students?
2. Is there any relationship between Nomophobia situation and gender of IT students?
3. Is there any relationship between Nomophobia situation and age of IT students?

1.3 Significance of Study

This study will aid to provide outlook of nomophobia and smartphone addiction between students and shows the unhealthy effect of smartphone use on IT students which plays a vital role in educational life. The smartphones entice learners to use them in more time, but this attraction has negative influence and making panic stricken on learners.

With the purpose of developing new educational outlooks to solve the issues related to nomophobic behavior on IT students and also the effect of that on educational filed, this study is significant for universities which conducted to know and define nomophobia level of IT students in EMU university.

Additionally, it is going to be useful for both learners and instructors to have a better reflection on educational setting by understanding about smartphone use in a healthy way to promote learning environment and good relationships and communication can protect educational settings by knowledge about nomophobia suffered. Moreover, the expansion of nomophobic behavior can be concerning in nomophobic studies in the future.

1.4 Limitation of Study

This study was carried out in the fall semester of 2018-2019. The scope of this investigation was limited to only IT students in EMU.

1.5 Definition of Key Terms

Phobia: It is a kind of anxiety or panic, which causes extreme fear about a state, place, or specific things (Nordqvist, 2017).

Nomophobia: It outlooks about being without mobile phone and has been labelled in anxiety and panic behaviors on who hasn’t access or cannot use their smartphone for communication (Yildirim & Correia, 2015).

Chapter 2

LITERATURE REVIEW

Global technology and changes on it play an important role in each personal life. The trend of the society is used to every change in the ICT filed (Goswami & Singh, 2016). According to recent studies technical connection provided by technological devices have a vital role in our life. Technical devices do not just deliver a platform for social interaction and entertainment; they also provide leading research, which can be a means to involve in interesting measures (Rana & Nishad, 2016; Kang & Jung, 2014).

In 1983, the first mobile phone was recognized to the consumer market and has become apparently mainstream in the most of societies (AMTA, 2003). Higher pliability in contrast to landline telephones are delivered by technological devices such as allowing the user to leave home and keep communication and connection with the others (Yildirim & Correia, 2015).

The effect on technology usage in learning has changed the situations of learning and it has made more chances that are scholastic. Both instructors and learners have profited by numerous scholastic technologies. Instructors have learned how to combine technology in their institutional environments and learners are being more concerned in study with technology. Technology serves a purpose of motivation among students such as games, educational videos too more motivating and prepare

learners for their future technological Jobs. Technology usage in education unlocks and removes boundaries and provides virtual or e-learning opportunity (Ramey, 2013).

2.1 Global Impacts of Smartphone Technologies

Although the worldwide technology and changes on it, has an essential character in both personal and educational lifetime, the present tendency of the world is used to change in technology and connection filed (Goswami & Singh, 2016). The rapid rate of improvement has resulted in much device development such as smartphone, which is known as a critical and essential tool for communicating and connecting with people and even is used for disasters (Salehan & Negahban, 2013). Smartphones provide us more flexibility when compared to home telephones for example they allow the user to leave home and remain connected (Rana & Nishad, 2016). Moreover, smartphones are used everywhere and with many abilities. According to Kang & Jung (2014), the smartphones let people to reach requests similar knowledge, personal skill, security, and human communication, which have eligible to the movement of smartphones.

It has been predicted that about 4.5 billion people use smartphones in the world and it is no surprise that a huge chunk of this statistics involves the youth who see smartphone as more necessary than a luxury for them (Goswami & Singh, 2016). Internet applications have been rapidly available with smartphones, which has also caused some psychological, social (aloneness, social nervousness, personal relations), and addiction problems (Augner & Hacker, 2012; Bian & Leung, 2015; Choliz, 2012).

Smartphone dependence can be seen to look like other technology-based dependences such as internet, gaming, and computer addictions (Kim, 2013). However,

smartphones have been suggested to be more dangerous among these other technology-founded dependences (Demirci, Orhan, Demirdas, Akpınar & Sert, 2014).

A study carried out by Russell (2018), to determine the benefits of allowing students to use smartphones actively as learning devices in school, concluded that smartphone devices are a suitable learning tool in educational institutions. Research has shown that over thirty percent of students' shows that nearly a hundred of them use their phone during the classes and more than sixty percent use their phone at libraries which may lead to ringxiety, also referred to as phantom ringing in the study (Subba, Mandelia, Pathak, Reddy, Goel, & Tayal, 2013).

Nowadays, youth are almost always present in online social platforms, making friends and habitually engaging in events far away from the physical environment over their smartphones usage and enhancing their company in digital media (Yılmaz, Şar & Civan, 2015). This isolation form the physical environment and addition to the virtual world offered by smartphone usage results to online craving, impulsive and excessive behavior (Oulasvirta, Rattenbury, Ma & Raita, 2011). How can these habits become addictive? Habits are shaped through repetition of acts in convinced circumstances, triggered by situational cues, such as places, people, and preceding actions" (Oulasvirta et al., 2011). Habits are behavioral actions with no self-instruction or aware thinking (La Rose & Eastin, 2004). Habits bring negative and positive things as the same time and eventually gain control on behavior in different states (Wood & Neal, 2007).

Studies have revealed in a survey between medical students that more than 80% students use their smartphone in the classrooms and more than 18% while driving

(Mahmoodabad et al., 2009; Subba et al., 2013), which has resulted in at least nine people was killed each day or injured due to using phones while driving (LaMotte, 2017; Kung, 2012). According to Chai (2017) in Hong Kong, people are so dependence on their phones todays, so many of their memories are stored in their devices that they have grown closer to them.

2.2 Smartphone Addiction on Students

Several studies are conducted about smartphone craving effects on students' stress (Chiu, 2014) academic behavior and life satisfaction (Samaha & Hawi, 2016). An observation of undergraduate students on smartphone addiction was surveyed and the probable addiction effect on their academic behavior was assessed. The result shows that the smartphone usage has popularity between youth because of entertaining and educational factors. However spending long time on smartphone use normally causes addiction on learners and influences their academic performance and activities per day, mental and physical health, and causes withdrawal tendencies (Arefin et al., 2017).

A study led by the Australian Council for Educational Research (ACER) on some students about the risks involved with allowing smartphones to be used freely at school revealed that although seven out of ten participants interviewed, agree that smartphone supports learning, thirty percent of participants felt otherwise (ACER, 2018). Similarly, another study investigating the impact of schools banning mobile phones found that mobile phones can have a negative impact on learning through distraction and that their removal from the classroom can yield an improvement in student performance, especially for the most vulnerable (Fcedp, 2017).

The study carried out by Dongre, Inamdar & Gattani (2017) in India, shows that the occurrence of nomophobia was more than half that shows more than four hundred through six hundred fifty cases struggled by nomophobia addiction. In fact, there is an important relationship between nomophobia and young generations. It assumed that the internet usage, internet addiction, and nomophobia have similar ranking. Although some investigations show higher nomophobia level existence among smartphone users against Internet users (Gezgin, Çakir & Yildirim, 2018).

Internet access in smartphones has provided social networking platforms like Facebook, Twitter and Instagram (Duke & Montag 2017). This assertion has been supported by studies exploring the impacts of addiction caused by internet on smartphones (Lachmann et al., 2018; Arefin et al., 2017; Alosaimi et al., 2016; Kuss et al., 2014; Song et al., 2004). There is evidence to show on positive result anticipations, which are connected, to higher craving behaviors like betting between adolescents (Shell, Newman & Xiaoyi, 2010). Similarly, using of the internet, smartphones and social media is frequently covered by positive results, as well as releasing loneliness, having social anxiety, and preventing negative emotions (Chakraborty, Basu & Kumar, 2010).

