YEDITEPE UNIVERSITY INSTITUTE OF EDUCATIONAL SCIENCES

MASTER'S PROGRAM IN GUIDANCE AND PSYCHOLOGICAL COUNSELING

THE RELATIONSHIP BETWEEN FIVE FACTOR PERSONALITY TRAITS AND NOMOPHOBIA LEVELS AMONG UNIVERSITY STUDENTS

DİDEM DAMLA YOĞURTÇU

2018

THE RELATIONSHIP BETWEEN FIVE FACTOR PERSONALITY TRAITS AND NOMOPHOBIA LEVELS AMONG UNIVERSITY STUDENTS

BY

DİDEM DAMLA YOĞURTÇU

DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE OF MASTER

IN

DEPARTMENT OF GUIDANCE AND PSYCHOLOGICAL COUNSELING

YEDITEPE UNIVERSITY

JUNE, 2018

YEDİTEPE UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES DIRECTORATE

THESIS SUBMISSION and APPROVAL FORM

SUBJECT: The Relationship Between Five Factor Personality Traits and Nomophobia Levels Among University Students

APPROVAL:

Assoc. Prof. Dr. Gonca Kızılkaya Cumaoğlu _____ _____
(Advisor) (Signature)

Assist. Prof. Berke Kırıkkanat _____ _____
(Member) (Signature)

Assist. Prof. Şerife Gonca Şeren _____ _____
(Member) (Signature)

SUBMITTED BY : Didem Damla Yiğurtlu
DATE OF THESIS DEFENSE : 27.04.2018
DATE OF THESIS APPROVAL : 27.04.2018

To my precious MOMS…

ACKNOWLEDGEMENTS

First and foremost, I would sincerely like to thank my supervisor, Assoc. Prof. Gonca Kızılkaya Cumaoğlu who guided and helped me through this long and difficult process even though she was remarkably busy. She was always nurturing and insightful, I will never forget what she told me when she saw me struggling with the stress: “It is okay to make mistakes, you are allowed to make mistakes”. I could not have seen the finishing line without your both academic and emotional support.

I would like to express my gratitude to my friends, especially to Zeynep Pekin and Brendan Reilly. To Zeynep, your help made impossible things possible in the last three years, you never let me quit and you always smiled even while I was pretty annoying. You are not only a friend but also a role model with your all applaudable academic life. I think you would like to have a free copy of my project, right? To Brenny, I sincerely feel lucky to have you in my life. You were always there to cheer me up and you had creative ways to show your support. I will always keep your motivational drawings.

Furthermore, I am grateful to all academicians who helped me with data collection process and to all students who filled up my questionnaires. Your help was essential for this project.

Finally, I would like to thank my beloved family, especially to my mothers, to my mother Tanyel Değirmenci, to my aunt Çiğdem Değirmenci and to my grandmother Gevher Değirmenci. Your unconditional love is making life bearable. I thank you for never giving up on me

TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

The present research was carried out with the purpose of scrutinizing the relationship between five-factor personality traits and nomophobia. In the scope of the study, the relationship between nomophobia and smartphone use habits were also investigated. The research was compiled through correlational design. The sample of the study comprised 414 undergraduate students (254 female and 160 male) studying in Yeditepe University. The data was obtained via demographic form prepared by researcher, The Big Five Inventory (John et al., 1991; Schmitt et al., 2007), and Nomophobia Questionnaire (Yildirim & Correia, 2015; Yildirim et al. 2016). In the main analyses of the study, the correlations between the study variables were examined with Pearson correlation analysis. The differences between university students' nomophobia levels in terms of demographic variables and smartphone use habits were assessed by one way analysis of variance (ANOVA) and independent samples t-test. The results of the research brought to light relationships between extraversion, neuroticism, and openness to experience traits and nomophobia level. Furthermore, the study revealed that gender, department type, and all smartphone use habits were significantly correlated with nomophobia. Current study provided an insight regarding one of psychological indicators of nomophobic behavior that is considered as important to understand the phenomenon better and to develop more effective intervention programs.

Key words: five factor personality traits, nomophobia, situational phobia, mobile phone addiction, undergraduate students.

ÖZET

Bu araştırma, beş faktör kişilik özellikleri ve nomofobi düzeyi arasındaki ilişkiyi incelemek amacıyla gerçekleştirilmiştir. Araştırma kapsamında, nomofobi ve akıllı telefon kullanma alışkanlıklarının ilişkisi analiz edilmiştir. Araştırmada ilişkisel araştırma yöntemi kullanılmıştır. Araştırmanın örneklem grubunu Yeditepe Üniversitesi'nde okuyan 414 lisans öğrencisi (254 kadın, 160 erkek) oluşturmuştur. Araştırma verileri, araştırmacı tarafından hazırlanan demografik form, Beş Faktör Kişilik Envanteri (Benet-Martínez & John, 1998; Schmitt et al., 2007) ve Nomofobi Araştırmada kullanılan değişkenler arasındaki ilişki durumunu belirleyebilmek amacıyla Pearson korelasyon analizi kullanılmıştır. Katılımcıların nomofobi seviyelerinin demografik değişkenlere ve akıllı telefon kullanma alışkanlıklarına göre anlamlı farkılılık gösterip göstermediğinin belirlemek için tek faktörlü varyans analizi (ANOVA) ve ilişkisiz örneklemler t-testi gerçekleştirilmiştir. Bu çalışma ile nomofobi kavramını daha iyi anlayabilmek ve daha etkili müdahele programları geliştirebilmek için gerek olduğu düşünülen nomofobik davranışların psikolojik göstergelerinden birine ışık tutulmuştur.

Key words: beş faktör kişilik özellikleri, nomofobi, durumsal fobi, cep telefonu bağımlılığı, lisans öğrencileri.

1. INTRODUCTION

1.1.Problem

Over recent years, mobile phones have become the primary source of communication, and they have transformed into smartphones with advanced technological features (Alam et al., 2014; Cheever, Rosen, Carrier, & Chavez, 2014; Yildirim, Sumuer, Adnan, & Yildirim, 2016). Nowadays, techno-culture of the world is partly formed by smartphones. Particularly young population are interested in smartphones since their one of primary needs is to socialize, fit into the group they belong to and to be liked by others (Pavithra, Madhukumar, & Mahadeva, 2015).

Recent developments in technology have enabled mobile phones to function not only as providers of simple voice and text, but also empowered communication options with various dimensions by means of smartphone capabilities (Adnan & Gezgin, 2016). Smartphones provide plenty of opportunities that are making our lives easier. Some of these features are internet connection, listening to music or radio, taking and and managing photos, social network, reading or watching news, navigation, banking, booking for all kind of tickets, shopping, reading and writing documents, data storage, using programs related learning management systems (Gezgin & Çakır, 2016; Gezgin, Şumuer, Arslan, & Yıldırım, 2017). Despite many advantages, relationship with smartphones can be crippling. Misuse and excessive use of smartphones can cause psychological, behavioral and physical problems such as headaches, loss of concentration, accidents, stress, anxiety, addiction, ringxiety and relatively new phenomenon: nomophobia (Alam et al., 2014; Argumosa-Villar, Boada-Grau, & Vigil-Colet, 2017; Bhatia, Sharma, & Chhabra, 2008; Bianchi &

Phillips, 2005; Ehrenberg, Juckes, White & Walsh, 2008; Samaha & Hawi, 2016; Yıldırım, 2014).

Nomophobia term is defined as irrational fear takes place in a condition when one fails to reach his mobile phone or communicate through these mentioned mobile devices (King et. al., 2013; Yildirim & Correia, 2015). Nomophobia has been interpreted as dependence on mobile phones or addiction to them in relevant researches (Dixit et al., 2010; Forgays et al., 2014). According to researchers, the term of addiction cannot reflect the meaning of the nomophobia since it is better suited to be classified under phobic disorders as a situational phobia particularly (King et al., 2010; King et al., 2014; Yıldırım, 2014). Nomophobia is comorbid with other pathologies such as social phobia, obsessive-compulsive disorder, mobile phone dependence, and internet dependence (Bragazzi & Del Puente, 2014; Kamibeppu & Sugiura, 2005).

A typical Nomophobic individual can be distinguished by some attributes such as keeping the smartphone on all the times, checking texts, calls and updates obsessively, always keeping the mobile phone with herself/himself, preferring contact to people over the mobile phone instead of face to face interaction, using mobile phone even it is not appropriate, and experiencing feelings such as anxiety and nervousness when the one think that he/she loses own mobile phone or when it is not close by or is misplaced or cannot be used due unavailability of network coverage, battery failure, and deprivation of available data to access internet, thus avoiding the occasions and places that it is not possible to the smartphone. Several studies confirmed that millions of individuals, especially young adults in the 18-to-24 age range suffer from nomophobia around the world (Bragazzi & Del Puente, 2014; Gezgin & Çakır, 2016; Kanmani, Bhavani, & Maragatham, 2017; Pavithra,

Madhukumar, & Mahadeva, 2015; Yildirim & Correia, 2015). To this respect, university students constituted the research group of the present study. Tavolacci, Meyrignac, Richard, Dechelotte, and Ladner (2015) conducted a research to reveal the prevalence of French university students' nomophobia level. Study results indicated that approximately 35% of the students had nomophobia. Another study conducted in India showed that approximately 73% of the students who were studying in medicine faculty were nomophobic (Sharma N, Sharma P, Sharma N, & Wavare, 2015). Besides, there are studies in Turkish literature related to nomophobia, factors related to nomophobia. Adnan and Gezgin (2016) pointed out that nomophobia levels of participated Turkish students were above average. Gezgin, Cakir, and Yildirim (2018) studied prevalence of nomophobia and its association level to internet addiction. Their study revealed that internet addiction was positively and significantly correlated with the prevalence of nomophobia. According to a study of Adnan and Gezgin (2016) conducted with university students, nomophobia level of the participants who carried a charger with themselves were higher than the ones who did not carry a charger. Study revealed that habits such as checking mobile phone as a first thing in the morning and spending time before sleeping were also correlated with nomopbia level of the students. Moreover, study findings pointed out that participants who checked their smartphones more often had higher levels of nomophobia. Kanmani et al. (2017) found out that 43% of the participants spent more than 5 hours on their smartphones daily, over 30% of the participants checked their smartphones 50 times or more in a day. The study also presented patterns of smartphones usage: 85% of the participants used their mobile phone when they were bored, 82% of them used their mobile phone when they were alone, and additionaly as one of the reasons to spend time on smartphone was found as checking social media (77%). In the light of the information

based on previous publications, in the scope of the study, smartphone usage habits and their relation to nomophobia level were also examined.

According to Eyesenck (1994), personality is presumed to influence interactive relations. The mobile phone extends interpersonal transactions' accessibility and immediacy (Plant, 2001). Therefore researchers who were interested in revealing individual differences and psychological predictors related to mobile phone use, problematic mobile phone use, smartphone addictions, and nomophobia, conducted studies to explore personality and its effects on phone use. (Andreassen et al., 2013; Argumasa-Villar et al., 2017; Bianchi & Phillips, 2005; Ehrenberg et al., 2008; Ezoe et al., 2009; Kutlu & Pamuk, 2017; Takao, 2014). Regarding the psychological predictors of phone use related issues, many researchers used the Big-Five Personality Model, since the model is well-validated and widely accepted (Argumasa-Villar et al., 2017; Bienvenu et al., 2001; Buckner, Castille, & Sheets, 2012; Ezoe et al., 2009; Kutlu & Pamuk, 2017; Takao, 2014). Nomophobia is a relatively new yet alerting phenomenon. Researches have been conducted on the matter were mostly focused on prevalence of nomophobia and impacts of nomophobia. The present study was considered necessary since there was a gap in the Turkish literature regarding psychological predictors leading to nomophobia and the research was also important as it provides information for future studies to develop more effective intervention programs. Since personality is a psychological predictor of mobile phone use and problematic mobile phone use and nomophobia happens as a result of mobile phone use; personality traits were expected to be correlated with nomophobia. Thus, the research problem of this study is "*Are there significant correlations between five factor personality traits and nomophobia level*?*"*

1.2. Purpose of the Study

In present research, nomophobia levels of the participants were assessed and correlations among study variables were explored. The differences between nomophobia level with regard to gender, class level, department, frequency of daily smartphone checking habits, whether they carry a charger with themselves, duration of daily smartphone use, duration of internet use on smartphone, whether they check their smartphone as a first thing when they wake up, whether they spend time on their smartphones before sleeping, whether they spend time on their smartphones when they are bored, whether they spend time on their smartphones when they are alone, and whether they use their smartphones to check the social media were examined. The main motive of the study was to assess if there are associations between nomophobia level and five factor personality traits; extroversion, neuroticism, agreeableness, conscientiousness, and openness to experience. The research questions of the study are as following:

Q1) Is there any significant differences between university students' nomophobia levels with regard to personality traits?

Q1a) Is there any significant difference between university students' nomophobia levels with regard to extraversion trait?

Q1b) Is there any significant difference between university students' nomophobia levels with regard to agreeableness trait?

Q1c) Is there any significant difference between university students' nomophobia levels with regard to conscientiousness trait?

Q1d) Is there any significant difference between university students' nomophobia levels with regard to neuroticism trait?

Q1e) Is there any significant difference between university students' nomophobia levels with regard to openness to experience trait?

Q2) Is there any significant difference between university students' nomophobia levels with regard to gender?

Q3) Is there any significant difference between university students' nomophobia levels with regard to department?

Q4) Is there any significant difference between university students' nomophobia levels with regard to class level?

Q5) Is there any significant differences between university students' nomophobia levels with regard to smartphone usage habbits?

Q5a) Is there any significant difference between university students' nomophobia levels with regard to frequency of daily smartphone checking habits?

Q5b) Is there any significant difference between university students' nomophobia levels with regard to whether they carry a charger with themselves?

Q5c) Is there any significant difference between university students' nomophobia levels with regard to duration of daily smartphone use?

Q5d) Is there any significant difference between university students' nomophobia levels with regard to duration of internet use on a smartphone?

Q5e) Is there any significant difference between university students' nomophobia levels with regard to check smartphone as a first thing in the morning?

Q5f) Is there any significant difference between university students' nomophobia levels with regard to spend time on smartphone before sleeping?

Q5g) Is there any significant difference between university students' nomophobia levels with regard to use mobile phone when they are bored?

Q5h) Is there any significant difference between university students' nomophobia levels with regard to use mobile phone when they are alone?

Q5i) Is there any significant difference between university students' nomophobia levels with regard to use smartphone to check social media?

1.3.Limitations

Limitations of the current study were assessed as internal and external validity threats. Possible internal threats in the study were self-report instruments and data collection process. Self-report measures only reflect individuals' perception levels of related subjects and also social desirability, which is defined as answering items in a way that others may like, can also lead to unauthentic answers. Additionally, data were collected during different classes so that it was also considered as an internal threat. External threat of the study was considered as the data that obtained from the limited sample. Yeditepe University undergraduate students comprised the data set of the research and the findings could not be generalized to the students in other universities.