A meta-investigation among six studies aimed to estimate smartphone craving between adolescents in Indian showed characteristic structures of initial smartphone abuse. These structures included nervousness among those who use their smartphones during the day, especially while instructors presented lecture class. Additionally the propensity to sleep with the phone immediate complemented the need wake up and use the phone to repeatedly was considered by this investigation (Davey & Davey,

2014). Regardless of this, the investigation found that around ninety percent of the learners surveyed were using their smartphones for school work (Rusell, 2018).

Smartphone dependence can absolutely isolate its users, economically collapse them and even propel them into convicts. Mobile addicts can easily run up the phone bills and, same as drug addicts. Mostly, smartphone usage has been attached to unsafe performances with craving signs and uncontrolled behaviors. Because of these outcomes, investigators should be informed about problems and harms which are available over smartphone that have been proved (Billieux, 2012).

The study led by Hope (2013) shows the reason why smartphone users' preference claimed that their communication and conversation with smartphone have given them the ability to control whomever they prefer to talk at any time. However unluckily, this pleasure feeling of ability to control creates nervousness and more dependency on keeping their connection via their smartphones which will cause issues like fraud and bullying being marginalized and excluded. People miss track of time, becoming socially isolated and before they understand it, cannot give up. Individuals have displeasures feeling when they lose their phones and will face symptoms as same as alcohol and substances addicts, as well as gambling addicts (Hope, 2013). Therefore, when users define smartphones as part of their life, they are more likely to get fond of the devices, which, in turn, leads to nomophobia by enhancing the phone proximity-seeking trend (Han, Kim & Kim, 2017).

Smartphone usage can extant a problem for students, like sending message in the classroom or while walking and using them. Very serious problems have occurred specially due to using of smartphones by youth. These are included by fraud via

Internet as cyber bulling, smartphone craving, smartphone usage problems, dependency on smartphone use, compulsive and overuse smartphone use, which have all been establish to define more smart usage harms and todays' known as nomophobia (AAC, 2018). Accordingly, a study on high school students in India showed that out of a hundred students, more than five percent students were at high risk of developing nomophobia, more than forty percent had mild level, however more than thirty percent had moderate level and just around thirteen percent had severe levels of nomophobia (Anushri, Darshana, Minakshi, Pranali, Sneha & Lakshmanan, 2018).

Waterman (2012) has started to address nomophobia in group treatment terms in California. The result has shown that most smartphone user accepted that they could not stay without their phones because there is nothing to replacement it. The results were from individuals struggling with nomophobia caused by panic of missing link with the outside world, resulting to extreme fear, anxiety, or stress. (Waterman, 2012). In the study conducted by Pavithra & Madhukumar (2015) shows an increased condition of cases caused by social phobia and loneliness in teenagers. Likewise, Gezgin & Çakır (2016) reveals demographic features including family educational levels, time spent with smartphones and the impact of nomophobia in students' lives.

2.3 The Side Effects of Smartphone Addictiveness

The addictive nature of smartphones has been a concern for psychologists over the years. Recently, mental investigators have documented that smartphone users are mostly in hazard and the users are advised on healthy ways to use of their phones. According to a recent study, youngsters checked their phones thirty four times on a daily form. Smartphone users may check their devices out of routine or coercion, but

as craving, smartphone usage may be caused to avoid individual activity. Several youngsters may experience withdrawal signs typically associated with misuse, same as depression, insomnia, restlessness and anxiety, while they do not use their smartphones. Some youngsters who use their smartphones for texting message are more possible to sleep with their phones than cell-owning youths who don't send SMS (Labode, 2011).

In the recent Columbia University study conducted on relations and connections by using of smartphone revealed negative effects on both adolescent category and teenagers (Labode, 2011). Regular smartphone has also been reported to cause sleep disturbances, stress and depression symptoms among youngsters (Thomée, Härenstam & Hagberg, 2011). This is consistent with the findings of Yen et al. (2009) who posits that "withdrawal symptoms caused by cellular phone use" are usual psychological related problems in youngsters. Conversely, the results of a recent study suggest that a major number of the participants had habit to smartphone usage, but were not awear about it, as their smartphones have become a vital part of life. No significant variances were found on habit behavior among the participant residing where and when their phones were used by them (Parasuraman, Sam , Yee, Chuon & Yu Ren, 2017).

In the study among students of South Westphalia University in Germany, almost forty percent of the respondents accepted or strongly accepted the expression 'smartphone is addiction a genuine risk for mobile learning'. Although an equal number of them were opposed or strongly not consent. However more than fifty percent of the participants accepted or strongly accepted that they would be offended if they could not use their smartphone or smartphone's abilities while the participants want to

prepare so and just less than thirty percent of them didn't agree or strongly affected with this statement (Davie & Hilber, 2017).

Additionally several studies proved that there is a relation between smartphone addiction and of free hours which represented strongly negative effect of smartphone use on per day that the users didn't have work activities during a day (Duke & Montag 2017). A study conducted in Korean found that the higher-level addiction and low level was distinguished while students were regularly studying and disturbed by non-related applications on their phones, specifying that the student users do not have enough controller on their smartphone use and study practices (Lee et al., 2015). Furthermore, the behaviors and attitudes of parents have a significant place in the appearance or loos of negative behaviors (Cho & Lee, 2017). There is highly awareness over nomophobia, which is regarded as the nervousness of being inaccessible to communication by persons while it is not possible to carry their smartphones. The study among students in three collages, in Turkey shows the mindfulness arbitrating impact on the correlation between affection and nomophobia. Additionally, people who are emotionally more in need and require more nearness and consideration in the connection incline to show high status of anxiety or distress when they have no connect to their smartphones. Nevertheless, sexual category has a variance effect on the connection between avoidant affection and nomophobia (Arpaci, Baloğlu, Kozan & Kesici, 2017).

The study among dental students of D. J. College shows about almost thirty five percent of students approved that they score low results in professional tests if they spend more time on their phone (Prasad, Patthi, Singla, Gupta, Saha, Jishnu, Krishna, Malhi & Pandita, 2017). In the study conducted in 2015 shows the troubles between

students who spend their free time without using of smartphone, especially when their mobile phone had weak battery or there is not Internet connection. Due to missing their connection, distress, anxiety, tenseness or suffering made happen by being out of touch with a smartphone which all sigs represented nomophobia symptoms (Pavithra, Madhukumar & Murthy, 2015). In the study considered by Securenvoy (2012), the smartphone users believe that their smartphone like a part of themselves and since 2008, almost sixty six percent of the UK population had signs of nomophobia, or mobile-phone phobia.

2.4 Characteristics of Smartphone Addiction

According to investigations by Ross (2011), three categories are distinguished for smartphone addiction behaviors; first of all is habitual use of smartphone. The second category represents people who always check their smartphones even if the landline phones are used at their home or office. The last category includes individuals who have regularly challenged with social difficulties and economic satiation because of their unnecessary smartphone usage.

Another investigation shows there are two kind of smartphone addiction. The first is anxiety and social extroversion affect positively on smartphone addiction, and self-confidence has effects negatively on smartphone addiction. The second is smartphone addiction, which has a positive predictive effect on smartphone usage activities. The outcomes of this study classify personal psychological characteristics of Taiwanese female university students, which significantly predict smartphone addiction; female university students with smartphone addiction will use more phone calls and use more text messages. These results defined nomophobia situations and recommended that the

future researches should be done in university for students who have a high level of smartphones usage (YuanHong, Chiu & HsiangHuang, 2012).

The problematic use of smartphones has widely shown social care due to the damaging and troubling results. However, there has been little comprehensive study about the mechanism of problematic manners in the smartphone usage, mostly for addictive behavior. Haven known the exact characteristics of smartphones (e.g., high mobility, immediate connection, and ubiquitous contact), it is suggested that addictive smartphone usage is a behavior which distinguishes traditional addiction behavior. Although in previous researches, there is an absence of complete understanding of the mechanism and the primary characteristics of smartphone addiction (Wang, Lee, Yang & Li, 2015). As shown in previous studies, addiction to internet and smartphones are supposed to be related to mental problems such as anxiety (Anshari et al., 2016) and is recognized as nomophobia (Gezgin et al., 2017).

2.5 Nomophobia

Nomophobia, a neologism which is resulted from the merging of "no mobile," "phone," and "phobia" has lately occurred as a modern problem, signifying the anxiety of feeling cut off and this modern addiction is currently considered a situational phobia (Bragazzi & Giovanni 2014). As it's seen from the literature, the first time, nomophobia is distinguished as the anxiety of not able to use of smartphone connection in UK in 2008 (Securenvoy, 2012).

Furthermore, nomophobia refers to disturbance, anxiety, tensions or suffering caused by being out of communication with a smartphone. Studies have shown that the first stage in nomophobia is the loss of construction or immediate reaction, followed by

expresses losing ability to contact with people, subsequently linked to the development of negative emotions because of losing ability to be ubiquitous with smartphone usage (Yildirim & Correia, 2015).

Currently, smartphones are directly integrated with our facilities and daily life routines. Although, difficult and extreme use of smartphones hints to no positive effects on psychology like addiction, tension, nervousness. As one of the latest phenomena underlined by both media and academia, nomophobia has been described as a feeling of fear and anxiety when an individual cannot communicate in virtual life via their mobile device. Such anxiety has negative effects in the individual's focus on their daily behaviors. Harmful effects on academic performance and changes in behavior due to an addictive use of smartphone show high prevalence of nomophobia among youth (Kaplan & Mertkan Gezgin, 2016).

2.5.1 Not being able to communicate

These days, the people communication is changed by technical devices and people prefer communicate with their family and their friend via their smartphones more than talking face to face (Drago, 2015). Not being able to communicate is as the first dimension of nomophobia, which it refers to sense and losing communication, and has not ability to connect with people. This dimension is corresponded to emotional state of who has not ability to communicate and conversation with others (Yildirim, 2014).

2.5.2 Losing Connectedness

Losing connectedness is the second dimension of nomophobia and it is correlated to the emotional state and a kind of feeling by connection losing via smartphones, it will be increased when online connection through social media or smart phone applications is being disconnected (Yildirim, 2014).

2.5.3 Not being able to access information

Not ability to access information is the third dimension of nomopnobia, which is related to the third theme, is not being able to access information. The items under this dimension, mirrors the anxiety because of missing access through information on smartphones and reflects on not ability to search and connect to information via smartphones (Yildirim, 2014).

2.5.4 Giving up convenience

As known as fourth dimension of nomphobia, the items under this dimension are related to emotional states for giving up convenience and smartphone use convenience, which is as an outcome of qualitative analysis (Yildirim, 2014).

2.6 Related Research

Some studies have shown that unnecessary use of smartphone can affect the cardiovascular system, the vital nervous system, and hormone amount, which may in turn conduct to fatigue, headache, dizziness, and sleep troubles (Chandak, Singh, Faye, Gawande, Tadke, Kirpekar & Bhave, 2017). According to a research in America, shows that the access to smartphones is the same as the access to a relationship partner and smartphones effect on all same parts of brain as show fell in love (Fratti, 2017).

According to Anshari et al. (2016), there is a relation among nomophobia level of youth and existing of Internet data on their phones because they have access to Internet whenever and wherever they want. A recent study has explored the link between kind of addiction and nomophobia which caused by high using of smartphone and shows behaviorism between users such as sicknesses and anxiety which are increasing every day but these behaviors can be changeable by changing on how and when should use of smartphones (Durak, 2018a; Durak, 2018b; Durak, 2018c).

The other investigated study among postgraduate, in an Institute in India, shows considering the occurrence of nomophobia. In this study, most students checked their smartphones forty-seven percent daily. There was no numerical difference between the nomophobia existence and nomophobia non-existence groups with respect to number of times daily smartphones were used. On the mean, almost thirty percent of participants used less than five hundreds rupees per month over smartphone use, when almost seventy percent of participants used more than five hundreds rupees per month over smartphone use. This may include money to take charge for voice calling or for internet data. Of these, nomophobia was seen expressively more in those who spend between five hundreds and a thousand rupees monthly over smartphone expenses (Chandak et al., 2017).

The study conducted by Yildirim, Sumuer, Adnan & Yildirim (2016) showed the highest level of nomophobia occurrence, which revealed more than eight hundreds participants in a university with different educational program. The results shows participants carried their smartphones everywhere even in the classroom or in university campus. Similarly, the investigation studied adolescents among schools in two cities in Turkey, reveals highly occurrence of nomophobia in those schools (Gezgin & Çakır, 2016). Therefore, it is possible to discover studies, which show importance of negative effects in nomophobia on student's academic achievement (Erdem, Kalkin, Turen & Deniz, 2016).

Although the studies show that distinguishing of smartphone use allows people to enhance and develop both instructors and learners in educational environment but contemporary smartphone applications used in the educational settings present more addiction behaviors and are reported as vital problem for instructors. While institutions

instructors use more facilities of smartphone in educational environment, internet and smartphone craving have to be consequently considered in other to take note of nomophobia existence between learners towards a healthier use of smartphone applications in learning environment in the future (Gezgin, Cakir & Yildirim, 2018).

The study showed by Yildirim & Correia (2015), developed Nomophobia Questionnaires (NMP-Q) to estimate of nomophobia level between students. Although there was no priority between studies, which are investigated over connection between nomophobic behaviors and other behaviors but NMP-Q is established to assess the level of nomophobia among students and also hypothesized that it has a relation with anxiety (Yildirim & Correia, 2015).

Moreover, it was estimated that the NMP-Q could be related to other psychological distress such as depression due to anxiety is correlated with other types of psychological distress (Lin & Pakpour, 2017) and the most important problem in smartphone usage is related to depression (Ikeda & Nakamura, 2014).

Additionally, distraction and nervousness, due to extremely accessed over smartphones like social media sites, are correlated to behavioral problems between smartphone users (Lin, Broström, Nilsen, Griffiths & Pakpour, 2017). Furthermore reduced of attention has been found between those who use smartphones more than one hour per day (Zheng et al., 2014) and up to the present time, only the NMP-Q has been studied for evaluation of its internal stability and parallel validity and using of empirical factor exploration (González-Cabrera et al., 2017; Yildirim & Correia, 2015).

A study carried out on the participations of a university showed that the anxiety measure of participants enhanced by passing the time when half of participants were far away from their smartphones as well as when they were asked to turn their smartphones off during the specific periods. The results revealed high anxiety between them (Cheever, Rosen, Carrier & Chavez, 2014).

Similarly, Soyemi (2015) found that using smartphone in the class caused negative impact on students' attention. The same study revealed negative effects of uncontrollable smartphone usage on students' academic performance. This is consistent with the findings of a study on university students in France, which demonstrated that nearly one-third of students suffer from nomophobia (Tavolacci, Meyrignac, Richard, Dechelotte & Ladner, 2015).