1.4.Definitions

Nomophobia: A term that is defined as irrational fear takes places in a condition that one fails to reach his cell phone or smartphone or fails to make a contact through these mentioned mobile equipments (King et al., 2013; Yildirim & Correia, 2015).

Nomophobe: It is a noun that identifies an individual with nomophobia (Yıldırım, 2014).

Five Factor Personality Model: Five broad dimensions and ranked organization of traits that are used to define personality (McCrae & Costa, 1987).

Extraversion: A trait that is related to adjectives such as activeness, warm heartedness, thrill-seeking, positive emotions, and tend to be more open for self-disclosure (McCrae & Costa, 1985).

Agreeableness: A trait refers to individuals who are prone to be sociable, warm-hearted, trusting, friendly, whereas others scoring low in agreeableness are liable to be harsh, argumentative, uncooperative and less pleasant to others. (Moore & McElroy, 2012)

Conscientiousness: A trait that refers organized, diligent, careful and self-controlled individuals who control over their impulses (John, et al, 2010).

Neuroticism: A trait that is often identified as emotional stability and emotional fluctuation (Barrick & Mount, 1991).

Openness to experiences: A trait refers to individuals who are adventurous, original, creative, curious, orientated to their own thoughts and feelings; while low-level ones are described as traditional, conservative, and indifferent (Costa & McCrae, 1995).

1.5.Abbreviations

BFI: Big Five Inventory

NMP-Q: Nomophobia Questionnaire

2. LITERATURE

2.1. Personality

Personality term is derived from the word "persona" in Latin. The Persona was the "masks" of the hundreds of theatre players during the ancient Roman era. The theatre actors used these masks to represent a certain personality that was intended to be used, and to put the characteristics of that person in the forefront (Aytaç, 2000; Koptagel, 1991).

It is seen that the famous Roman philosopher Cicero (BC 106 - 43 BC) handled the persona word in four different ways: 1- The person appears in a certain way, but it can not be. 2- The role that the person plays in his life. 3- All the features necessary for the role that the person plays in his life. 4- Appearance and nobility. Personality is one of the most attractive and comprehensive phenomenons in psychology. Everything that belongs to a person defines the source of that person in terms of knowledge and meaning. Personality in this sense; is a term that embraces the attributes of a person's attitudes, talents, speech style, and adaptative skills in social context as a whole. Personality is considered as unique and harmonious (Köknel, 2005).

When we look at the studies related to the concept of personality, we see that this subject is handled in different ways by philosophers and scientists, and that different philosophical movements dominate in different time periods in history. In the present time, even though there are major theories of personality, there are still no consensus definitions or forms of measurement over the personality which is one of the main concepts of psychology (Köknel, 2005).

In line with scientific studies, according to psychologists, personality consists individual's specific, characteristic, and distinctive behaviors. It is specific and characteristics since it stands for the individual's most frequent or most typical behavior. It is distinctive since these behaviors distinguish one from the other (Morgan, 2005). However, personality term refers to the relatively consistent characteristics of the individual, that distinguish him them from the other individuals, and form the basis of our predictions on future behaviors of the individual (Yanbastı, 1990).

According to Pervin, Cervone and John (2005), personality is comprehensive. Personality indicates to individual's psychological attributes that contribute to steady patterns how one feels, thinks, and behaves. Personality is the considered as a well-shaped sytem that represents one's greater psychological subsystems with the collective movements (Mayer, 2007). Another definition of the personality draws attention to how one's interactions, adjustment skills are affected by these mechanisms and psychological traits set that are called as personality. Individuals are relatively consistent within this set and they are under effect of these traits and mechanisms set while they interact in social content (Larsen & Buss, 2009).

Most of the psychologists, psychiatrists and philosophers share the view that 1- personality is a psychological system, 2- is formed as component groups, 3- that interact, 4- evolve, and 5- affects how individual behave (Mayer, 2007).

2.2. Personality Theories

In the past, various theories about personality have been proposed by philosophers. However, forming the theories of personality from scientific approach

occurred in the end of the 18th century. Opinions that initially developed out of clinical observations were investigated thoroughly by Charcot, Janet, Freud, Jung, and McDougall. Another influence on personality theories was the Gestalt approaches and holistic views that began with William Stern. Experimental psychology, learning theories and controlled empirical research was influential in the development of personality theories in their field. Measurement/evaluation technologies and individual differences in psychometry and human behavior were also played substantial role in the development of personality theories. It is stated that developments in fields such as genetic, social anthropology, sociology, and economics have both impact and contribution to contemporary personality theories from various aspects (Yanbastı, 1990).

Personality psychology is interested in people's authentic style of behaving, feeling, and thinking. Hence, the predictions of each theory for the personality development are diversified. There are six main personality theories that explain and analyze personality.

Psychoanalytic Theory explains the interpersonal behavioral difference with unconscious processes, while Biological Theory explains individual differences with hereditary characters and physical processes. Trait Theory is a concept that distinguishes individuals due to the levels of possession of a certain number personality characteristics, while the Humanistic Theory suggests that the differences are driven by a sense of personal responsibility and self-approval. Behavioral and Social Learning Theory argues that interpersonal differences are the result of various conditioning and expectations, as Cognitive Theorists explain these differences as differences in the information processing process. These six concepts that are

explaining the personality, do not contradict each other, disagreement is based on the difference in behavior patterns (Burger, 2014).

Personality is tried to be identified beginning from the early stages of mankind. Same phenomenon is tried to be explained with different theories. In addition to this, there are difficulties to examine human beings objectively because of the emotional quality (Karasar, 2004). When we look at the last 30 years in the field of personality, it is seen that the biggest discussions are between person - situation approaches to the person.

Trait theorists focus on here and now, how adults' personalities differentiate one from another rather than what is and is not personality and how it develops in the first childhood experiences. For this reason they define themselves as trait personality theorists. They emphasize that people have differentiated personality traits such as addiction, aggression, compassion, and helpfulness (Masood, 2009). Personality traits indicate that there are consistent patterns in the way individuals behave, think, and feel. Trait theorists aim to measure psychological attributes of personality as objective and reliable as those found in the physical sciences (Cervone & Pervin, 2014).

Immeasurable aspects of personality psychology have not been taken into account since measurability has a significance in these theories. Trait theories show a superficial approach to personality and focus on conscious and concrete aspects of personality. Unconscious and abstract statements on behavior do no matter to trait theories (İnanç & Yerlikaya, 2011).

The common characteristic of trait theories is that they emphasize that all of these theories have personality traits that reflect the tendency of individuals to behave in a certain way. The strong tendency of this behavior means that the individual is predominant in relation to the personality trait. According to trait theorists, the levels

of characteristics that differentiate individuals from others are different from one individual to others (Isır, 2006). Trait theories have three basic assumptions about personality. These assumptions are as follows:

- Personality traits are relatively continuous. For this reason, they are predictable over time and they do not change over time.
- Personality traits are also continuous from situation to situation. That is why we can explain why individuals behave in similar ways in many different situations. For example, an individual who is highly competitive in his workplace will likely be similarly competitive in a sports event.
- People differ according to their level of having a certain personality trait. There are not two people in the world who have exactly the same personality traits. As a result of this situation, a myriad of unique personalities are antagonized (Bernstein et al., 2007).

There are two main purposes of trait theorists: (1) to predict how an individual will behave in a particular situation, (2) to predict how the individual will behave at a certain point in the continuity of the differential characteristic. Another distinguishing feature of the trait approach is that it does not mention the underlying reasons for behavior as much as other approaches. However, the trait theories researchers do not just define the distinctive features. Determining the traits is the first step in predicting human behavior for them (Burger, 2014).

Supporters of the trait approach, which is one of the most popular methods used in the psychology of personality (have determined a set of behaviors that can be shown on a continuum and claim that they can place the behavior at a point on this continuum (Saymaz, 2003; Yazgan & Yerlikaya, 2012).

Yazgan and Yerlikaya (2012) stated that many psychologists who put forward ideas in the field of personality psychology today and who have different opinions on this subject use their distinctive features and distinctive feature measures in their studies. Contributions of the first trait theorists have a great importance on this approach becoming popular. The first known studies in this area have been conducted by Allport, Cattell, and Eysenck.

2.2.1.Gordon Allport

Allport (1961) stated that two people would never look exactly like each other. According to Allport, each person's behavior is unique to him, and the most effective term in the study of behaviors and individual differences is the concept of "trait". He believed that basic units of the personality are traits (Cervone & Pervin, 2014).

Allport (1961) defined the trait concept as a personality dimension that classifies individuals according to their specific personality characteristics and to what extent they reflect this characteristic. According to Alport, Trait Approach is formed on two basic assumptions. The first supposition is that traits do not change over time; the second assumption argues that individuals continue to use the same personality traits consistently in different situations. According to these assumptions, a person who is extroverted and social will continue to exhibit these characteristics consistently for years. These characteristics, that the person possesses, will show consistency in different situations; the person will exhibit an extrovert and social personality both in the workplace and outside and at home (Yazgan & Yerlikaya, 2012).

As the explanations above suggests, Allport (1961) has mainly tried to determine basic personality traits and to what extent people have certain personality traits. According to Allport, it is possible to determine the authentic and unique

composition of the characteristics that form the personality of the individual. For this reason, while trying to determine individuals' personalities, they have examined them within themselves rather than placing them in pre-determined classes (Burger, 2014).

Another trait approach, that is quite different from Allport's trait approach, has emerged through a statistical technique known as factor analysis. Theorists who used factor analysis in examining personality assumed that the basic components of personality are universal. Moreover, they argued that human nature has a leaning to act in a consistent way and there is a hierarchical structure within basic components of personality (Yazgan & Yerlikaya, 2012).

Using the factor analysis in the study of personality, the theorists tried to quantitatively measure different characteristics in different people. The idea of "quantitative measurement of different characteristics" forms the basis of the factor-analytic approach. The two leading representatives of this approach are Cattell and Eysenck (Yazgan & Yerlikaya, 2012).

2.2.2.Cattell

Cattell argued that many human characteristics, especially intelligence, are determined by genes. However, he did not ignore the existence of environmental influences (Burger, 2014). He provided two conceptual distinctions that are surface traits and source traits. These two groups of traits represent different levels of analysis. He believed that there is a hierarchy between among trait concepts. Surface traits represent superficial behavioral tendencies that can be observed. On the other hand, source traits are underlying internal psychological structures that cause observable behavioral tendencies (Cervone & Pervin, 2014)

Cattell worked to discover basic personality traits; claimed that the basic structure of an individual can be determined by grouping concepts that are close and related to each other and by separating the concepts that are independent of each other. After working with the factor analysis method, he identified 16 basic personality traits. He developed a 16-factor personality questionnaire by naming them "key personality traits" and published this questionnaire in 1949 (Burger, 2014). Table 2.1. lists 16 basic personality factors that Cattell (1965) determined (Cervone & Pervin, 2014).

Table 2.1.

Catrell's 16 Personality Factor

Reserved	Outgoing
Less Intelligent	More Intelligent
Stable, ego strength	Emotionality/neuroticism
Humble	Assertive
Sober	Happy-go-lucky
Expedient	Conscientious
Shy	Venturesome
Tough-minded	Tender-minded
Trusting	Suspicious
Practical	Imaginative
Forthright	Shrewd
Placid	Apprehensive
Conservative	Experimenting
Group dependent	Self-sufficient
Undisciplined	Controlled
Relaxed	Tense

2.2.3.Eysenck

Eysenck (1997), like Cattell, argues that the purpose of psychology is to predict behavior and factor analysis should be used in the investigation of personality. Eysenck's (1997) personality theory has a strong psychometric and biological basis. He believed that complex psychometric techniques are necessary to examine and

measure the structure of the human person; Eysenck, however, believed that these techniques are not enough alone, and unless the biological basis is revealed, the personality components obtained by the factor analysis technique will be vicious and meaningless.

Eysenck suggests that your personality is shaped by their biological structures, not as a result of your parents' actions or mistakes. Hence, he has drawn attention to biological factors affecting personality. In other words, he suggests that the differences in personality between individuals are caused by biological differences between individuals. For example, he argued that the difference between extravert and introvert is caused by the "Reticular Activating System" associated with the brain. According to this, while the introverts need to move away from the social environment because they are more stimulated by the influence of this system, extraverts feel the need to enter new social environments as they perceive the stimuli at a low level (Saymaz, 2003).

Eysenck (1990) argued that essential personality traits such as extraversion, neuroticism, and psychoticism are mainly determined by inheritance; environmental factors in personality development are not very important. According to Eysenck, three-quarters of the person is determined by genetic factors. In other words, Eysenck says that 75% of the variance observed in this three-person dimension is inherited; While 25% could be explained by environmental impact.

Eysenck used secondary factor analysis to identify independent factors. The secondary factors are traits that are consistent emotions or behaviors distinguishing one from another, continuous dimensions with a high and low end. The highest level of the hierarchy of traits is called super factors. (Cervone & Pervin, 2014). Eysenck (1975) structured his first personality theory on the dimension of two personality

dimensions, ie, "extraversion and neuroticism". In his first personality typology, he distinguished four distinct groups of individuals from each other in two-polar two-dimensional forms. The other end of the extraversion dimension is introversion. The other point of neuroticism dimension is emotionally stable. Eysenck's (1975) Two-Polar Two-Dimensional Personality Typology is demonsrated in Table 2.2. (Burger, 2014).

Table 2.2.

Eysenck's (1975) Two-Polar Two-Dimensional Personality Typology

	Stable	Neurotic
Introvert	Calm	Quiet
	Even-tempered	Unsociable
	Reliable	Reserved
	Controlled	Pessimistic
	Peaceful	Sober
	Thoughtful	Rigid
	Careful	Anxious
	Passive	Moody
Extrovert	Leadership	Active
	Carefree	Optimistic
	Lively	Impulsive
	Easygoing	Changeable
	Responsive	Excitable
	Talkative	Aggressive
	Outgoing	Restless
	Sociable	Touchy

In the following years, Eysenck (1976) added a third personality dimension to his theory called "psychotism". Individuals who score high on it are considered as self-centered, selfish, aggressive, insensitive, insensitive to others' rights, impulsive, and rebellious against others.

2.3.Five Factor Personality Theories (The Big Five Factor)

Five Factor Of the Personality Theory is one of the most important and typical models in dimensional models. (Tatlılıoglu, 2014). Five Factor Model (FFM) of personality has two different approaches: lexical (taxonomic) and dispositional or empirical evince model. Lexical researchers classify factors based on language hypothesis. Five Factor Model was attained from lexical data. This model is focused personality attributes, thus it is possible to say that it is rather descriptive than explanatory (Saucier & Goldberg, 1996). Notwithstanding, the Five Factor Model in empirical evidence approach is established on factor analysis of self-report scales. Five factors are considered as related to biologically based traits that are expected to explain behavioral expressions (McCrae & Costa, 1996).

Consideration of language as a point of action in studying personality traits has created a very comprehensive resource for personality psychologists. Researchers seeking to examine personality traits have attempted to create a classification (taxonomy) that would encompass the structure of personality. Based on the Francis Galton's hypothesis, lexical theory suggests that individual differences people exhibit are encoded in all languages in the world and are reflected as words. For this reason, psychologists interested in the subject since the 1920s have turned to this rich source to distinguish the phenotypic personality traits of the persons (Somer, 1998).