Likewise, a study in Turkey, revealed that more than the average of 433 participants in a survey struggled with nomophobia (Adnan & Gezgin, 2016). A survay between 473 undergraduate students college in Bhopal where female participants were 51.6%, shows the majority 56.1% of participants with age range of 20-22 years. More than 57% participants began using smartphones before getting to the age of 18 years. 291 (61.5%) of participant were having medium, 6.1% of participant had level of nomophobia and only one participant was not facing to nomophobia rank (Sethial, Melwani, Melwani, Priya1, Gupta1 & Khan, 2018).

Chapter 3

METHODOLOGY

In this chapter, research method of the study, participants, data collection process and data analysis were described.

3.1 Research Method

A quantitative survey method was used in this study, as it is known quantitative structure can be a universal method for the numerous people and products reliable outcome (Steckler, McLeroy, Goodman, Bird & McCormich, 1992).

The main goal of quantitative studies is gathering data and collecting information across parts of people so data can be collected by quantitative method which shows scope of studies more excessive (Babbie, 2010).

Gathering data and information from numerous of audience can be used by survey method. Additionally after data quantification; it can compared with other investigations, which makes more valuable questionnaire over time. Moreover, survey and questionnaire methods provide quantitative naturally and make analysis easily. A survey method uses data collection tool and questionnaire can be distributed as a paper among participants and asking individuals for gathering information (Leung, 2001).

3.2 Participants

The participants of this study were all students of IT department of EMU University. This study tried to reach the total number of student who registered in 2018-2019 fall

semester. Nevertheless, 205 persons out of 358 students responded this research, that were with difference age range and gender, according to convenience sampling technique, information collection in survey method and flexibility with a great technique for data collection about knowledge levels experiences by requesting closed-ended answers. The convenience sampling technique is effective in conducting the study and taking reliable resulted between goals (Niles, 2006) and it is as a non-probability technique which the subjects are carefully chosen due to their convenient availability and closeness and because of the easiest recruitment for the research (Explorable, 2009). The age range of participants who attended in this questionnaire was 18 and over 30 years old.

Table 3.1: Demographic Information of Participants

Gender	N	%
Male	128	62,4
Female	77	37,6
Age	**N**	**%**
18-21	61	29,8
21-25	88	42,9
25-30	42	20,5
+30	14	6,8
Total	205	100,0

As it seems from Table 3.1., questionnaires were distributed between four age group (18-21, 21-25, 25-30, over 30). Correctly, 128 (62,4%) of the participants were male and 77 (37,6%) were female. Besides, 29.8% (N=61) of participants' age range were between 18-21, 42.9% (N=88) age range were between 21-25, 20.5% (N=42) age range between 25-30 and 6.8% (N=14) age range were over 30 years old.

3.3 Data Collection Tools

In this study, data collection tool is Nomophobia Questionnaire (NMP-Q) which is developed by Yildirim & Correia (2015). The questionnaire in this study has 20 items with a 7-point Likert Scale (SD as Strongly Disagree, D as Disagree, PD as Partly Disagree, N as Natural, PA as Partly Agree, A as Agree, SA as Strongly Agree) and included two parts. The first part of the questionnaire is demographics items containing age and genders, and the second part included 20 items for asking the nomophobia situation of IT students. The NMP-Q is included four factors: (1) Not Being Able to Communicate (NBAC) (I10, I11, I12, I13, I14, and I15) which is related to losing communication with the others, (2) Losing Connectedness (LC) (I16, I17, I18, I19, and I20) which is related to feeling nervous because have not ability to sending message or calling, (3) Not Being Able to Access Information (NBAAI) (I1, I2, I3, and I4) which is connected to feeling uncomfortable if not being able to use information through smartphone, and (4) Giving up Convenience (GC) (I5, I6, I7, I8, and I9) which is linked to worried and anxious because of limitation on smartphone use (Yildirim & Correia, 2015).

3.4 Data Analysis

The gathered data of this study was analyzed with descriptive statistics , mean, frequency standard deviation, percentage, t-Test to calculate the significant difference between genders which has to be as $p < .05$ and One-way Anova is used to compute different significance between ages and to reach the aim , SPSS 20.0 program was used.

3.5 Reliability and Validity

The reliability should be calculated by Cronbach's alpha. For this study, the calculated value of Cronbach alpha values which in literature were 0.94 (Yildirim, 2014). As

concluded the NMP-Q determines good inner stability and reliability (DeVellis, 2003; Field, 2009; Nunnally, 1978).

Table 3.2: Reliability Analysis

Cronbach's Alpha	N
.87	20

As seen in table 3.2, Crobanch's alpha is evaluated 0.87 therefore as seems from literature, this number is taking reliable result for reliability and this value gone above the regularly known minimum value of 0.7 (Nunnally, 1978).

Chapter4

FINDINGS AND DISCUSSIONS

This section of the study tries to analyze and describe the situation of nomophobia according to their age and gender of IT students.

4.1 General Nomophobia Situation of IT Students in EMU

In order to find the nomophobia situation of IT students, statistics analysis is computed**.**

Table 4.1: Nomophobia of IT students (Mean Table)

	N	Mean
IT Student Nomophobia Situation	205	101.48

According to Table 4.1 average score of nomophobia situation among 205 IT students had was calculated and it was 101, 48 who responded the questionnaire aimed at measuring nomophobia, since there were 20 items with 7-point Likert scale which as it seen in literature the average score of nomophobia was 81.81 among 301 undergraduate students (Yildirim, 2014). There are four different sub-factors of nomophobia:

Table 4.2: Factor Scores of Nomophobia

	NBAC	LC	NBAAI	GC
Mean	31.42	23.51	20.83	25.71
Median	34.00	26.00	22.00	26.00
Std. Deviation	7.33	7.96	4.50	4.59
Minimum	7.00	5.00	4.00	14.00
Maximum	42.00	42.00	28.00	34.00

As it shown on Table 4.2, not being able to communicate mean score was 31,42, Losing Connectedness mean score was 23,51, Not Being Able to Acces Information mean score was 20,83_and Giving up Convenience mean score was 25,71. It seems that the first sub-dimension of nomophobia has more effect on nomophobia situation in compared the other factors between participants.

As it seems from Table 4.2, the average score third factor “Not Being Able to Access Information” (I1, I2, I3, I4) and fourth “Giving up Convenience” (I5, I6, I7, I8, I9) factors of nomophobia were shown.

Table 4.3. NMP-Q Part (I) Disagree (SD), Disagree (D), Partly Disagree (PD), Natural (N), Partly Agree (PA), Agree (A), Strongly Agree (SA).