Beginning with the 1800s, lexical hypothesis has been used by many different methodologies to develop personality taxonomies. In 1936 Gordon Allport and Henry Odbert conducted one of the most significant and seminal studies in personality psychology. They researched English dictionary to identify terms related to personality and as a result of the study, nearly 18,000 terms that could be used to distinguish one's behavior from another were listed. In the1940s, Raymond Cattell

made computer-based studies to analyze Allport and Odbert's terms. Catell started with the subset of 4500 terms since the amount of the terms were too overwhelming for research purposes. He had condensed these terms into 16 source traits or factors by using factor analyses at the end of his study. By means of Catell's pioneering work, several researchers started to examine the dimensional structure of traits. As a result of these studies, dimensions of the Big Five were discovered. Fiske (1949) formed more simple descriptions from 22 variables of Catell; self-ratings, ratings by peers constituted the factor structures. Tupes and Christal (1961) reanalyzed correlation matrices to delineate these factors. All analyses pointed five factors that are relatively strong and steady. Norman (1967) compiled a list of personality-explanatory words, that are sorted into 75 semantic sections (Somer, 1998).

Goldberg (1990) formed a self-rating questionnaire of 1,710 trait adjectives as a result of working on Norman's (1967) study. Norman's semantic categories were scored as scales and their intercorrelations were factor analyzed in the self-rating data (John & Srivastava, 1999).

Many lexical and empirical research had been conducted and even if there was no certain agreement on the subject, researchers came up with surprisingly consistent findings in their factor analysis studies (Costa & McCrae, 1988; Goldberg, 1990; Peabody & Goldberg, 1989). Five factors have emerged so frequently in studies using different methods that researchers have now called these factors "Big Five". Although different researchers have used different names, the most frequently used concepts for these dimensions are neuroticism, extraversion, openness to experience, agreeableness and conscientiousness (Burger, 2014).

In the study of Costa and McCrae (1992), it is suggested that the five factors of the five factor personality model are widely accepted as a comprehensive model of personality based on four arguments. These are:

- Longitudinal researches and inter-observer studies indicate the existence of five factor, their power to unlock behavioral patterns and maintain their effect for a long time.
- The characteristics associated with each factor of the Five Factor Personality Model are found in the language of the community and in the personality systems in which these characteristics are searched.
- Five Factor Personality characteristics are confirmed in different age, gender, race and language groups. These characteristics can be phrased disparately in different cultures.
- Heritability aspect of the Five Factor Personality traits is indicated.

The Five Factor Personality Model is a hierarchical organization of personality traits and is defined in five broad dimensions. Each of five factors integrate many narrow traits. These tendencies are innate, develop through one's lifespan, have an influence on how an individuals think, feel and act (McCrae and Costa, 1987).

2.3.1.Extraversion

The extraversion dimension of the Five Factor Personality Model is largely similar to the introversion-extraversion dimension of Eysenck. This dimension is represented by characteristics such as sociableness, assertiveness, activeness and being talkative, and defending the right. Two important components of this dimension are ambition/passion and friendliness (Barrick & Mount, 1991).

Extraverted individual is active, sympathetic, thrill-seekers, and tend to be more open for self-disclosure (McCrae & Costa, 1985). Among the main motivational factors of extroverted individuals are the desire to be superior and to win a prize (Barrick, Stewart, & Piotrowski, 2002). Extraverts can easily communicate with other individuals in the groups. They are pioneers in the exploitation and discovery of resources and are open to the outside world (Störmer & Fehr, 2013).

It is worth noting that introversion is not the opposite of extraversion. It is more difficult to define the introversion. Introverted individuals may want to be alone, but they do not complain about social anxiety. They are not unhappy or pessimistic individuals, although they are not as enthusiastic as extraverts are. Extraverts express more positive emotions whereas introverts express less (Moore & McElroy, 2012). Extroverted individuals are open to experience, curious, artistic, insightful, flexible, logical and original individuals (Penley & Tomaka, 2002). In a study conducted on cultures, extroverted individuals were found to be more open to different cultures than others and more successful in cultural adaptation (Turan et al., 2012).

Extroverted individuals face less difficulty in seeking and receiving psychological help; while introverts do not demand professional help until those psychological issues force themselves to a certain degree (Kahveci, 2001). Extraverts are expected to be generally impulsive, excitement and social interaction seeking individuals (Roberts et al., 2015) As authors indicated, an extroverted individuals tend to seek out stimulation since they are under-aroused. Studies conducted show that there are a link between addicted behavior, problematic mobile phone use and extraversion. (Andreassen et al., 2013; Bianchi & Phillips 2005; Love & Kewley, 2003).

2.3.2.Agreeableness

Agreeableness as a dimension represents the humanitarian side of individuals (Digman, 1990). This trait reflects which level an individual tries and approves interpersonal collaboration. Agreeable individuals tend to be sociable, warm-hearted, trusting, and friendly, whereas individuals scoring low in agreeableness are tend to be harsh, argumentative, uncooperative and less pleasant to others. (Moore & McElroy, 2012).

Agreeable individuals compromise rather than compete (Barrick, Stewart, & Piotrowski, 2002), they avoid interpersonal conflicts; even if they dispute, they don't use force and pressure in order to ensure conflict resolution (Cloninger, 2000).

Individuals with a high level of agreeableness are those who show frequent behavior to help other people. Individuals on the negative side of this dimension are cold, quarrelsome, and rude individuals (Friedman & Schustack, 1999). They are individuals who are antagonistic and indifferent to others, who suspect of others' intentions, self-centered and jealous (Digman, 1990). Girgin (2007) stated that previous studies pointed out effects of agreeableness on individual’s self-perception and this factor has been found to be effective in improving social attitudes and life philosophy.

2.3.3.Conscientiousness

Conscientiousness refers organized, diligent, careful and self-controlled individuals who control over their impulses. These individuals strive to achieve goals. Contrarily, unconscientious people are considered as disorganized people who act impulsively and tend to postpone tasks (John, et al, 2010).

Researcher indicated that conscientiousness trait consists both advancing and obstructive aspects since it involves both movement and focus. The advancing aspect of the conscientiousness trait reveals the need for success, and determination for working; while its obstructive aspect reveals moral diligence and cautiousness (Somer, 1998).

As an interesting fact, researchers have found that conscientious individuals live longer since they can get better care of themselves (healthier food and more exercise). Dangerous behaviors such as smoking, drinking alcohol, using drugs, unprotected sex, and careless driving are less frequent with individuals scoring high in conscientiousness. Nevertheless, perhaps because they are too organized and structural, responsible individuals cannot adapt to different environments as much as others. Conscientious individuals are particularly less artistically creative than less conscientious individuals (Robbins & Judge, 2013).

Conscientious individuals seem to be less interested in Internet use in general and they are less dependent as they tend to be more dutiful in their everyday tasks and regard the Internet as an unwanted distraction (Rahmani & Lavasani, 2011; Stieger, et al., 2012).

2.3.4.Neuroticism

The neuroticism dimension is often identified as emotional stability and emotional fluctuation. Common characteristics in neuroticism are described as being anxious, depressed, nervous, bored, emotional, sad, and not trusting others (Barrick & Mount, 1991).

Neurotic individuals have a tendency to develop experiencing long-term negative emotions and develop behavioral and psychological pathologies. These individuals struggle to establish and maintain relationships in a healthy manner and experience

long-term stress (Bruck & Allen, 2003). Individuals scoring high in neuroticism frequently are anxious, angry, and sad and they cope with stress poorly; individuals scoring low in neuroticism are considered as stable, even-tempered and they cope with stress successfully (Moore & McElroy, 2012). Whereas emotionally balanced individuals confront with confusing, ambiguous, and unexpected stimuli, instead of escaping from this situation, they are acting on positive and negative emotions that can cope with this situation. Neuroticism expresses characteristics such as anxiety, hostility, impulsivity, and fragility (Penley & Tomaka 2002).

Neurotic individuals experience difficulty to distinguish negative emotions and thoughts, tolerate negative emotions, the link "now and present", and experience instability in the direction of value and interest. The tendency to negative emotions is fundamental for neuroticism (O'Brien & De Longis, 1996).

Individuals with high neuroticism score are more likely to feel emotions such as anxiety, anger, depression, and these emotional regulation issues inhibit one's ability to make decisions, think clearly, and handle with stress effectively (Johnson, 2006; Srivastava, 2006; as cited in Masood, 2009). An individual's vulnerability to stress increases the risk of failure to carry out tasks effectively (Sarason & Sarason, 2005). Andreassen et. al. (2013) reported that neuroticism on high levels is positively associated with various types of addictions. Another study indicated the association between high-level neuroticism and social phobia, agoraphobia, panic disorder and major depressive disorders (Bienvenu, et. al, 2001).

2.3.5.Openness to Experience

Openness to experience trait refers to one's tendency to think alternative paths, desiring knowledge, and enjoy artistic pursuits (Amichai-Hamburger &Vinitzky,

2010). It is possible to say that individuals who are open to experience authentic and independent individuals with strong imaginations. This trait also states the degree of an individual's will to discover new situations. Individuals scoring high in openness to experience are often intellectually curious, preferring diversity and new life experiences. Individuals with low levels are generally conservative, preferring uniformity, and indifferent in the intellectual sense (Glass et al., 2013).

Openness to experience trait is also relevant to interesting new ideas, new learning methods and new techniques. Individuals with high scores in this personality trait are tend to be creative and more likely to discover and experience new problem-solving strategies (Lounsbury et al., 2009). This is thought as the most cognitive related trait in this personality structure. With this version of view, the individuals who are open to high-level development are dreaming, adventurous, original, creative, curious, orientated to their own thoughts and feelings; while low-level ones are described as traditional, conservative, and irrelevant (Costa and McCrae, 1995).

2.4.Nomophobia

Increasing interactions between individuals with mobile phones have recently revealed a modern age phobia – Nomophobia (Yildirim & Correia, 2015). Nomophobia term is defined as irrational fear takes place in a condition that one fails to reach his cell phone or smartphone or fails to communicate through them (King et al., 2013; Yıldırım & Correria, 2015). Nomophobia was first coined as a result of a study that was compiled in 2008 by the UK Post Office to examine distress mobile phone users endure. The nomophobia term is abbreviated form of no-mobile-phone

phobia (SecurEnvoy, 2012). Nomophobe and nomophobic terms are introduced to refer to individuals with nomophobia; nomophobe is a noun and points out someone with nomophobia, nomophobic is an adjective and it points out characteristics and/or behaviors of nomophobes (Yıldırım, 2014).

King et al. (2010) conducted one of the first studies on nomophobia and they define nomophobia as a 21st-century disorder as a consequence of new technologies. Their definition suggests that nomophobia term expresses uneasiness or anxiety emerges in case one is out of mobile phone or computer contact. It is the fear that one will be technologically incommunicable, distant from the mobile phone or will fail to connect to the web (King et al., 2010). Their definition covers both mobile phones and computers.

King et al. (2013) defined nomophobia as a modern world disorder. Nomophobia term is recently used to describe discomfort or anxiety that individuals experience when it is not possible to reach communication devices they use habitually such as mobile phone and computer. The definition also covers computer but the focus is on the mobile devices in their research since they believe that smartphones took place of computers. It is implicated that communication is dependent on virtual environments in this definition (Yıldırım, 2014).

In the updated definition of King et al. (2014); nomophobia was explained as a phenomenon that is associated with behavior patterns or symptoms that are consequence of smartphone use. It is considered as a situational phobia related to agoraphobia also covers the fear of becoming sick and failing to reach immediate assistance. Given definition seems to point out the failure in the communication via a mobile phone. Moreover, here nomophobia is defined as a situational phobia focused on mobile phones whereas previous definitions only embraced anxiety as a result of

the unavailability of computers or virtual communication devices (Yildirim & Correia, 2015).

Situational phobias are subtypes of specific phobias. Specific phobia is a type of anxiety disorder which can be differentiated by persistent and unreasonable fear of a specific object, situation or person. In specific phobias, anxious apprehension and avoidance of specific stimuli can be seen. Specific phobia types are differentiated in DSM-IV as animal, natural environmental, blood-injection-injury, and situational types (Hunsley, 2008; LeBeau et. al, 2010). As it is happening in situational phobias, experiencing irrational fear towards the specific situation and intense physical or/and emotional reaction assumptions are also valid for people with nomophobia. Nomophobes would experience a state of unreasonable fear from fail to contact their smartphone or fail to use them, and they seek to keep their smartphones in use constantly (Yildirim & Correia, 2015). People with nomophobia experience intense anxiety, distress and other psychological, and physical symptoms which are going to be described comprehensively in next chapter. In the light of given information, it is suggested that nomophobia warrants to be considered as a psychopathological phenomenon. Bragazzi and Del Puente (2014) suggested that nomophobia disorder should be included in DSM-V as a specific phobia. Nomophobia did not appear in the current DSM-V; nevertheless, psychopathological effects of the new media and other related issues draw more attention each passing day and in the near future interest in the topic will grow in importance (Bragazzi & Del Puente, 2014).

According to Bragazzi and Del Puente (2014), "nomophobia is the pathological fear of remaining out of touch with technology" (page 156). They believe that nomophobia has various clinical characteristics such as using technological devices impulsively as a protective shield, as a transitional object, or as a means for avoiding

face to face communication also called as new technologies paradox. The attributes of nomophobia are as following:

- Using a mobile phone regularly and spending excessive length of time with it, having one or more mobile phones, and carrying a charger consistently.
- Experiencing feelings such as anxiety and nervousness at the thought of losing one's own mobile phone or when it is not nearby or is misplaced or cannot be used due to lack of network coverage, battery failure, and/or lack of available data to access internet, thus avoiding the places and the situations where the use of the smartphone is prohibited (for instance; public transit, restaurants, theaters, and airports).
- Looking at the phone's screen frequently to see whether texts or calls have been received (also known as "ringxiety").
- Keeping the mobile phone on 24 hours a day, and taking it in to bed.
- Having not many face-to-face interactions with others since they would lead to anxiety and stress; preferring communication through the new technologies.
- Spending considerable amounts to use a mobile phone, large amounts of debts as a result of purchasing expensive smartphones or/and consuming data-use (Bragazzi and Puente, 2014).

Yıldırım (2014) established a qualitative research to assess psychological effects of nomophobia. His study pointed out dimensions of nomophobia under four dimensions;

- Not being able to communicate,
- Losing connectedness, felt disconnected from their online identity,
- Not being able to access information,

- Giving up convenience.

Not being able to communicate dimension reflects feelings of losing immediate interaction and being unable to use services required for instant communication. The absence induces anxiety or nervousness over 35% participants. Individuals feel unsafe in case of failing to send texts or call their family members and/or friends, and also not knowing if someone tried to contact them. Losing connectedness dimension refers to be disconnected from one's online identity. 20% of the participants indicated that they experienced feelings such as nervousness, discomfort, and awkwardness in the situations of losing touch with their perceived online society, not being able to stay up to date with social media, and not checking for update notifications constantly. 23% of the individuals admitted that they feel weird or clueless about what to do in the absence of their mobile phones. Not being able to access information dimension refers to feeling helpless in a state of not being able to search for required information through one's smartphone. 38 % of the participants stated that they feel annoyed if they are unable to look up information on their smartphone or use it to its best capabilities when they want to. 19% of the population claimed that they feel nervous when it is impossible to receive news on their smartphones. Giving up convenience dimension is related to feeling upset as the comfort provided by one's smartphone is gone. Individuals experience resentment while they are having trouble to complete simple tasks, such as making a reservation for a restaurant or booking a hotel through their smartphones. They desire to stay in their comfort zone where their perfectly working smartphone is in their presence (Yıldırım, 2014).

Nomophobia has both physical and psychological negative effects on individuals' daily lives. Nomophobes feel anxious in such situations; when they forget their

mobile phones at home, when they are running out of battery when their mobile phone loses its signal. Anxiety as a result of nomophobia demotivates individuals and affects their ability to focus on their daily routines. Nomophobes, characteristically, refuse to turn off their mobile phones, have an urge to reply messages and answer calls immediately, check their smartphones obsessively to see if there is any updates or incoming calls, feel anxious and insecure in a situation of not finding their mobile phones, have panic attacks when their phones are running out of battery or credit, and experience feeling demotivated due to poor network reception of their mobile phones (Dixit et al., 2010).

Studies revealed that nomophobes experience anxiety symptoms such as dizziness, having difficulty in breathing, heartthrob, and stomach cramps when their mobile phones are not available nearby (Algul, 2014; Thomée et al., 2011). Moreover, physical issues such as; trembling, sweating, headache, and lethargy, respiratory distress, tachycardia, and cancer as a long-term risks may be occurred as a result of nomophobia (King, et al, 2014; Prasyatiani, 2017; Sharma et al, 2015). Studies showed that nomophobes are prone to feel psychological agitations such as depression, low self-esteem, distress, higher interpersonal anxiety, panic, and extreme isolation while they are compelled to detach from their smartphones a whole day. Nomophobic individuals are leaded to be exposed emotional disturbances, for instance; irritation, nervousness, insecureness, confusion, addiction, jealousy, dependency, jittery, loneliness, anger, and paranoia since they are not able to live without mobile phones (Kuss et.al., 2011; Zulkefly et al., 2009;).

Nomophobic behaviors have detrimental effects on every aspects of our lifes.. A Korean study pointed out that greater part of the smartphone users check their phones often without a reason, and 53.9% of them check their smartphones before sleeping,

and in the morning initially (Korean Internet and Security Agency, 2012). In a different research with university students, it was revealed that more than half of the participants leave their phones on while they are sleeping, and the majority tends to wake up and check their messages and notifications at least once during the night. As a result of the study, it was suggested that technology dependence perception and the tension if they they can not reach others factors may have negative effects on students' sleep quality, thus students academic performance can be decreased next day and they can experience learning difficulties at their classes (Rosen et al.,2016). There are some other studies emphasise that academic achievements of young people and nomophobia and mobile phone use variables are negatively associated (Rosen et al., 2013; Karpinski et al., 2013; Judd, 2014; Wentworth & Middleton, 2014; Kibona & Mgaya, 2015; Adnan & Gezgin, 2016; Erdem et al., 2016; Samaha & Hawi, 2016). Adnan and Gezgin (2016) suggested that mobile phone use has risks and side effects such as addiction, empathy deficit, attention deficit, anxiety, obesity, loneliness, aggression, hypertension, dissatisfaction, and low academic performance. It was reported that individuals use their smartphones in all cases; during a class, whilst walking, at the dinner table, when they are with their friends, an even in the restroom. The tendency of being dependent on smartphone use causes compulsive attitudes or clingy habits that lead to anxiety in its absence. Additionally, the study pointed out a crucial risk that should be noted, 1 of every 15 people use mobile phones while driving (Kanmani et. al, 2017).

Nomophobia has been interpreted as dependence on mobile phones or addiction to them in some previous studies in the field (Dixit et al., 2010; Forgays et al., 2014). According to researchers, the term of addiction cannot reflect the meaning of the nomophobia since it is better suited for phobia classification as a situational phobia

particularly (King et al., 2010; King et al., 2014; Yıldırım, 2014). Nomophobia, as in other phobic mental states, can cause both psychological and physical side effects.

This situation reflects the fear of being deprived of desired object or material while it is in the presence of the individual, rather than being addicted to a specific object or material that is manifested as mental and physical disturbances occurs in the case of deprivation. This fear of deprivation can manifest itself as a constant checking of the object or material, and taking extreme measures if the object is a device needs to be kept active (Erdem et. al.,2016).

Nomophobia and smartphone addiction are related in terms of many qualities, the most significant shared trait is seeing the smartphone as a source of relief and comfort (Harkin, 2003). Both nomophobia and smartphone addiction are comorbid with many other pathologies, such as, anxiety and panic disorder, other forms of phobia, social phobia disorder, agoraphobia, depression and dysthymia, obsessive-compulsive disorder, eating disorders, alcohol and drug addiction besides other behavioral addiction disorders, and personality disorders (Bragazzi & Puente, 2014; Clayton et al., 2015). Gezgin, Hamutoglu, Sezen-Gültekin and Ayas (2018) carried out a study to examine relationship between nomophobia and loneliness, and the impacts of smartphone and mobile internet use on adolescents. Study results pointed out that nomophobia levels of adolescents were predicted by their nomophobia levels to a certain extent. According to Bragazzi and Del Puente (2014), it is possible to see Nomophobia as a symptom for mental disorders which are more serious, with this point of view it can be considered as helpful with diagnosing disorders like atypical depression, and psychosis together.

Nomophobia maybe comorbid with psychiatric disorders, physical sequelae, and behavioral disorders. Psychiatric disorders that can be related are anxiety, depression,

insomnia, headache, dizziness, experiencing a decline in quality, and ringxiety. Ringxiety is also called as phantom ringing syndrome and it refers to the recurring perception that a mobile phone is ringing whereas it is not (Lin et al., 2013). Physical sequelae that may be related to nomophobia a digital thumb, eye strain, and allergenic contact dermatitis etc. Behavioral comorbidities can be listed as internet and/or sex addiction, pathological gambling, different identities and projections, hyperpersonal communication in online chats and online games (Bhatia, 2008; Sharma et. al, 2015).

Research of King et al. (2013) brought to light the associaion between social phobia disorder and nomophobia. Study pointed out that they were positively correlated even though association was low. It was indicated that patients with social phobia disorder rather than being pathologically dependent on the devices, they use communication devices as means of avoiding direct personal relationships. Another research concluded that social phobia levels of young adults are predicted by nomophobic behaviors to a small extent (Uysal et al., 2016). Gezgin et. al. (2018) found a statistically significant association among nomophobia and, loneliness.

According to Arpacı et al. (2017), avoidant and anxious attachment had significant positive direct effects on nomophobia. Study revealed the effect of mindfulness on nomophobia for women, thus researchers suggested that nomophobia should be treated by mindfullness-based therapies and the effectiveness of the therapy should be confirmed. whether they are effective and efficient.

2.5.Five Factor Personality Model and Nomophobia

The mobile phones have been developed spectacularly in recent years and they have become an inseperable part of human daily life (Argumasa-Villar et al., 2017;

Cheever et al., 2014; Gezgin & Çakır, 2016). While smartphones have been spreading and making our lifes easier, they also have adversive effects and one of them is nomophobia (Adnan & Gezgin, 2016; Erdem et al., 2016; Pavithra et al., 2015; Yildirim & Correia, 2015).

According to Eyesenck (1994), personality is presumed to influence interactive relations. The mobile phone extends interpersonal transactions' capacity of accessibility and immediacy (Plant, 2001). Therefore researchers who were interested in revealing individual differences and psychological predictors related to mobile phone use, problematic mobile phone use, smartphone dependence and addiction, and nomophobia, conducted studies to explore personality and its effects on phone use. (Andreassen et al., 2013; Argumasa-Villar et al., 2017; Bianchi and Phillips, 2005; Ehrenberg et al., 2008; Ezoe et al., 2009; Kutlu & Pamuk, 2017; Takao, 2014). Regarding the psychological predictors of phone use related issues, many researchers used the Big-Five Personality Model, since the model is well-validated and widely accepted (Argumasa-Villar et al., 2017; Bienvenu et. al, 2001; Buckner et al., 2012; Ezoe et al., 2009; Kutlu and Pamuk, 2017; Takao, 2014). The five factors representing personality are extroversion, neuroticism, agreeableness, conscientiousness, and openness to experience (McCrae & Costa, 1987).

Extraversion trait is associated with adjectives such as activeness, warm-heartedness, thrill-seeking, positive emotions, and tend to be more open for self-disclosure (Anastasi & Urbina, 1997; McCrae & Costa, 1985). According to Bianchi and Phillips (2005), mobile phone users are tend to be extraverted since they are fundamentally social in nature. Similarly, research of Ehrenber et al. (2008) showed that SMS consuming is greater with extravert. On the contrary, other researchers pointed out that individuals with greater introversion spent more time with sending

and receiving SMS (Amichai-Hamburger et al., 2002; Kraut et al., 1998). Moreover, it was found out that extraversion trait was positively and significantly correlated with mobile phone dependence and nomophobia in previous researches (Andreassen et al., 2013; Argumasa-Villar et al., 2017; Bianchi & Phillips, 2005; Butt & Phillips, 2008; Ezoe et al., 2009; Okoye et al., 2017; Takao, 2014).

Agreeableness as a dimension represents the humanitarian side of individuals (Digman, 1990). Characteristics of agreeable people are sociable, warm-hearted, trusting, and friendly, whereas individuals scoring low in agreeableness are considered as harsh, argumentative, uncooperative and less pleasant to others. (Moore & McElroy, 2012). Regarding problem use of mobile phone, Butt and Phillips (2008) and Ehrenberg et al. (2008) reported that more disagreeable persons exhibited higher tendencies, although in other studies, there were no correlations between those variables (Argumasa-Villar et al., 2017; Kutlu and Pamuk, 2017; Okoye et al., 2017; Takao, 2014).

Conscientiousness refers organized, diligent, careful and self-controlled individuals who control over their impulses. These individuals strive to achieve goals. On the other hand, unconscientious individuals are considered as disorganized people who act impulsively and tend to postpone tasks (John et al, 2010). Some of the studies did not find any associations between conscientiousness and problematic mobile phone use, mobile phone dependence and nomophobia (Andreassen et al., 2013; Okoye et al., 2017; Takao, 2014); the study of Argumasa-Villar et al. (2017) found an association between two variables.

Neuroticism dimension is often identified as emotional stability and emotional fluctuation. Common characteristics of high neuroticism are described as being anxious, depressed, nervous, bored, emotional, sad, and not trusting others (Barrick &

Mount, 1991). The neuroticism trait is expected to predict mobile phone related issues. As it was expected, most of the studies found a correlation between neuroticism trait and problematic mobile phone use, mobile phone addictions, and nomophobia (Argumasa-Villar et al., 2017; Ehrenberg et al., 2008; Ezoe et al., 2009; Okoye et al., 2017; Takao, 2014). On the contrary, some studies did not find any associations between neuroticism trait and mobile phone use (Andreassen et al., 2013; Bianchi & Phillips, 2005).

Openness to experiences trait refers individuals who are adventurous, original, creative, curious, orientated to their own thoughts and feelings; while low-level ones are described as traditional, conservative, and indifferent (Costa & McCrae, 1995). Chittaranjan et al. (2011) revealed that individuals with high level of openness to experience trait were less likely to miss calls and low openness to experience score was associated with high SMS usage. Andreassen et al. (2013) and Takao (2014) found correlations between openness to experience trait and problematic mobile phone use, mobile phone dependence, whereas other studies did not find any correlations.

2.6.Studies Related To Five Factor Personality Traits

Argumosa-Villar, Boada-Grau, and Vigil-Colet (2017) evaluated predictor role of personality and self-esteem on nomophobia. The sample of the study was 242 Spanish high school and undergraduate students. The data of the study was obtained by the Mobile Phone Involvement Questionnaire (MPIQ), the Rosenberg Self-Esteem Scale (SES) and the Overall Personality Assessment Scale (OPERAS). The study

findings pointed out that self-esteem, extraversion, and emotional stability traits significantly predicted nomophobia. Moreover, the association between conscientiousness and nomophobia variables was also predictive. On the contrary, associations among openness to experience, agreeableness traits and nomophobia were not observed. Among all predictor variables, self-esteem had the greatest effect on variance in the Mobile Phone Involvement Questionnaire.

Takao (2014) carried out a study to probe the association between big-five personality traits and problematic phone use. In the study, the NEO Five-Factor Inventory (NEO-FFI) and The Mobile Phone Problem Usage Scale were administered to 504 university students. Analyses' findings indicated that gender and three traits of personality (extraversion, neuroticism, openness to experience) were correlated with problematic phone use; on the other hand, agreeableness and conscientiousness traits were not associated.

Andreassen et al. (2013) investigated correlations among personality and several behavioral dependencies in detail. The data was collected by several questionnaires, such as the NEO-Five-Factor Inventory-Revised, the Bergen Facebook Addiction Scale (BFAS), the Game Addiction Scale for Adolescents (GASA), the Young's Diagnostic Questionnaire (YDQ), the Exercise Addiction Inventory (EAI), the Mobile Phone Addiction Index (MPAI), the Compulsive Buying Scale (CBS), Study Addiction Scale. The study sample was comprised of 218 university students. Results revealed that neuroticism trait was positively associated to study dependence, internet dependence, compulsive buying, and exercise dependence. There was a positive relationship between extroversion and exercise addiction, compulsive buying, mobile phone addiction, and Facebook addiction; whereas there were negative correlations between openness to experience and mobile phone

addiction, and Facebook addiction. The study revealed negative associations between agreeableness trait and exercise addiction, compulsive buying, mobile phone addiction, and internet addiction. Lastly, conscientiousness trait was negatively correlated with compulsive buying, video game addiction, Facebook addiction, and internet addiction; negatively correlated with exercise addiction and study addiction. According to study, pathological factors might be hidden under behavioral addictions.

Ezoe et al. (2009) examined the associations of personality and lifestyle with dependence on the mobile phone. Mobile Phone Dependence Questionnaire (MPDQ), NEO-FFI, A Self-Rating Depression Scale, and a revised list of seven health practices were administered to 132 female Japanese college students. Results of the analyses indicated that extraversion and neuroticism traits were positively related to the mobile phone dependence. Additionally, healthy practice scores were negatively related to mobile phone dependence scores. In other words, it was pointed out that extroversion and neuroticism traits, as well as an unhealthy lifestyle, were associated with mobile phone dependence of female students.