	SD		D		PD		N		PA		A		SA		Mean
	f	%	f	%	f	%	F	%	f	%	f	%	f	%	
I1	8	3.9	16	7.8	8	3.9	10	4.9	10	4.9	92	44.9	61	24.8	**5.52**
I2	9	4.4	16	9.3	5	2.4	9	4.4	24	11.7	84	41.0	55	26.8	**5.40**
I3	15	7.3	38	18.5	6	2.9	12	5.9	19	9.3	90	43.9	25	12.2	**4.71**
I4	13	6.3	24	11.7	4	2.0	13	6.3	18	8.8	82	40.0	51	24.9	5.19
I5	11	5.4	29	14.1	4	2.0	7	3.4	20	9.8	73	35.6	61	29.8	5.23
I6	6	2.9	23	11.2	4	2.0	13	6.3	19	9.3	75	36.6	65	31.7	**5.44**
I7	6	2.9	29	14.1	8	3.9	13	6.3	24	11.7	80	39.0	45	22.0	5.14
I8	7	3.4	44	21.5	5	2.4	15	7.3	16	7.8	70	34.1	48	23.4	4.90
I9	9	4.4	37	18.0	4	2.0	18	8.8	11	5.4	84	41.0	42	20.5	4.97

According to Table 4.3, for Item 1, 3.9% (N=8) of the participants replied with "Strongly Disagree", while 7.8% (N=16) of them reply with "Disagree". 3.9% (N=8) of them chose "Partly Disagree" and 4.9% (N=10) of them choose "Natural". 4.9% of participants (N=10) chose "Partly Agree", while 44.9% (N=92) of them selected "Agree" and 24.8% of participants that they were the rest of them (N = 61) chose "Strongly Agree", the mean of the Item is 5.52. For Item 2, 4.4% (N=9) of the participants replied with "Strongly Disagree", while 9.3% (N=16) of them reply with "Disagree". 2.4% (N=5) of them chose "Partly Disagree" and 4.4% (N=9) of them choose "Natural". 11.7% of participants (N=24) chose "Partly Agree", while 41% (N=55) of them selected "Agree" and 26.8% of them (N = 55) chose "Strongly Agree", with mean = 5.40. Item 3 shows 7.3% (N=15) of the participants replied with "Strongly Disagree", when 18.5% (N=38) of them reply with "Disagree". 2.9% (N=6) of them

chose "Partly Disagree" and 5.9% (N=12) of them choose "Natural". 9.3% of participants (N=19) chose "Partly Agree", even though 43.9% (N=90) of them selected "Agree" and 12.2% of participants (N = 25) chose "Strongly Agree". The mean of this item is 4.71. For Item 4, 6.3% (N=13) of the participants chose "Strongly Disagree", whereas 11.7% (N=24) of them reply with "Disagree". 2% (N=4) of them chose "Partly Disagree" and 6.3% (N=13) of them chose "Natural". 8.8% of participants (N=18) selected "Partly Agree", while 40% (N=82) of them replied "Agree" and 24.9% of participants (N = 51) chose "Strongly Agree" and the calculated mean is 5.19.

For Item 5 as shown in Table 4.3, 5.4% (N=11) of the participants replied with "Strongly Disagree", while 14.1% (N=29) of them reply with "Disagree". 2% (N=4) of them chose "Partly Disagree" and 3.4% (N=7) of them choose "Natural". 9.8% of participants (N=20) chose "Partly Agree", while 35.6% (N=73) of them selected "Agree" and 29.8% of participants that they were the rest of them (N = 61) chose "Strongly Agree". The mean of the item is 5.23. Item 6 shows that 2.9% (N=6) of the participants replied with "Strongly Disagree", whereas 11.2% (N=23) of them reply with "Disagree". 2% (N=4) of them chose "Partly Disagree" and 6.3% (N=13) of them chose "Natural". 9.3% of participants (N=19) selected "Partly Agree", while 36.6% (N=75) of them selected "Agree" and 31.7% of participants (N=65) replied "Strongly Agree" to this item. The mean of the item is 5.44. Item 7 displays that 2.9% (N=6) of the participants replied with "Strongly Disagree", whereas 14.1% (N=8) of them reply with "Disagree". 3.9% (N=8) of them chose "Partly Disagree" and 6.3% (N=13) of them chose "Natural". 11.7% of participants (N=24) selected "Partly Agree", while 39% (N=80) of them selected "Agree" and 22% of participants (N=45) replied "Strongly Agree" to this item. The mean of the item is 5.14. In Item 8, 3.4% (N=7) of the participants replied with "Strongly Disagree", whereas 21.5% (N=44) of them

reply with "Disagree". 2.4% (N=5) of them chose "Partly Disagree" and 7.3% (N=15) of them chose "Natural". 7.8% of participants (N=16) selected "Partly Agree", while 34.1% (N=70) of them selected "Agree" and 23.4% of participants (N=48) replied "Strongly Agree" to this item. The mean of the item is 4.90.

From Table 4.3, item 9, 4.4% (N=9) of the participants replied with "Strongly Disagree", while 18% (N=37) of them reply with "Disagree". 2% (N=4) of them chose "Partly Disagree" and 8.8% (N=18) of them choose "Natural". 5.4% of participants (N=11) chose "Partly Agree", while 41% (N=84) of them selected "Agree" and 20.5% of participants (N = 42) chose "Strongly Agree". The mean of the item is 4.97.

Therefore, Items I1, I2 & I6 have the most mean in compared to others. It means that these items of the third and fourth sub-dimensions of nomophobia have the most impact of nomophobia state on participants. Additionally, item I3 of the third sub-dimension of nomophobia has the less mean, it means that this item of nomophobia has the less impact on participants during the smartphone use.

It seems from literature, smartphone has ability to reach to their information faster and safer and it was concluded that this factors were important for questionnaire and they are more comfortable to check information through their mobile phone and if they be disable to check it, they will be suffered as shown in literature, they can search via their smartphone all the day without setting the time. They can communicate more easily through their smart phones (Yildirim, 2014).

In Table 4.4, the average score of items 10-20 were shown which related to the first and second factors of nomophobia "Not Being Able to Communicate" (I10, I11, I12,

I13, I14, I15) and “Losing Connectedness” (I16, I17, I18, I19, I20). As shown in Tables 4.4, “Not Being Able to communicate” and “Losing Connectedness”, answers of the surveyed along with their frequencies, percentages and mean values are highlighted below.

Table 4.4: NMP-Q Part (II) Natural (N), Partly Agree (PA), Agree (A), Strongly Agree (SA), Disagree (SD), Disagree (D), Partly Disagree (PD).

	SD		D		PD		N		PA		A		SA		
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	Mean
I10	8	3.9	16	7.8	5	2.4	13	6.3	16	7.8	92	44.9	55	26.8	5.48
I11	4	2.0	14	6.8	5	2.4	16	7.8	12	5.9	89	43.4	65	31.7	**5.65**
I12	6	2.9	33	16.1	4	2.0	21	10.2	16	7.8	83	40.5	42	20.5	5.07
I13	5	2.4	17	8.3	4	2.0	32	15.6	13	6.3	91	44.4	43	21.0	5.32
I14	3	1.5	31	15.1	9	4.4	29	14.1	19	9.3	70	34.1	44	21.5	5.02
I15	12	5.9	28	13.7	3	1.5	36	17.6	22	10.7	63	30.7	41	20.0	4.85
I16	12	5.9	46	224	7	3.4	23	11.2	25	12.2	45	22.0	47	22.9	4.59
I17	18	8.8	31	15.1	5	2.4	14	6.8	21	10.2	59	28.8	57	27.8	4.92
I18	15	7.3	51	24.9	8	3.9	21	10.2	20	9.8	55	26.8	35	17.1	4.39
I19	33	16.1	26	12.7	9	4.4	14	6.8	15	7.3	65	31.7	43	21.0	**4.55**
I20	16	7.8	24	11.7	7	3.4	12	5.9	29	14.1	61	29.8	56	27.3	5.05

Item 10 shows that 3.9% (N=8) of the participants replied with "Strongly Disagree", while 7.8% (N=16) of them reply with "Disagree". 2.4% (N=5) of them chose "Partly Disagree" and 6.3% (N=13) of them choose "Natural". 7.8% of participants (N=16) chose "Partly Agree", while 44.9% (N=92) of them selected "Agree" and 26.8% of

participants that they were the rest of them (N = 55) chose "Strongly Agree". The mean of the item is 5.48.

For Item 11, 2% (N=4) of the participants reply with "Strongly Disagree", while 6.8% (N=14) of them reply with "Disagree". 2.4% (N=5) of them chose "Partly Disagree" and 7.8% (N=16) of them replied "Natural". 5.9% (N=12) of them reply with "Partly Agree" and 43.4% (N=89) of them chose "Agree" while 31.7% (N=65) of them replied "Strongly Agree". The mean of the item is 5.56. For Item 12, 2.9% (N=6) of the participants reply with "Strongly Disagree", whereas 16.1% (N=33) of them selected with "Disagree". 2% (N=4) of them were "Partly Disagree" and 10.2% (N=21) of them replied "Natural". 7.8% (N=16) of them reply with "Partly Agree" and 40.5% (N=83) of them chose "Agree" while 20.5% (N=42) of them replied "Strongly Agree" with mean = 5.07.

For Item 13, 2.4% (N=5) of the participants for this Item were "Strongly Disagree", while 8.3% (N=17) of them replied with "Disagree". 2% (N=4) of them chose "Partly Disagree" and 15.6% (N=32) of them reacted "Natural". 6.3% (N=13) of them answered "Partly Agree" and 44.4% (N=91) of them chose "Agree" while 21% (N=43) of them replied "Strongly Agree". The mean of this item is 5.32. For the Item 14, 1.5% (N=3) of the participants reply with "Strongly Disagree", whereas 15.1% (N=31) of them replied with "Disagree". 4.4% (N=9) of them chose "Partly Disagree" and 14.1% (N=29) of them replied "Natural". 9.3% (N=19) of them reply with "Partly Agree" and 34.1% (N=70) of them chose "Agree" while 21.5% (N=44) of them replied "Strongly Agree". The mean of the item is 5.02.

For the Item 15, 5.9% (N=12) of the participants were "Strongly Disagree", while 13.7% (N=28) of them reply with "Disagree". 1.5% (N=3) of them chose "Partly Disagree" and 17.6% (N=36) of them replied "Natural". 10.7% (N=22) of them reply with "Partly Agree" and 30.7% (N=63) of them chose "Agree" while 20% (N=41) of them replied "Strongly Agree" that the calculated mean of the Item is 4.85.

Moreover, the participants agree that if they cannot make connection to their family, it makes anxiety feeling on them and the participants were mostly "Agree" that they will fear if someone cannot reach them and it makes panic on them and it can be concluded that the participants agree with feeling fear if their mobile phone battery done and they will lose their communication or getting news through their smartphone which make panic and fear on them and it can be as a sign of nomophobia. It can be concluded that the most participants partly agree with the statement "I would be uncomfortable because I could not stay up-to-date with social media and online networks" which shows they will have anxiety if they cannot check their social network notifications and it can be an alarm of addictive.

For the Item 16, 5.9% (N=12) of the participants reply with "Strongly Disagree", while 22.4% (N=46) of them reply with "Disagree". 3.4% (N=7) of them chose "Partly Disagree" and 11.2% (N=23) of them replied "Natural". 12.2% (N=25) of them reply with "Partly Agree" and 22% (N=45) of them chose "Agree" while 22.9% (N=47) of them replied "Strongly Agree".. The mean of the item is 4.59.

For the Item 17, 8.8% (N=18) of the participants replied with "Strongly Disagree", while 15.1% (N=31) of them reply with "Disagree". 2.4% (N=5) of them chose "Partly Disagree" and 6.8% (N=14) of them replied "Natural". 10.2% (N=21) of them reply

with "Partly Agree" and 28.8% (N=59) of them chose "Agree" while 27.8% (N=57) of them replied "Strongly Agree". The mean of the item is 4.92. For Item 18, 7.3% (N=15) of the participants replied with "Strongly Disagree", while 24.9% (N=51) of them selected "Disagree". 3.9% (N=8) of them chose "Partly Disagree" and 10.2% (N=21) of them replied "Natural". 9.8% (N=20) of them reply with "Partly Agree" and 26.8% (N=55) of them chose "Agree" while 17.1% (N=35) of them replied "Strongly Agree". The mean is 4.39.

For the item 19, 16.1% (N=33) of the participants were "Strongly Disagree", while 12.7% (N=26) of them reply with "Disagree". 4.4% (N=9) of them chose "Partly Disagree" and 6.8% (N=14) of them replied "Natural". 7.3% (N=15) of them reply with "Partly Agree" and 31.7% (N=65) of them chose "Agree" while 21% (N=43) of them replied "Strongly Agree". The mean of this item is 4.55 and for Item 20, 7.8% (N=16) of the participants replied with "Strongly Disagree", while 11.7% (N=24) of them reply with "Disagree". 3.4% (N=7) of them chose "Partly Disagree" and 5.9% (N=12) of them replied "Natural". 14.1% (N=29) of them reply with "Partly Agree" and 29.8% (N=61) of them chose "Agree" whereas 27.3% (N=56) of them replied "Strongly Agree". The mean of the Item is 5.05.

The most participants agreed that they would be annoyed because their smartphone could not be reachable when they want. Additionally, it seems that they try to keep communication and connection with others which is very comfortable by using of smartphone every time and everywhere and the participants were more "Agree" if they miss Internet and network they will try to check it constantly because they insist to response their notification, text, call, checking news as soon as possible via their smart phone and it can be concluded that the participants were "Strongly Agree" when they

have limitation, it will give them panic. Limitation on smart phone usage causes the users lose their connection specially when they are bored or alone and it makes panic and anxiety on them which has an important sign of nomophobia.

It seems that the participants agree that they will not be comfortable if they have not been access their mobile phones and their information they agreed, if they cannot check their information via their smartphone they will be annoyed. In addition, they agreed that not being able to check news and information makes them nervous.

Additionally, the most of participants prefer to get and read news through their because of being access able of smart phone whenever and wherever and in literature seems they can response easily, if someone has question and getting information.

Therefore, items I11 has the most mean in compared to others. It means that this item of the first sub-dimensions of nomophobia has the highest impact of nomophobia situation on participants. Additionally, item I18 of the second sub-dimension of nomophobia has the lowest mean; it means that this item of nomophobia has the less impact on participants of this study.

As it seems from literature, the most of participants agree that they cannot keeping connection and this make them anxious feeling and it can show which may be considered as an evidence of the addictive nature of smartphones. It is evident that the most of participants agree with the statement if they miss connection it makes them anxious feeling and it can be an alarming indicator (Yildirim & Correia, 2015).

4.2 The relationship between Nomophobia Situation and gender of IT Students

In this section, in order to compare male and female nomophobia situation, independent sample t-Test is applied which shown in Table 4.5.