Ehrenberg et al. (2008) examined how communication technologies are related to personality and self-esteem among university students. 200 university students (146 females, 54 males) who owned a mobile phone and had access to a computer at home were the study group. The NEO FFI Personality Inventory, Coopersmith Self-Esteem Inventory Adult Form, and three-item survey to measure salience, loss of control and withdrawal symptoms were used to obtain the data. Results of the study showed that the level of being disagreeable is positively correlated to time spending on calls, extroverted and neurotic individuals spend more time for text messaging. Individuals scoring low on disagreeableness and ones with lower self-esteem spend more time on texting. Stronger mobile phone use impulse were reported by individuals with higher

neuroticism, whereas participants with lower self-esteem and more disagreeable ones reported stronger instant messaging addictive tendencies.

Bienvenu, Brown, Samuels, Liang, Costa, Eaton, and Nestadt (2001) examined the association between normal personality traits and comorbidity between, panic, major depressive, and phobic disorders. The Revised NEO Personality Inventory was administered to 320 subjects. Study results demonstrated that neuroticism and introversion traits were significant predictors of disorder prevalence. Additionally, younger age and female gender also predicted the prevalence of disorders significantly. Findings confirmed that neuroticism trait was associated with all mentioned disorders; introversion trait had a relationship with social phobia and agoraphobia, and extraversion trait was associated with stronger relationships between disorders.

Kutlu and Pamuk (2017) conducted to study to examine the predictor role of five-factor personality roles on problematic mobile phone use. Data was collected via Quick Big Five Personality Test (QBFPT) and Problematic mobile phone usage scale (PMPUS) and administered to 285 university students. According to findings, gender was not a relevant factor in consideration of problematic phone use. Study results revealed that conscientiousness and neuroticism traits predicted problematic mobile phone usage statistically, whereas agreeableness, extraversion, and openness traits did not predict it.

Kırcaburun (2016) carried out a study with the purpose of exploring the relationship between gender, personality traits, and Twitter addiction. Data were collected via Big Five Inventory, Twitter Addiction Scale and personal information form and the sample was 365 undergraduate students. Findings pointed out that 37.5% of the participants were mildly and 14.5% of them were moderately addicted to

Twitter. According to study, males were significantly more addicted to Twitter. The study revealed that extraversion, agreeableness, and conscientiousness traits predicted Twitter addiction of the participant.

Gula (2016) studied to identify problematic mobile phone use, social media use preferences in terms of demographic and personality traits. Social media preferences form, Five Factors Personality Inventory and Mobile Phone Problem Use Scale (MPPUS) were used to obtain data. The study group was comprised of 350 participants. Results of the analysis showed that demographics such as age, gender, and marital status were significantly correlated with problematic mobile phone use and social media use variables. Problematic mobile phone use was positively correlated with neuroticism trait, whereas it was negatively correlated with conscientiousness and agreeableness traits.

Özbek, Alnıaçık, Akkılıç, and Kaş (2014) investigated the mediator effects of perceived ease of use and usefulness variables in the relationship between personality traits and behavioral intentions towards acceptance of the technology. Data collection tools were IPIP Personality Inventory and Technology Adaptation Model Scale. The study sample was 251 university students who were considered as young consumers. The findings of the research suggested that perceived ease of use and usefulness variables had a mediating role on the correlation between agreeableness, openness traits and behavioral intentions. Furthermore, study results pointed out the mediator effect of perceived usefulness on the relationship between neuroticism and behavioral intentions.

Morsünbül (2014) conducted a study to identify predictor role of gender, life satisfaction, attachment styles, personality traits, and loneliness on internet addiction. Relationship Scales Questionnaire, Ten-Item Personality Inventory, UCLA

Loneliness Scale and Life Satisfaction Scale were used with the objective to obtain data from the sample of the study that consisted 350 university students. Study findings detected that the most preferred reasons to use internet were entertainment and interaction (%53.7). According to results, attachment styles was the strongest predictor of internet addiction, whereas loneliness was the weakest. Study results revealed that individuals with anxious and avoidance attachments styles had higher neuroticism scores and lower extraversion and conscientiousness traits. Mentioned individuals had higher scores of loneliness, whereas their scores of life satisfaction were low. Lastly, results related to gender showed that young men were more addicted to the internet.

Dal and Dal (2014) conducted a study to investigate the social network site use habits of individuals and indicate personality differences through membership of social network sites. The study also aimed to verify relationship among personality traits and use of social network sites. In the study, International Personality Item Pool (IPIP) and inventory related to the social network and internet use habits developed by researchers and administered to 350 university students. As reported in the examination, there was a significant and linear association among daily duration spent on social network sites and mean scores of agreeableness openness to experience traits. The study found out that male students' daily duration of social network site use was significantly higher than female students. It was pointed out that average scores of individuals with regard to personality traits were significantly different within the membership of social network sites.

2.7.Studies Related To Nomophobia

King, Guedes, Neto, Guimarães, and Nardi (2017) conducted a study to assess social network excessive users' profile of clinical and demographic characteristics. The sample of the study was 113 individuals consisting students, housewives, and workers in the range of 16 to 65 years of age. Evaluation instruments were M.I.N.I. (DSM IV) 5, Hamilton scales, Social Phobia Disorder Scale (SPD), Panic and Agoraphobia Scale, Internet Addiction Test (IAT), an elaborated 33 questions questionnaire developed by researchers including demographic data, everyday use of the cell phone, mobile phone dependence and possible symptoms or emotions of the individual in terms of use of the smartphone or its absence. The last instrument was Facebook Scale of Dependence. Study results revealed that females (69%) ranging from 18 to 29 years of age were the most abusive technology users. According to psychopathologic profile, generalized anxiety disorder (85%) was the most commonly found disorder. Following it, panic disorder with 51%, agoraphobia with 49%, depression with 43%, social phobia with 15%, an obsessive-compulsive disorder with 13%, post-traumatic stress with 6% and anorexia with 1% were found. The study concluded that there was a relationship between abusive use of technologies and mental disorders.

Kanmani, Bhavani, and Maragatham (2017), studied prevalence of nomophobia in India and its psychological aspects. The sample size of the study consisted of 1500 smartphone users 18-24 years old. Nomophobia Questionnaire (NMP-Q) was used to obtain study data. Study findings pointed out that 43% of the participants spent more than 5 hours daily on their phone, whereas 85% of the participants spent time on their phone when they were bored and 82% of them spent time on their phones when they were alone. Additionally, 77% of the sample used

their smartphones to check social media. According to study, nomophobia levels of females were higher than males, and college students had a higher level of nomophobia than individuals who were in working class. Lastly, highly obtained nomophobia dimension in the study was not being able to communicate.

In the study of Tavolacci et al (2015), problematic use of mobile phone, nomophobia, and behaviors comprehending these subjects were examined. Researchers developed a questionnaire about smartphone ownership and smartphone usage frequency, additionally, another 4 points Likert scale to measure perceived stressfulness of accessibility, anxiety in the absence of mobile phone for a day, frequency to wake up during the night, and demands on the availability of mobile phone. Questionnaires were administered to 760 French students. Finding of the analyses brought to light that 31% of the participants were anxious caused by non-availability of a mobile day for a day, 13.6% of the participants declared that they must be reachable 24 hours a day, being reachable was stressful for 11.3% of students, and 12.3% of the participants woke up several times during the month because of their mobile phone. Besides, the study revealed that 30.4% of the students spent too much time on their mobile phone. One in three undergrad students suffered from nomophobia and particularly females were affected by problematic use of mobile phone. The problematic use of the mobile phone was associated with cyberaddiction and sleeping problems.

Sharma et al. (2015) investigated the prevalence of nomophobia and the pattern of mobile phone use. The study sample was composed of 130 medical students. Researchers developed a questionnaire-based survey to obtain data. According to study, 73% of the participants were nomophobes and 21% of the nomophobes experienced ringxiety. Additionally, 83% of the participants experienced

panic attacks as their phone was misplaced. 61% of the students experienced side effects such as headache and lethargy.

Clayton, Leshner, and Almond (2015) investigated the association between iPhone users and psychological, physiological effects motivated by separation from their mobile phones when they worked on a cognitive task. The study group was comprised of 40 iPhone users and they were expected to complete word search puzzles. The research was carried out via cell phone related (possession/separated and ringing) and time-related (possession/separation) repeated-measures experiment. Researchers manipulated possession or separation of mobile phones when participants worked on puzzles. Key findings of the study indicated that heart rate and blood pressure increased; participants reported decreased cognition of extended self and increased anxiety and unpleasant feelings when they could not answer their ringing mobile phone.

King et al (2014) explored mobile phone use routine and examined cell phone use related possible emotional alterations and symptoms in panic disorder patients. In the study, the sample was composed of 50 patients and 70 controls and Mobile Phone Use Questionnaire (MP-Use Questionnaire) was administered to obtain the data. Findings revealed that panic disorder patients exhibited more significant increases in panic, anxiety, fear, depression, tachycardia, respiratory alterations, perspiration and perspiration in the absence of mobile phone. Moreover, both panic disorder patients and control group were comforted in the presence of mobile phone and both groups exhibited dependence on a mobile phone; however, panic disorder and agoraphobia patients exhibited more emotional alterations.

Gezgin et al. (2018) carried out a study to scrutinize the associations between nomophobia and loneliness, and the impacts of smartphone and mobile internet use on

adolescents. Study data was collected via Nomophobia (NMP-Q) and UCLA Loneliness Short-Form (ULS-8) Scales from 301 adolescents. Findings of the research showed that nomophobia level of adolescents was at a moderate level. There was a statistically significant correlation in terms of daily frequency of smartphone checking, the duration of ownership of mobile internet, and the duration of daily mobile internet use, whereas there was no significant correlation with smartphone ownership duration and monthly mobile internet GSM quota. Finally, there was a statistically significant association between nomophobia and loneliness. Study results suggested that nomophobia levels of adolescents were predicted by their nomophobia levels to a certain extent.

Yıldırım, Sumuer, Adnan, and Yıldırım (2016) compiled a researh to explore the prevalence of nomophobia among Turkish young adults. The sample of the research consisted of 537 university students. The Nomophobia Questionnaire (NMP-Q) was adapted to the Turkish language within the scope of the study and it was administered to university students to gather data. Results indicated that 42.6% of young adults had nomophobia, and communication and information access related subjects reflect their greatest fears. Nomophobic behaviors of the young adults were affected by gender and smartphone ownership duration, whereas nomophobic behaviors were not affected by age and mobile phone ownership duration according to findings. Gender differences in Turkish university students' nomophobic behaviors were found and it was pointed out that female participants had higher nomophobia scores than did males.

Uysal, Özen, and Madenoglu (2016) carried out a research to reveal the level of nomophobic and sociophobic behaviors of young adults and to assess the degree of relation between nomophobia and social phobia disorder. The data of the study were

collected from 264 university students through the Nomophobia Questionnaire and the Fear of Positive Evaluation Scale. The reseach pointed out a low but significant level of association between nomophobia and social phobia disorder and young adults' nomophobic behaviors predicted their social phobia levels to a small extent. In the study, it was also revealed that class level was positively correlated with nomophobia level.

Gezgin, Şahin, and Yıldırım (2017) conducted a study to examine prevalence of nomophobia among social network users with regard to different factors. The data were obtained via an online social network application with 5200 active users and the study group consisted 1151 online social network users. Nomophobia Scale (NMP-Q) was used as a data collection tool. The study showed that the participant scores were above the moderate level of nomophobia. According to study, there was no significant difference among education level, duration of mobile phone use and nomophobia level, whereas there was a significant difference between daily number of checking smartphone, daily duration of mobile internet use, duration of mobile internet use and nomophobia level. The study revealed that frequency of checking smartphone was positively related to nomophobia level, accordingly, individuals who checked their smartphones more frequently had a higher level of nomophobia. Study suggested that frequency of checking smartphone is a significant indicator to reveal nomophobia level.

Akıllı and Gezgin (2016) investigated the prevalence of nomophobia and how behavior patterns are affected by level of nomophobia. The sample of the study was 683 undergrad students who were studying in 19 different state universities in various cities of Turkey. Data were collected via Nomofobia Scale (NMP-Q). Findings of the researched pointed out that university students' nomophobia level was above

moderate and the highest scores were obtained from inability to access information and inability to communicate dimensions. Participants with more nomophobic score were observed to present similar habits such as, constant phone checking habits, carrying a charger constantly, checking and spending time on their phone as a first thing in the morning and before sleep, and keeping their phones turned on throughout the night.

Erdem, Kalkın, Türen, and Deniz (2016) investigated the effect of nomophobia on the academic success of young adults. In the study, Nomophobia Questionnaire (NMP-Q), and a survey to obtain data such as daily duration of smartphone use and demographics were used. The sample of the study was composed of 312 undergraduate students. Results of the study exhibited that 55% of the participants were nomophobic in the moderate level, daily smartphone use duration was 6,43 hours. Moreover, the study revealed that there was a positive and significant correlation between nomophobia scores and daily duration of smartphone use, whereas there was a negative and significant correlation between nomophobia scores and academic success. In other words, it was indicated that when nomophobia score increased, academic success decreased.

3. METHOD

In this section of the study, the methodological procedures of the present study will be presented. This chapter comprises design of the research, sampling process, data collection instruments with their reliability and validity scores, and procedures of the data collection and analysis.

3.1.Research Design

The current study was carried out through correlational design. Correlational researchers aim to explore the relationship between two or more variables, and levels of these relations without manipulative interventions. A correlational design may provide an insight regarding a possible cause-effect relationship, but the outcome of the study cannot be interpreted as a cause-effect relationship. These researches are substantial as they provide necessary clues for higher level studies on identified relationships (Büyüköztürk et al., 2016, Frankel & Wallen, 2006).

The present research intended to scrutinize whether there is a correlation between five dimensions of five-factor personality traits and nomophobia level. Nomophobia levels of the participants were presented in this section with other characteristics of the participants. There were also demographic and various other variables such as gender, class level, smartphone checking habits, whether they carry a charger with themselves, duration of daily smartphone use, duration of internet use on smartphone, whether they check their smartphone as a first thing when they wake up, whether they spend time on their smartphone before sleeping, whether they spend time on their smartphones when they are bored, whether they spend time on their smartphones when they are alone, and whether they use their smartphones to check the social media. Information regarding these variables was collected to reveal

university students' smartphone use habits that were considered as related to nomophobia.

3.2.Sampling Method and Participants

This study's population consisted of the undergraduate students of Yeditepe University. Yeditepe University Student Affairs stated population size as 18.752 on 25.10.2017. The sample size was calculated with below-indicated formula (Çıngı, 1994).

$$n_0=[(t\ x\ S)/d]^2$$

In given formula; (n) is sample size, (t) is confidence level (1,96), (S) is standart deviation, and (d) is error rate (0.05). By applying this formula sample size was found as 377 students. As a result of indicated information, the data of the present study was collected from 254 female and 160 male students, in total 414 undergraduate Yeditepe University students. Convenience sampling method was utilized so as to reach the participants of the study. Convenience sampling method purports to data collection process that subjects are selected based on their convenient accessibility to a researcher. Purpose of the technique is preventing waste of time, funding, and labor (Büyüköztürk et al., 2016). Characteristic of the acquired sample according to gender, class level and departments are presented in Table 3.1.

Table 3.1.

Characteristics of the Sample

	Groups	Frequency	Percent	Cumulative Percent
Gender	Female	254	61,4	61,4
	Male	160	38,6	100
	Total	414	100	
Class level	First grade	146	35,3	35,3
	Second grade	95	22,9	58,2
	Third grade	95	22,9	81,2
	Fourth grade	78	18,8	100
	Total	414	100	
Department	Social sciences	238	57,5	57,5
	Life sciences	176	42,5	100
	Total	414	100	
Nomophobia Levels	Nomophobia free	1	,2	,2
	Mild	122	29,5	29,7
	Moderate	233	56,3	86,00
	Severe	58	14,0	100
	Total	414	100	

The sample of the study consisted of 254 female students (%61,4) and 160 male students (%38,6). 146 participants (35,3%) were studying at first grade, 95 participants (22,9%) were studying at second grade, 95 participants (22,9%) were studying at third grade and 78 participants (18,8%) were studying at fourth grade. In accordance with the distribution of students by departments; 238 students (57,7%) were from social science departments and 176 students (42,5%) were from life science departments. Present study revealed that only 1 student (0.2%) was nomophobia free, 122 students (29,5%) had mild nomophobia, 233 students (56,3) had moderate nomophobia, and 58 students (14%) exhibited severe level of nomophobia.

3.3. Instruments

3.3.1.Demographic Information Form

A demographic information form (Appendix-A) was developed by the researcher. The form consisted of questions related to participants' gender, department, class level, smartphone use habits (smartphone checking habits, whether they carry a charger with themselves, duration of daily smartphone use, duration of internet use on smartphone, whether they use their smartphones as a first thing in the morning, whether they spend time on their smartphones before sleeping, whether they use their smartphones when they are bored, whether they use their smartphones when they are alone and finally whether they use their smartphones to check social media).

3.3.2.Big Five Inventory (BFI)

The Big Five Inventory (Appendix-B) is a self-report inventory consisting 44 items. BFI was developed by Benet-Martínez & John (1998) to measure dimensions

of the five factor personality traits that are Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. The BFI includes short phrases based on the trait adjectives that are considered as prototypical markers of the Big Five.

The inventory was adapted to Turkish Language by Nebi Sümer for an international project in which Big Five Personality Traits across 56 nations were examined (Schmitt et al., 2007).

BFI is a 5-point scale ranging from 1(strongly disagree) to 5 (strongly agree) for each item. Agreeableness and Conscientiousness dimensions are represented by 9 items, Extraversion and Neuroticism dimensions are represented by 8 items, and Openness to Experience dimension is represented by 10 items.

The Big Five Inventory dimensions include only eight to ten items, nevertheless, content coverage is sufficient, and psychometric properties have good quality. In the study Benet-Martínez & John (1998) conducted, the Cronbach's alpha reliabilities for the extraversion was 0,88 for USA and 0,85 for Spain; for agreeableness 0,79 and 0,66; for conscientiousness 0,82 and 0,77; for neuroticism 0,84 and 0,80 and for openness to experience 0,81 and 0,79. In the adaptation study values were; 0,74, 0,67, 0,77, 0,76, 0,75 in order. In the current study; Cronbach's alpha reliabilities for the extraversion dimension was found as 0,82, agreeableness dimension was found as 0,71, conscientiousness dimension was found as 0,76, neuroticism dimension was found as 0,74, openness to experience was found as 0,74. Results of the current study are consistent with previous studies.

3.3.3.Nomophobia Questionnaire (NMP-Q)

Nomophobia Questionnaire (Appendix-C) was developed by Yildirim and Correia (2015) and was adapted to Turkish by Yildirim et al. (2016). The questionnaire is a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) aimed to reveal the existence and/or severity of Nomophobia and the underlying dimensions. The scale has four dimensions. Not Being Able to Access Information dimension includes four items, Losing Connectedness dimension includes five items, Not Being Able to Communicate dimension includes 6 items, and Giving up Convenience dimension includes five items (Yildirim and Correia, 2015).

NMP-Q includes 20 items. Participants can obtain from 20 to 140 points from this scale. The mean score was determined as 20 points, and 20 points and below is considered as being Nomophobia free, 20-60 points are considered as mild level, 60-100 points is considered as moderate level, 100 points and above is considered as severe level of Nomophobia.

Original study's reliability coefficient was calculated as 0,95 and sub-dimensions; not being able to communication dimension was found as 0,94, losing connectedness dimension was found as 0,87, not being able to access information dimension was found as 0,83, and giving up convenience dimension was calculated as 0,81 by applying Cronbach's Alpha analysis. Turkish version's reliability coefficient was found as 0,92. In this study, Cronbach's Alpha coefficient was found as 0,92. Values of this study was consistent with previous ones.

3.4.Data Collection Procedure

Yeditepe University Ethics Committee provided necessary permissions. Then, the researcher visited directors of elected faculties and departments and requested their collaborations for the study. Appointments with professors and instructors were arranged, and the data was collected from Yeditepe University in the second semester of 2017-2018 academic year. The researcher administered prepared surveys with a cover of the informed consent form to each student during arranged classroom hours. The instruments were administered in the following order: Informed Consent Form, Demographic Information Form, Big Five Inventory (BFI), and Nomophobia Questionnaire (NMP-Q). At the beginning of the data collection, researcher assured students about confidentiality and anonymity and informed them about the purpose of the study at each class. The participation was inarguably voluntary. The duration of filling survey packet lasted for approximately 10 minutes.

3.5.Data Analyses

First of all, internal consistency reliability analyses of Big Five Inventory (BFI) with five dimensions and Nomophobia Questionnaire (NMP-Q) were carried out with the present sample and findings were given in methods chapter. In the second step, skewness and kurtosis values were examined to determine whether parametric or nonparametric tests should be used for main analysis, since normal distribution was ensured, Pearson correlation analysis was used to reveal correlation between main variables of the present study. Thereafter, the differences among the scores that obtained from participants were examined with regards to demographic variables: gender, department, class level. Additionally, the differences among the scores that obtained from participants were examined with regards to variables related to

smartphone usage: the frequency of daily smartphone checking habits, whether they carry a charger with themselves, duration of daily smartphone use, duration of internet use on smartphone, whether they check their smartphones as a first thing in the morning, whether they spend time on their smartphones before sleeping, whether they use their smartphones they they are bored, whether they use their smartphones they they are alone, and whether they use their smartphones to check social media. One way analysis of variance (ANOVA) for class level, duration of daily smartphone use, duration of internet use on smartphone, and frequency of daily smartphone checking habits variables and independent samples t-tests for gender, department, whether they carry a charger with themselves, whether they check their smartphones as a first thing in the morning, whether they spend time on their smartphones before sleeping, whether they use their smartphones they they are bored, whether they use their smartphones they they are alone, and whether they use their smartphones to check social media variables were computed, since normal distributions of the study variables were ensured. Independent samples t-test is a method to determine whether there is a significant difference between the means of two independent groups. One way analysis of variance (ANOVA) is a method to assess whether there are significant differences among the means of two or more independent groups (Büyüköztürk, 2015). In the main analyses of the study, firstly Pearson Correlation Coefficient was used to assess the correlations among the variables. In this study, SPSS (Statistical Package for the Social Sciences) version 20.0.were used to conduct all statistical analyses.

4.RESULTS

In this section, scores obtained via demographic form, Big Five Inventory and Nomophobia Questionnaire were examined using the SPSS program and findings regarding to research questions were demonsrated in tables prior to explanations in order.

4.1. Relationship Between Five Factor Personality Traits and Nomophobia Level

With the purpose of assessing correlations between five-factor personality traits and nomophobia level, research question was determined as “Is there any significant differences between university students’ nomophobia levels with regard to personality traits?” Prior to main analysis, it was necessary to determine whether parametric tests or non-parametric tests should be used, skewness and kurtosis values assessed normality of the variables. According to Büyüköztürk (2015), acceptable skewness and kurtosis values are between -1 and +1 to prove normal univariate distribution. Skewness and kurtosis values are presented in Table 4.1 and Pearson correlation coefficients among study variables are presented in Table 4.2.

Table 4.1.

Skewness and Kurtosis values of the study variables

Variables	N	Mean	Skewness	Kurtosis
Five-factor personality traits				
Extraversion	414	27,68	-0,228	-0,320
Agreeableness	414	33,16	-0,498	0,370
Conscientiousness	414	31,41	-0,182	-0,369
Neuroticism	414	22,93	0,058	-0,584
Openness to experience	414	37,19	-0,430	0,181
Nomophobia	414	74,39	0,149	-0,418

Finding as they are presented in Table 4.3, skewness and kurtosis values were -0,228 and -0,320 for extraversion dimension, -0,498 and 0,370 for agreeableness dimension, -0,182 and -0,369 for conscientiousness dimension, 0,058 and -0,584 for neuroticism dimension, -0,430 and 0,181 for openness to experience dimension, and 0,149 and -0,418 for nomophobia scale. In the study, among all variables' skewness and kurtosis values are found in acceptable range. In the light of this information, parametric tests were used in the current study.

Table 4.2.

Pearson correlation coefficients among study variables

	Nomophobia level
Extraversion	**0,103***
Agreeableness	0,80
Conscientiousness	0,30
Neuroticism	**0,269****
Openness to experience	**-0,159****

*p<0.05; **P<0,01

With the aim of the answering research questions indicated below, Pearson correlation analysis was conducted. The findings of the study stated that intercorrelations among study variables ranged from -0,159 to 0,269. The results of the analysis are illustrated in Table 4.2.

Q1a) Is there any significant difference between university students' nomophobia levels with regard to extraversion trait?

Extraversion subscale (r=0,103, p<0.05) was positively and significantly correlated with nomophobia level. Another way to phrase, as extraversion level of the participants increased, their nomophobia level increased

Q1b) Is there any significant difference between university students' nomophobia levels with regard to agreeableness trait?

Agreableness (r=0,80, p>0.05) subscale was not significantly correlated with nomophobia level.

Q1c) Is there any significant difference between university students' nomophobia levels with regard to conscientiousness trait?

Conscientiousness (r=0,30, p>0.05) subscale was not significantly correlated with nomophobia level.

Q1d) Is there any significant difference between university students' nomophobia levels with regard to neuroticism trait?

Neuroticism subscale (r=0,269, p<0.01) was positively and significantly correlated with nomophobia level. Another way of expressing, as neuroticism level of the participants increased, their nomophobia level increased.

Q1e) Is there any significant difference between university students' nomophobia levels with regard to openness to experience trait?

Openness to experience subscale (r=-0,159, p<0.01) was negatively and significantly correlated with nomophobia level. In other words, as openness to experience level of the participants increased, their nomophobia level decreased.

4.2. Nomophobia Levels of University Students with Regard to Demographic Variables

Scores of the participants obtained via nomophobia questionnaire were examined to reveal differences among them in terms of three demographic variables: gender, department, class level. Research questions; Q2, Q3 and Q4 were examined in this part of the chapter. One way analysis of variance (ANOVA) was used to examine class level and independent samples t-tests were used to compute gender and department since normal distribution of nomophobia scale's scores was ensured.

Q2) Nomophobia levels with regard to gender

With the purpose of answering the question “Is there any significant difference between nomophobia levels of university students in regard to gender?” independent sample t-test was conducted. Analysis of the results is shown in Table 4.3.

Table 4.3.

Independent samples t-test results related to nomophobia levels with regard to gender

				t-test	
Group	N	Mean	SD	T	p
Female	254	81,19	23,22	7,667	**0,000***
Male	160	63,58	21,99		

*p<0.05

As illustrated in Table 4.4, there was a significant difference between nomophobia levels of university students in terms of gender [t(412)= 7,667, p<0,05]. Nomophobia levels of female students (M=81,19; SD=23,22) were higher than male students(M=63,58; SD=21,99).

Q3) Nomophobia levels with regard to department

With the purpose of answering the question “Is there any significant difference between nomophobia levels of university students in regard to department?” independent sample t-test was conducted and results of the analysis are presented in Table 4.4.

Table 4.4.

Independent samples t-test results related to nomophobia levels with regard to department

Group	N	Mean	SD	t-test	
				t	p
Social sciences	238	76,61	23,90	2,178	**0,030***
Life sciences	176	71,38	24,56		

*$p<0.05$

According to independent samples t-test results, there was a significant difference among nomophobia levels of university students with regards their departments [$t(412)= 2,178$, $p<0,05$]. Nomophobia levels of students who were studying in social sciences (M=76,61; SD=23,90) were higher than students who were studying life sciences (M=71,38; SD=24,56).

Q4) Nomophobia levels with regard to the class level

With the purpose of answering the question "Is there any significant differences between nomophobia levels of university students with regard to class levels?" oneway analysis of variance (ANOVA) was conducted. Results of the analysis related to mean scores and standard deviation are presented in Table 4.5 and findings of the ANOVA analysis are presented in Table 4.6.

Table 4.6.

Descriptive statistics of nomophobia levels with regard to the class level

Group	N	Mean	SD
First grade (1)	146	74,55	23,91
Second grade (2)	95	78,27	24,85
Third grade (3)	95	72,85	24,35
Fourth grade (4)	78	71,22	24,07
Total	414	74,39	24,29

Table 4.7.

One way analysis of variance (ANOVA) results related to nomophobia levels with regard to the class level

	Sum of Squares	df	Mean Square	F	Sig.	Sig. difference
Between Groups	2445,88	3	815,295			
Within Groups	241390	410	588,757	1,385	0,247	-
Total	243836	413				

Results of the ANOVA analysis showed that there was no significant differences between nomophobia levels and class level [F(3,413)= 1,385, p>0,05].

4.3. University Students' Smartphone Usage Habits and Nomophobia Levels

Scores of the participants obtained via nomophobia questionnaire were examined to reveal differences among them in terms of 4 variables: daily frequency of smartphone checking behavior, whether they carry a charger with themselves, daily duration of smartphone use, and daily duration of mobile internet use. Research question was determined as "Is there any significant differences between university students' nomophobia levels with regard to smartphone usage habits?" One way analysis of variance (ANOVA) was used to examine daily frequency of smartphone checking behavior, daily duration of smartphone use, and daily duration of mobile internet use variables and independent samples t-tests were used to compute whether they carry a charger with themselves variables, since normal distribution of nomophobia scale's scores was ensured. The data of the each variable was shown separately in tables.

Q5a) Nomophobia levels with regard to daily frequency of smartphone checking behavior

With the purpose of answering the question "Is there any significant difference between nomophobia levels of university students with regard to daily frequency of smartphone checking behavior?" one way analysis of variance (ANOVA) was conducted. Results of the analysis related to mean scores and standard deviation are presented in Table 4.7 and findings of the ANOVA analysis are presented in Table 4.8.

Table 4.7.

Descriptive statistics of nomophobia levels with regard to daily frequency of smartphone checking behavior

Group	**N**	**Mean**	**SD**
1-16 times (1)	36	58,06	22,1
17-32 times (2)	122	65,48	22,41
33-48 times (3)	107	77,37	21,28
49 times and more (4)	149	83,48	24,02
Total	414	74,39	24,29

Table 4.8.