Table 4.5: IT Students nomphobia situation according to gender

Items	Gender	N	Mean	Std. Deviation	df	T	P	F
I1	Male	128	5.82	1.35	203	3.34	**0.00**	35.07
	Female	77	5.02	2.07				
I2	Male	128	5.67	1.50	203	3.03	**0.00**	14.19
	Female	77	4.93	1.98				
I3	Male	128	4.91	1.80	203	1.85	**0.00**	17.89
	Female	77	4.38	2.18				
I4	Male	128	5.00	2.03	203	-1.78	**0.00**	10.18
	Female	77	5.49	1.59				
I5	Male	128	5.06	1.97	203	-1.69	**0.34**	0.91
	Female	77	5.53	1.85				
I6	Male	128	5.56	1.65	203	1.25	**0.15**	2.08
	Female	77	5.53	1.89				
I7	Male	128	5.30	1.67	203	1.63	**0.01**	6.85
	Female	77	4.88	1.95				
I8	Male	128	4.89	2.02	203	-0.15	**0.16**	1.98
	Female	77	4.93	1.92				
I9	Male	128	4.92	1.99	203	-0.51	**0.17**	1.84
	Female	77	5.06	1.84				
I10	Male	182	5.71	1.40	203	2.64	**0.00**	21.90
	Female	77	5.09	1.98				
I11	Male	128	5.83	1.30	203	2.14	**0.00**	16.44
	Female	77	5.36	1.84				
I12	Male	128	5.35	1.76	203	2.86	**0.20**	1.60
	Female	77	4.61	1.84				
I13	Male	128	5.57	1.40	203	2.91	**0.00**	13.34
	Female	77	4.90	1.81				
I14	Male	128	5.29	1.56	203	2.84	**0.00**	16.81
	Female	77	4.58	1.98				
I15	Male	128	5.15	1.67	203	2.99	**0.00**	10.65
	Female	77	4.36	2.08				
I16	Male	128	4.81	1.92	203	2.01	**0.03**	4.63
	Female	77	4.22	2.19				
I17	Male	128	5.30	2.23	203	3.48	**0.00**	25.14
	Female	77	4.28	2.13				
I18	Male	128	4.55	2.01	203	1.47	**0.24**	1.34
	Female	77	4.11	2.13				
I19	Male	128	4.92	2.08	203	3.17	**0.00**	8.28
	Female	77	3.93	2.31				

I20	Male		5.60	1.61	203	5.47	**0.00**	29.38
	Female	77	4.14	2.18				

As it seen from Table 4.5, Item 1, not being able to use their information through smart phones it makes them nervous, is significant because p is less than .05 and equal to 0.00. Additionally [F= 35.07, t= 3.34, mean (male) =5.82 and mean (female) =5.02]. For Item 2, It makes them annoyed if they are not able to find their information via their smartphone, is significant p<.05, p= 0.00. Furthermore [F= 14.19, t= 3.03, mean (male) =1.50, mean (female) =1.98]. Item 3, Not being able to check their news will make them nervous, is a significant because p<.05, p= 0.00 and also [F=17.89, t=1.85, mean (male) =1.80, mean (female) =2.18]. For Item 4, It make them annoyed if they cannot use of their smartphone and its abilities, is a significant because p< .05, p= 0.00. Additionally, [F= 10.18, t= -1.78, mean (male) =2.03, mean (female) =1.59]. For Item 7, Disconnection from Internet and data mobile access will make them anxiety, is a significant p<.05, p=0.01. Moreover [F=6.85., t= 1.635, mean (male) =1.67, mean (female) =1.95].

Regarding to Item 10**,** students feel anxious due to lack of communication with their family, there is a significant difference among male and female as p=0.00, which is less than .05. Moreover, as the result shows [F=21.90, t = 2.64, mean (male) =1.40, mean (female) =1.98], For Item 11, students feel nervous because of not able to reach their family**,** there is a significant p=0.00 among male and female and it is less than .05. Additionally, [F= 16.44, .t= 2.14, mean (male) =1.30, mean (female) =1.84].

Regarding to Item 13, they have anxiety if they have not able to keep connection with their family, p=0.00 which is a significant of this item and less than .05. Moreover [F=

13.34,. t=2.91, mean(male)=1.40, mean(female)=1.81] and for Item 14, It make them nervous if someone tried to connect them but they couldn't know it, is a significant p is less than .05, p=0.00 and because [F= 16.81, t= 2.84, mean (male)=1.56, mean(female)=1.98]. For Item 15, the connection broken makes them anxious feeling, significant is less .05, p= 0.00 [F=16.81, t=2.84, mean (male) =1.67, mean (female) =2.08]. For Item 16, Disconnection on their online activities make them nervous, and is a significant p=0.00 because less than .05. Additionally, [F=10.65, t= 2.99, mean (male) =1.92, mean (female) =2.19] and Item 18, Not being able to check their notification from social network makes them awkward feeling, is a significant p<.05 and p=0.00. Moreover [F= 25.14, t= 3.48, mean (mean) =2.01, mean (female) =2.13] and regarding to Item 20, It makes them wired feeling and what they can to do, is a significant p is less .05 and p=0.00. Moreover [F= 8.28, t=3.17, mean (male) =1.61, mean (female) =2.18].

It seems that males are more nervous when they are not able to use their information via their smartphones and have more this anxiety because males spend more time to look information up via their smartphones. However, females have more annoyed feeling in comparison to males, because smart phones have much more ability in their daily activities and females will struggle to nervous and anxiety more than males. It concluded, female are more nervous during their disconnection from online activities and females have more wired feeling in this situation because being up to date over their social media is an important reason to smartphone use for female gender.

As shown in literature, because females try more to check their information through their phones during their day and could be as reason because of their brain (Griffin, 2017). Therefore, female try to take news from online websites more than newspapers

or TV. Female students are more anxious and have less relationship with their parents and it makes them stress if they have poor communication and being disable on communication through Internet can make a kind of tension on them so they try to keep their activity by using of their phones more than males. Female would be more nervous because communication and relation and their connection over their social media can be an important role for their behavior (Scott, 2018).

4.3 The relationship between Nomophobia Situation and age of IT Students

A one-way ANOVA test and Post Hoc Comparison have computed to test statistical meaningfulness between subjects and the satisfaction of candidate students in online learning within different age groups (Item 11 and Item 13 were computed significant). Descriptive statistics of satisfaction level depending on age is shown in below Table 4.6, Table 4.7 for Item 11 and Item 13. A stands for first age group 18-21, B stands for second age group 21-25, C for 25-29 and D for 30-30+.

Table 4.6: Descriptive statistic of satisfaction level depending on age

Age	**N**	**Mean**	**Std. Deviation**
18-21	61	5.73	1.45
21-25	88	5.86	1.13
25-29	42	4.92	2.24
30-30+	14	6.21	0.80
Total	205	5.65	1.54

Table4.7: ANOVA summary table for satisfaction level depending on age

	Variance Source	**Sum of Squares**	**df**	**Mean Square**	**F**	**P**	**Sig Difference**
Item 11	Between Groups	30,788	3	10,263	4,531	**0,00**	A-C,A-D B-D C-B, C-D

Within Groups	455,310	201	2,265
Total	486,098	204	

For Item 11, as table 4.6 illustrated, the participants will be worry if they are not reachable by their family and this Item is significant on nomophobia state because of $p<.05$, $p=0.00$. $F= 4.53$, the highest level of mean is for group (30-30+) and the lowest one is for group (25-29) range of age. In concluded the mean score for 18-21 has a different amount 25-29 and 30-30+. On the other hand, mean score of 18-21 is similar to 21-25 and additionally, p value is less than 0.05 ($p<.05$), it mean that I11 of nomophobia is Signiant on age.

It seems participants try to keep connection to their friends and family as possible. As shown in literature, they try to keep in touch and they can text and call to their family anytime and anywhere (Yildirim, 2014).

Table 4.8: Descriptive statistic of satisfaction level depending on age

Age	**N**	**Mean**	**Std. Deviation**
18-21	61	5.00	1.64
21-25	88	5.61	1.45
25-29	42	4.83	1.79
30-30+	14	6.35	0.63
Total	205	5.32	1.60

Table 4.9: ANOVA summary table for satisfaction level depending on age

	Variance Source	**Sum of Squares**	**df**	**Mean Square**	**F**	**P**	**Sig. Difference**
Item 13	Between Groups	38,840	3	12,947	5,378	0,00	A-B,A-D B-C,C-D

Within Groups	483,911	201	2,408
Total	522,751	204	

*Information sources in the library, based on the age group *p<0.05*

For Item 13, if the participants cannot keep the connection with family and friends they will have anxiety, is a significant (p<.05, p=0.00) and F= 5.37, high level of mean is for (30-30+) and low level is for (25-39) range of age. Additionally the mean score for age 18-21 has different amount 21-25, 30-30+. Likewise, mean score of 18-21 is similar to 25-29 and it seems, this item of nomophobia has significance on age.

In concluded the participants want to be reachable with their family and friends every moment which shown in literature, their heavily purposes of smartphone usage are keeping communication (Yildirim, 2014).

As it seen from Tables in 4.8 and 4.9 section, a one-way ANOVA between subjects was conducted to examine the effect of nomophobia situation on age of participants. This finding can be interpreted that there were two Items (Item 11, 13) which have significance of nomophobia situation on age. Furthermore, these findings are supported by other research findings in the literature (Yildirim & Correia, 2015).

Conclusively, there are many Items to indicate the evidence of nomophobia existence on the participants. These factors can be dependent on different level according to age, gender and the duration of time spent on smartphone usage as elucidated in previous literature (Yildirim, 2014).

Chapter5

CONCLUSION

In conclusion, this study shows the kind of phobic behavior which known as no mobile phone or nomophobia that considers the addiction of smartphone users and anxiety level between IT students. Additionally, this thesis compares the effect of age and gender on nomophobia suffering.

The nomophobia situation is considered in this study, according to four sub-dimensions of nomophiba. The participants have high level nomophobic behavior and the results shows nomophobia existence among females are more than males which 62,4% of male students and 37,6 % of females were the participants of this study.

As shown in Chapter 4, the first sub-dimension of nomophobia (Not Being Able to Communicate) have the most impact on nomophobia state in compared to others one. Additionally, Item 1, 2 (Not Being Able to Access Information) , Item 6 (Giving up Convenience), Item 11(Not Being able to Communication) and Item 18 (Losing Connectedness) have the highest mean which can be considered as the important role of smartphone use on the level of nomophobia through smartphone users.

Moreover, gender has significance on nomophobia state. As the results showed the p value of all Items, are $p>0.05$ which signifies the role of gender on smartphone addiction and existing of nomophobic behavior among participants. Furthermore, as seen from outcomes, females struggled to anxiety more than males, similar to past

literature, which shown females have more worried and nervousness in comparison by males.

Likewise, as shown in findings, Items 11and 13 was surveyed to take result about role of age on nomophobia state, which revealed the significance of nomophobia situation on age of participants and the mean of these Items respectively between age grouo of this study are 12.9 and 10.2 that seems from results age of participants has important role on their level of smartphone addiction, which the range age between 21 and 25, have more anxious feeling and nervousness in comparison to other groups.

This investigation has underwritten to the nomophobia research literature by testing the NMP-Q and computing the nomophobia situation among a part of educational environment, which was used by valid and reliable score. Moreover, as shown in this study, the technology on people's lives can yield negative impact same as positive one.

Therefore, considering to smartphone addiction and existing of nomophobia among students, can cause to change the smartphones use and provide healthier methods in educational environment in the future.

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APPENDICES

Appendix A: (Questionnaire)

The Nomophobia Questionnaire (NMP-Q)

Section I: Demography Questionnaire

1. Age: ◯ 18-21 ◯ 21-25 ◯ 25-30 ◯ +30

2. Gender: ◯ Male ◯ Female

Section II: Nomophobia Questionnaire (NMP-Q)

Part 1:

Strongly Disagree (SD), Disagree (D), Partly Disagree (PD), Natural (N), Partly Agree (PA), Agree (A), Strongly Agree (SA),

Please indicate how much you agree or disagree with each statement in relation to your smartphone.	SD	D	PD	N	PA	A	SA
1. I would feel uncomfortable without constant access to information through my smartphone.							
2. I would be annoyed if I could not look information up on my smartphone when I wanted to do so.							
3. Being unable to get the news (e.g., happenings, weather, etc.) on my smartphone would make me nervous.							
4. I would be annoyed if I could not use my smartphone and/or its capabilities when I wanted to do so.							
5. Running out of battery in my smartphone would scare me							
6. If I were to run out of credits or hit my monthly data limit, I would panic							
7. If I did not have a data signal or could not connect to Wi-Fi, then I would constantly check to see if I had a signal or could find a Wi-Fi network.							
8. If I could not use my smartphone, I would be afraid of getting stranded somewhere.							
9. If I could not check my smartphone for a while, I would feel a desire to check it.							

Part 2:

Disagree (SD), Disagree (D), Partly Disagree (PD), Natural (N), Partly Agree (PA), Agree (A), Strongly Agree (SA),

If I did not have my smartphone with me,	SD	D	PD	N	PA	A	SA
10. I would feel anxious because I could not instantly communicate with my family and/or friends							
11. I would be worried because my family and/or friends could not reach me							
12. I would feel nervous because I would not be able to receive text messages and calls.							
13. I would be anxious because I could not keep in touch with my family and/or friends							
14. I would be nervous because I could not know if someone had tried to get a hold of me.							
15. I would feel anxious because my constant connection to my family and friends would be broken							
16. I would be nervous because I would be disconnected from my online identity							
17. I would be uncomfortable because I could not stay up-to-date with social media and online networks.							
18. I would feel awkward because I could not check my notifications for updates from my connections and online networks.							
19. I would feel anxious because I could not check my email messages.							
20. I would feel weird because I would not know what to do.							

Appendix B: (Ethics Committee Permission Letter)

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Etik Kurulu / *Ethics Committee*

Reference No: ETK00-2018-0297 26.11.2018

Subject: Application for Ethics.

RE: Nasim Niksiar
Faculty of Education

To Whom It May Concern:

On the date of **26.11.2018**, (Meeting number ***2018/61-17)***, EMU's Scientific Research and Publication Ethics Committee (BAYEK) has granted, Nasim Niksiar from the, Faculty of Education to pursue with her MA. thesis work **"An Evaluation of Nomophobia Level of IT Students o f Eastern Mediterranean University"** under the supervision of Assoc. Prof. Dr. Ersun İşçiolu. This decision has been taken by the majority of votes.

Regards,

Assoc. Prof. Dr. Şükrü Tüzmen
Director of Ethics Commitee

ŞT/ba.

Appendix C: (Turnitin Report)

Turnitin Originality Report

Thesis_V03 by Nasim Niksiar

From Nasim_Niksiar (SCHOOL OF COMPUTING AND TECHNOLOGY)

- Processed on 25-Jun-2019 11:36 +03
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- Word Count: 14527

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1 1% match (Internet from 19-Apr-2016)
http://9javibes.net/fact/20-signs-you-might-actually-be-addicted-to-your-phone-according-to-science/

2 1% match (student papers from 13-Sep-2018)
Submitted to UCFB on 2018-09-13

3 1% match (student papers from 29-May-2019)
Class: SCHOOL OF COMPUTING AND TECHNOLOGY
Assignment: imad
Paper ID: 1137362275

4 1% match (student papers from 21-Dec-2017)
Submitted to Universiti Teknologi MARA on 2017-12-21

5 1% match (student papers from 30-Aug-2015)
Class: SCHOOL OF COMPUTING AND TECHNOLOGY
Assignment: Fatih_Sapanca
Paper ID: 564772539

6 1% match (Internet from 16-Dec-2018)
https://akademiai.com/doi/full/10.1556/2006.7.2018.11

7 1% match (Internet from 04-Dec-2017)
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