One way analysis of variance (ANOVA) results related to nomophobia levels with regard to daily frequency of smartphone checking behavior

	Sum of Squares	df	Mean Square	F	Sig.	Sig. difference
Between Groups	32537,594	3	10845,865			**1-3** **1-4**
Within Groups	211298,571	410	515,362	21,045	**,000***	**2-3** **2-4**
Total	243836,164	413				**3-4**

*p<0.05

Findings of one way analysis of variance revealed that nomophobia levels of university students differed significantly with regard to daily frequency of smartphone checking behavior variable [F(3,413)=21,045, p<0,05]. LSD tests were carried out to determine groups with the significant differences. According to results of LSD tests,

mean scores of the university students in group 4 (M=83,48; SD=24,02) were higher than students in group 3 (M=77,37; SD=21,28), group 2 (M=65,48; SD=22,41), and group 1 (M=58,06; SD=22,10). Additionally, mean scores of students in group 3 (M=77,37; SD=21,28) were higher than students in group 2 (M=65,48; SD=22,41) and the ones in group 1 (M=58,06; SD=22,10). In other words, university students who checked their smartphones more frequently in a daily base were more prone to exhibit higher level of nomophobia.

Q5b) Nomophobia levels with regard to whether carrying a charger with themselves

With the purpose of answering the question "Is there any significant difference between nomophobia levels of university students in regard to whether carrying a charger with themselves or not?" independent sample t-test was conducted and results of the analysis are presented in Table 4.9.

Table 4.9.

Independent samples t-test results related to nomophobia levels with regard to whether carrying a charger with themselves

				t-test	
Group	N	Mean	SD	t	p
No	224	67,87	22,36	-6,186	**0,00***
Yes	190	82,07	24,30		

*$p<0.05$

According to independent samples t-test results, there was a significant difference among nomophobia levels of university students with regards whether they

carry a charger with themselves [$t(412)= -6,186$, $p<0,05$]. Nomophobia levels of students who carried a charger with themselves (M=82,07; SD=24,30) were higher than students who did not carry a charger (M=67,87; SD=22,36).

Q5c) Nomophobia levels with regard to daily duration of smartphone use

With the purpose of answering the question "Is there any significant difference between nomophobia levels of university students with regard to daily duration of smartphone use?" one way analysis of variance (ANOVA) was carried out. Results of the analysis related to mean scores and standard deviation are presented in Table 4.10 and findings of the ANOVA analysis are presented in Table 4.11.

Table 4.10.

Descriptive statistics of nomophobia levels with regard to daily duration of smartphone use

Group	N	Mean	SD
0- 3 hours (1)	145	63,28	22,151
3-5 hours (2)	142	76,58	24,032
More than 5 hours (3)	127	84,62	21,796
Total	414	74,39	24,298

Table 4.11.

One way analysis of variance (ANOVA) results related to nomophobia levels with regard to daily duration of smartphone use

	Sum of Squares	df	Mean Square	F	Sig.	Sig. difference
Between Groups	31886,693	2	15943,346	30,916	,000*	**1-2**
Within Groups	211949,472	411	515,692			**1-3**
Total	243836,164	413				**2-3**

*p<0.05

Findings of one way analysis of variance revealed that nomophobia levels of university students differed significantly with regard to daily duration of smartphone use [F(2,413)=30,916, p<0,05]. LSD tests were carried out to determine groups with the significant differences. According to results of LSD tests, mean scores of the university students in group 3 (M=84,62; SD=21,79) were higher than students in group 2 (M=76,58; SD=24,03), and group 1 (M=63,28; SD=22,15). Mean scores of the students in group 2 (M=76,58; SD=24,03) were higher than the ones in group 1 (M=63,28; SD=22,15).

Q5d) Nomophobia levels with regard to daily duration of mobile internet use

With the purpose of answering the question "Is there any significant difference between nomophobia levels of university students with regard to daily duration of mobile internet use?" one way analysis of variance (ANOVA) was carried out. Results of the analysis related to mean scores and standard deviation are presented in Table 4.12 and findings of the ANOVA analysis are presented in Table 4.13.

Table 4.12.

Descriptive statistics of nomophobia levels with regard to daily duration of mobile internet use

Group	N	Mean	SD
Less than 1 hour (1)	31	62,52	23,859
1-3 hours (2)	154	66,81	22,642
3-5 hours (3)	138	77,37	23,844
More than 5 hours (4)	91	86,74	21,629
Total	414	74,39	24,298

Table 4.13.

One way analysis of variance (ANOVA) results related to nomophobia levels with regard to daily duration of mobile internet use

	Sum of Squares	df	Mean Square	F	Sig.	Sig. difference
Between Groups	28326,444	3	9442,148			**1-3** **1-4**
Within Groups	215509,720	410	525,633	17,963	**,000***	**2-3**
Total	243836,164	413				**2-4** **3-4**

*p<0.05

Findings of one way analysis of variance revealed that nomophobia levels of university students differed significantly with regard to daily duration of mobile internet use [F(3,413)=17,963, p<0,05]. LSD tests were carried out to determine groups with the significant differences. According to results of LSD tests, mean scores of the university students in group 4 (M=86,74; SD=21,62) were higher than students in group 3 (M=77,37; SD=23,84), group 2 (M=66,81; SD=22,64), and group 1 (M=62,52; SD=23,85). Mean scores of the university students in group 3 (M=77,37;

SD=23,84) were higher than group 2 and 1. In other words, university students who use mobile internet more in a daily base were more prone to exhibit higher level of nomophobia.

Q5e) Nomophobia levels with regard to checking smartphone as a first thing in the morning

With the purpose of answering the question "Is there any significant difference between nomophobia levels of university students in regard to checking smartphone as a first thing in the morning?" independent sample t-test was conducted and results of the analysis are presented in Table 4.14.

Table 4.14.

Independent samples t-test results related to nomophobia levels with regard to checking smartphone as a first thing in the morning

				t-test	
Group	N	Mean	SD	t	p
No	200	66,66	22,440		
Yes	214	81,61	23,788	-6,566	**0,00***

*$p<0.05$

According to independent samples t-test results, there was a significant difference among nomophobia levels of university students with regard to checking smartphone as a first thing in the morning [$t(412)= -6,566$, $p<0,05$]. Nomophobia levels of students who checked their smartphone as a first thing in the morning (M=81,61; SD=23,78) were higher than students who did not (M=66,66; SD=22,44).

Q5f) Nomophobia levels with regard to spending time on smartphone before sleeping

With the purpose of answering the question "Is there any significant difference between nomophobia levels of university students in regard to spending time on smartphone before sleeping?" independent sample t-test was conducted and results of the analysis are presented in Table 4.15.

Table 4.15.

Independent samples t-test results related to nomophobia levels with regard to spending time on smartphone before sleeping

Group	N	Mean	SD	t-test	
				t	p
No	102	62,41	21,267		
Yes	312	78,30	23,974	-5,969	**0,00***

*p<0.05

According to independent samples t-test results, there was a significant difference among nomophobia levels of university students with regard to spending time on smartphone before sleeping [t(412)= -5,969, p<0,05]. Nomophobia levels of students who spent time on smartphone before sleeping (M=78,30; SD=23,97) were higher than students who did not (M=62,41; SD=21,26).

Q5g) Nomophobia levels with regard to use mobile phone when they are bored

With the purpose of answering the question "Is there any significant difference between nomophobia levels of university students in regard to use mobile phone when they are bored?" independent sample t-test was conducted and results of the analysis are presented in Table 4.16.

Table 4.16.

Independent samples t-test results related to nomophobia levels with regard to use mobile phone when they are bored

Group	N	Mean	SD	t-test	
				t	p
No	49	60,59	20,288	-4,322	**0,00***
Yes	365	76,24	24,219		

$p<0.05$

According to independent samples t-test results, there was a significant difference among nomophobia levels of university students with regard to use mobile phone when they are bored [$t(412)= -4,322$, $p<0,05$]. Nomophobia levels of students who used their smartphones when they were bored (M=76,24; SD=24,21) were higher than students who did not use (M=60,59; SD=20,28).

Q5h) Nomophobia levels with regard to use mobile phone when they are alone

With the purpose of answering the question "Is there any significant difference between nomophobia levels of university students in regard to use mobile phone when they are alone?" independent sample t-test was conducted and results of the analysis are presented in Table 4.17.

Table 4.17.

Independent samples t-test results related to nomophobia levels with regard to use mobile phone when they are alone

Group	N	Mean	SD	t-test	
				t	p
No	122	61,86	22,070		
Yes	292	79,62	23,284	-7,183	**0,00***

*p<0.05

According to independent samples t-test results, there was a significant difference among nomophobia levels of university students with regard to use mobile phone when they are alone [t(412)= -7,183, p<0,05]. Nomophobia levels of students used their smartphones when they are alone (M=79,62; SD=23,28) were higher than students who did not use their phones (M=61,86; SD=22,07).

Q5i) Nomophobia levels with regard to use smartphone to check social media

With the purpose of answering the question "Is there any significant difference between nomophobia levels of university students in regard to using smartphone to check social media?" independent sample t-test was conducted and results of the analysis are presented in Table 4.18.

Table 4.18.

Independent samples t-test results related to nomophobia levels with regard to using smartphone to check social media

Group	N	Mean	SD	t-test	
				t	p
No	36	56,08	21,211	-4,858	**0,00***
Yes	378	76,13	23,874		

*$p<0.05$

According to independent samples t-test results, there was a significant difference among nomophobia levels of university students with regard to use smartphone to check social media [$t(412)= -4,858$, $p<0,05$]. Nomophobia levels of students who used their smartphones to check social media (M=76,13; SD=23,87) were higher than students who did not (M=56,08; SD=21,21).

5.DISCUSSION

The current research aimed to investigate the relationship between five-factor personality traits and nomophobia level among university students. In this study, prior to main analysis, reliability of the scales were ensured. Pearson correlation analysis was used to reveal a correlation between main variables of the study since normal distribution was assured. The differences among the scores that obtained from participants were examined with regards to study variables. In this chapter, findings of the study will be discussed in the framework of literature.

Study findings pointed out that there were low but significant correlations between certain traits and nomophobia levels of the participants. There was a positive and significant correlation between extraversion trait and nomophobia levels. This finding is congruent with the results of Argumasa-Villar et al. (2017) and Okoye et al. (2017). Argumasa-Villar et al. (2017) conducted the study with mobile phone involvement questionnaire and their study findings confirmed the predictive positive correlation between extraversion and nomophobia. Moreover, it was found out that extraversion trait was positively correlated with problematic mobile phone use and mobile phone dependence in previous researches (Bianchi and Phillips, 2005; Ehrenberg et al., 2008; Butt and Phillips, 2008; Ezoe et al., 2009; Andreassen et al., 2013; Takao, 2014). According to Bianchi and Phillips (2005), mobile phone users tend to be extraverts since they are fundamentally social in nature. The link between extraversion and nomophobia could be explained with the communication function of smartphones since extraverts desire for sociability and smartphones are mostly used for communication.

According to study findings, agreeableness trait was not significantly correlated with nomophobia levels of the participants. This result is consistent with

the results of Argumasa-Villar et al. (2017) and Okoye et al. (2017). Furthermore, other studies did not find any correlation between agreeableness trait and problematic mobile phone use and mobile phone dependence (Takao, 2014; Kutlu and Pamuk, 2017). Agreeable individuals tend to be trusting, warm and friendly to others (Moore and McElroy, 2012). These characteristics of them may provide an insight why they do not experience irrational anxiety or nomophobia.

In the present study, conscientiousness trait was not found correlated with nomophobia levels. Supporting findings of the current study, Okoye et al. (2017) pointed out that were not any associations between conscientiousness and nomophobia. Although, Argumasa-Villar et al. (2017) found an association between these two variables. The difference in results may be due to the use of different questionnaires to measure both personality traits and nomophobia in the study of Argumasa-Villar et al. (2017). Another possible explanation could be different cultural settings.

A positive and significant correlation between neuroticism trait and nomophobia levels was observed in the study. The study results are congruent with previous studies. As it was expected, most of the studies found a correlation between neuroticism trait and problematic mobile phone use, mobile phone addictions, and nomophobia (Ehrenberg et al., 2008; Ezoe et al., 2009; Takao, 2014; Argumasa-Villar et al., 2017; Okoye et al., 2017). Neuroticism can be characterized by temperamental behavior, worrying, anxiety, and moodiness. It was observed that individuals with neuroticism are highly emotional and tend to exhibit strong emotional responses as they face various stimuli (Roberts et al, 2015). It is possible to assume that neurotics prefer using their mobile phones to communicate instead of face to face communication to avoid negative emotions.

In regard to the role of personality in nomophobia, the present study found that openness to experience trait had a negative relationship with nomophobia. This result is consistent with the results of other studies in the literature (Andreassen et al., 2013; Takao, 2014; Okoye et al., 2017). Chittaranjan et al. (2011) revealed that individuals with high level of openness to experience trait were less likely to miss calls and low openness to experience score was associated with high SMS usage. Andreassen et al. (2013) and Takao, 2014 found correlations between openness to experience trait and problematic mobile phone use, mobile phone dependence. On the other hand, Argumasa-Villar et al. (2017) did not find any correlations between openness to experience and nomophobia. A possible reason for current study's finding may be the individuals with low openness to experience are more reluctant to leave their mobile phones since they are not eager to experience new experiences.

In the study, there were significant differences in nomophobia levels of university students in terms of gender. Nomophobia levels of female students were higher than male students. These findings are congruent with the results of recent studies found in the literature (Hoşgör et al., 2017; Gezgin et al., 2017; Erdem et al., 2017, Kanmani et. al., 2017; Prasad et al., 2017; Gezgin et. al., 2016). Erdem et al. (2017) conducted a study with 467 employees of the public transportation sector and undergraduate students and their study revealed the gender and nomophobia levels link, females demonstrated more nomophobic behaviors. On the other hand, studies of the Dixit et al. (2010) and Uysal et al. (2016) did not detect any differences in terms of gender.

According to findings of the analyses, there was a significant difference between nomophobia levels of university students with regards their departments. Nomophobia levels of students who were studying in social sciences were higher than

students who were studying life sciences. However, Hoşgör et al. (2017) did not find any differences in terms of departments. The difference could be explained with the unequal proportion of male and female participants from social sciences, as the literature suggests females have female students have higher levels of nomophobia and the majority of the students in this study participated from social sciences were females.

Results of the analysis showed that there was no significant difference between nomophobia levels in terms of class levels in the present study. This result is consistent with the results of the study that Adnan and Gezgin (2016) conducted. This result was expected since the majority of the students in same classes are in close ages so that class level points out similar feature and some of the studies that worked with university students did not find any differences with regard to age (Yıldırım et al., 2015; Kalaskar, 2015; Hoşgör et al., 2017).

The relationship between nomophobia and smartphone use habits were also investigated in the scope of the present study. Findings of one-way analysis of variance revealed that nomophobia levels of university students differed significantly with regard to daily frequency of smartphone checking behavior variable. In other words, university students who checked their smartphones more frequently in a daily base were more prone to exhibit a higher level of nomophobia. These results are congruent with several studies in the literature (Abraham, Mathias, and Williams, 2014; Pavithra et al., 2015; Akıllı and Gezgin, 2016; Gezgin et al., 2017; Hoşgör et al., 2017). In support of this, a study by Gezgin (2017) reported that individuals who have a habit of checking their mobile phones every 15 minutes or more frequently, exhibit a higher level of nomophobia than the ones who check their mobile phones less frequently. Additionally, the study of Kanmani, Bhavani, and Maragatham (2017)

reported that over 30% of the participants checked their mobile phones more than 50 times a day. In the light of these findings, smartphone checking habit is considered as one of the significant indicators regarding nomophobia levels.

According to independent samples t-test results, there was a significant difference among nomophobia levels of university students with regards whether they carry a charger with themselves. The present study showed that nomophobia levels of students who carried a charger with themselves were higher than students who did not carry a charger. These results are consistent with the study of Akıllı and Gezgin (2016 and Hoşgör et al. (2017). In the study of Hoşgör et al. (2017), impacts of nomophobıa on daily duration of smartphone use and school success were investigated. The study found that participants who carried a charger with themselves exhibit a higher level of nomophobia than the one who did not. Bragazzi and Del Puente (2014) defined this situation as one of the characteristics of nomophobia.

Findings of the analysis revealed that nomophobia levels of university students differed significantly with regard to daily duration of smartphone use. These results are congruent with the finding of Abraham et al. (2014) Nikhita et al. (2015), Hoşgör et al. (2017) and Gezgin et al. (2017). Concordantly, research of Pooja, Kajal, Supriya, Reshma and Shailaja (2016) pointed out that participants spent from 2 to 5 hours averagely in a day on their mobile phones. Participants who spent more than 3 hours on a mobile phone had higher scores in Nomophobia questionnaire than the ones who spent less than 3 hours daily. Similarly, Kanmani, Bhavani, and Maragatham (2017) found out that 43% of the participants spent more than 5 hours on their smartphones daily.

Study findings revealed that nomophobia levels of university students differed significantly with regard to daily duration of mobile internet use. University students

who used their mobile internet more daily tended to exhibit a higher level of nomophobia. These results are consistent with the studies of Gezgin et al. (2017) and Gezgin (2017). Gezgin (2017) reported a moderate level association between nomophobia and mobile internet use. It is argued that duration of the daily mobile internet use will increase in parallel with mobile communication technologies. Nomophobia can be more prevalent in the future since it is related to daily mobile internet use.

According to analysis, there was a significant difference among nomophobia levels of university students with regard to checking smartphone as a first thing in the morning. Nomophobia levels of students who checked their smartphone as a first thing in the morning were higher than students who did not check them. Findings of Akıllı and Gezgin (2016) and Hoşgör et al. (2017) support the current study. Kanmani et al. (2017) conduct a study in which it was reported that %69 of the participants checked their mobile phone immediately after waking up. Similarly, the study of Nikhita et al. (2015) revealed that %41 of the participants feel nervous when they can not find their smartphones when they wake up in the morning. Nomophobia description also covers changes in behaviors and patterns of individuals as well as dependence on mobile phones (Akıllı and Gezgin, 2016). Supporting previous studies, the current study also pointed out the relation between nomophobia and checking smartphone as a first thing in the morning.

The finding of the study showed that there was a significant difference among nomophobia levels of university students with regard to spending time on a smartphone before sleeping. Nomophobia levels of students who spent time on a smartphone before sleeping were higher than students who did not. Parallel to the current study, Akıllı and Gezgin (2016) found that nomophobia level of university

students who spent on a smartphone before sleeping were higher than the ones who did not take smartphone into bed. Moreover, according to Pavithra et al. (2015), spending time is one of the characteristics of mobile phone addiction and nomophobia.

Study findings indicated that there was a significant difference among nomophobia levels of university students with regard to use a mobile phone when they are bored. Nomophobia levels of students who used their smartphones when they were bored were higher than students who did not use. In parallel with the current study, Kanmani et al. (2017) indicated that there was a change in the patterns of communication, %85.70 of the participants spent time on their mobile phoned then were bored. These findings imply that mobile phones are no longer just a communication device.

A significant difference among nomophobia levels of university students with regard to use a mobile phone when they are alone were found in the study. Nomophobia levels of students used their smartphones when they are alone were higher than students who did not use their phones. Supporting that, in the study of Kanmani et al. (2017), it was found that %85 of the participants when they were alone. Moreover, Gezgin et al. (2017) conducted a study with 301 adolescents and found a statistically significant correlation between nomophobia and loneliness. The study suggested that individual feel lonely in case losing access to their phones since they are afraid of inability to communicate with others face to face. This variable of the study requires further study to reveal reasons leading to a relationship between nomophobia and being alone.

Lastly, analyses found a significant difference among nomophobia levels of university students with regard to use smartphone to check social media. Nomophobia

levels of students who used their smartphones to check social media were higher than students who did not. This result is congruent with the results of Kalaskar (2015) and Gezgin (2017). Kalaskar (2015) reported that %83 of the participants indicated that they check social media as a first thing in the morning. Salehan and Negahban (2013) reported that mobile phone addiction was predicted by excessive use of mobile social networking applications and it was risky for both women and men. The findings of this study suggest that both men and women are facing the same risk of mobile addiction resulted from the use of mobile social networking applications. Social media is one of the most popular reasons for smartphone use when the usage patterns were examined (Gezgin and Çakır, 2016; Kanmani, 2017). Social networking services increase their popularity day by day and every day more young users use social networking services that lead to nomophobia and other problems.

In the scope of this study, the relationship between five-factor personality traits and nomophobia, the relationship between demographic variables and nomophobia, and finally the relationship between nomophobia and smartphone use habits and nomophobia were examined. The results stated that there was a relationship between extraversion, neuroticism, and openness to experience traits and nomophobia levels. Furthermore, the study revealed that gender, department type, and all smartphone use habits were significantly correlated with nomophobia. Current study provided an insight regarding psychological indicators, although the study was conducted with the limited group and self-report measurements were used in the study. Therefore, further studies are required to reveal leading reasons, create awareness and develop intervention programs.

REFERENCES

Abraham, N., Mathias, J., & Williams, S. (2014). A study to assess the knowledge and effect of nomophobia among students of selected degree colleges in Mysore. *Asian Journal of Nursing Education and Research*, *4*(4), 421-428.

Adnan M. & Gezgin D.M. (2016). Modern Çağın Yeni Fobisi: Üniversite Öğrencileri Arasında Nomofobi Prevalansı. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi,* 49(1), 141-158.

Akıllı, G. K., & Gezgin, D. M. (2016). Üniversite Öğrencilerinin Nomofobi Düzeyleri ile Farklı Davranış Örüntülerinin Arasındaki İlişkilerin İncelenmesi. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, *1*(40), 51-69.

Alam, M., Qureshi, M. S., Sarwat, A., Haque, Z., Salman, M., Masroor, M. A. M. & Ehtesham, S. A. (2014). Prevalence of phantom vibration syndrome and phantom ringing syndrome (Ringxiety): Risk of sleep disorders and infertility among medical students. *Int J*, *2*, 688-693.

Algül, R. (2014). Acı Badem Üniversitesi. Teknoloji çağının hastalığı: Nomofobi. Retrieved from http://www.acibadem.com.tr/Hayat/Bilgi/teknoloji-caginin-hastaligi-nomofobi on 20 December 2017.

Allport, G. (1961). Pattern and growth in personality. New York: Holt, Rinehart, & Winston.

Amichai-Hamburger, Y. and Vinitzky, G. (2010). Social Network use and personality. *Computers in Human Behavior*, 26 1289-1295.

Andreassen, C. S., Griffiths, M. D., Gjertsen, S. R., Krossbakken, E., Kvam, S., & Pallesen, S. (2013). The relationships between behavioral addictions and the five-factor model of personality. *Journal of Behavioral Addictions*, 2, 90–99.

Argumosa-Villar, L., Boada-Grau, J., & Vigil-Colet, A. (2017). Exploratory investigation of theoretical predictors of nomophobia using the Mobile Phone Involvement Questionnaire (MPIQ). *Journal of adolescence*, *56*, 127-135.

Aytaç, S. (2000). *İnsanı anlama çabası:(Psikolojiye Giriş)*. Ezgi Kitabevi.

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Personnel psychology*, *44*(1), 1-26.

Barrick, M.R., Stewart, G.L. ve Piotrowski, M. (2002). Personality and Job Performance: Test of the Mediating Effects of Motivation Among Sales Representatives. *Journal of Applied Psychology*, 87, 45.

Benet-Martínez, V., & John, O. P. (1998). Los Cinco Grandes across cultures and ethnic groups: Multitrait-multimethod analyses of the Big Five in Spanish and English. *Journal of personality and social psychology*, 75(3), 729-750.

Bernstein DP., Iscan C., Maser J. Opinions of personality disorder experts regarding the DSM-IV personality disorders classification system. *J Personal Disord.* 2007;21:536–551.

Bhatia, M. S. (2008). Cell Phone Dependence—a new diagnostic entity. *Delhi Psychıatry Journal*, 11:2, 123-124.

Bhatia, M. S., Sharma, V., & Chhabra, V. (2008). Neuropsychiatric effects of mobile phones. *Delhi Psychiatry Journal*, 11:52-58.

Bianchi, A. and Phillips, J.G. (2005) Psychological Predictors of Problem Mobile Phone Use. *Cyberpsychology & Behavior*, 8, 39-51.

Bienvenu, O. J., Brown, C., Samuels, J. F., Liang, K. Y., Costa, P. T., Eaton, W. W., & Nestadt, G. (2001). Normal personality traits and comorbidity among

phobic, panic and major depressive disorders. *Psychiatry research*, 102(1), 73-85.

Bienvenu, O. J., Nestadt, G., Samuels, J. F., Costa, P. T., Howard, W. T., & Eaton, W. W. (2001). Phobic, panic, and major depressive disorders and the five-factor model of personality. *The Journal of nervous and mental disease*, *189*(3), 154-161.

Bragazzi, N. L., & Puente, G. D. (2014). A proposal for including nomophobia in the new DSMV. *Psychological Research Behaviour Management*, Vol 7: 155–160.

Burger, J.M. (2014), Kişilik, translates by Inan Deniz, Erguvan Sarıoğlu, *Kaktüs Yayınları*, Istanbul.

Butt, S., & Phillips, J. G. (2008). Personality and self reported mobile phone use. *Computers in Human Behavior*, 24(2), 346-360.

Büyüköztürk, Ş. (2015). *Sosyal bilimler için veri analizi el kitabı*. (21. Baskı). Ankara: Pegem Akademi.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F., (2016). *Bilimsel araştırma yöntemleri* (20. Baskı). Ankara: Pegem Akademi.

Castille, C. M., & Sheets, T. L. (2012). The Five Factor Model of personality and employees' excessive use of technology. *Computers in Human Behavior*, *28*(5), 1947-1953.

Cheever, N. A., Rosen, L. D., Carrier, L. M., & Chavez, A. (2014). Out of sight is not out of mind: The impact of restricting wireless mobile device use on anxiety levels among low, moderate and high users. *Computers in Human Behavior*, *37*, 290-297.

Chittaranjan, G., Blom, J., & Gatica-Perez, D. (2011, June). Who's who with big-five: Analyzing and classifying personality traits with smartphones. In *Wearable Computers (ISWC), 2011 15th Annual International Symposium on* (pp. 29-36). IEEE.

Clayton, R. B., Leshner, G., & Almond, A. (2015). The extended iSelf: the impact of iPhone separation on cognition, emotion, and physiology. *Journal of Computer-Mediated Communication*, *20*(2), 119-135.

Cloninger, Susan C (2000). *Theories of personality: understanding persons* (3rd ed). USA: Prentice Hall.

Costa, P. T., & McCrae, R. R. (1995). Primary traits of Eysenck's P-E-N system: Three- and five-factor solutions. *Journal of Personality and Social Psychology*, 69, 308–317.

Costa, P.T. and McCrea, R. R., Robert R., (1992), Four Ways Five Factors Are Basic. *Personality and Individual Differences*, Vol: 13, No: 6, pp: 653-665.

Costa, P. T., & McCrae, R. R. (1988). Personality in adulthood: a six-year longitudinal study of self-reports and spouse ratings on the NEO Personality Inventory. *Journal of personality and social psychology*, *54*(5), 853-863.

Costa, P.T. and McCrea, R. R. (1985) Manual for the NEO Personality Inventory, Odessa, FL: Psychological Assessment Resources.

Çıngı, H., (1994). *Örnekleme kuramı (İkinci Baskı).* Ankara: Hacettepe Üniversitesi Basımevi.

Dal, N. E., & Veysel, D. A. L. (2014). Personality Traits And Social Network Sites Usage Habits: A Research On University Students. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *6*(11), 144-162.

Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual review of psychology*, *41*(1), 417-440.

Dixit S, Shukla H, Bhagwat A, Bindal A, Goyal A, Zaidi AK, et al. A study to evaluate mobile phone dependence among students of a medical college and associated hospital of central India. *Indian J Community Med*. 2010;35(2):339-341.

Ehrenberg, A., Juckes, S., White, K. M., & Walsh, S. P. (2008). Personality and self-esteem as predictors of young people's technology use. *Cyberpsychology & behavior*, *11*(6), 739-741.

Erdem, H., Kalkın, G., Türen, U., & Deniz, M. (2016). Üniversite Öğrencilerinde Mobil Telefon Yoksunluğu Korkusunun (Nomofobi) Akademik Başarıya Etkisi. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *21*(3), 923-936.

Eysenck, H. J. (1997). Personality and experimental psychology: The unification of psychology and the possibility of a paradigm. *Journal of Personality and social Psychology*, *73*(6), 1224-1237.

Eysenck, H. J. (1994). Personality: Biological foundations. In P. A. Vernon (Ed.), *The neuropsychology of individual differences*. London: Academic Press.

Eysenck, H.J., & Eysenck, S.B.G. (1991). *Manual of the Eysenck Personality Scales (EPS Adult).* London: Hodder & Stoughton.

Eysenck, H. J., & Eysenck, S. B. (1976). *Eysenck personality questionnaire*. Educational and industrial testing service.

Ezoe, S., Toda, M., Yoshimura, K., Naritomi, A., Den, R., & Morimoto, K. (2009). Relationships of personality and lifestyle with mobile phone dependence

among female nursing students. *Social Behavior and Personality: an international journal*, *37*(2), 231-238.

Fiske, D. W. (1949). Consistency of the factorial structures of personality ratings from different sources. *The Journal of Abnormal and Social Psychology*, *44*(3), 329-347.

Forgays, D. K., Hyman, I., & Schreiber, J. (2014). Texting everywhere for everything: Gender and age differences in cell phone etiquette and use. *Computers in Human Behavior*, 31, 314-321.

Friedman, H., S. & Schustack, M., W. (1999). *Personality: Classic Theories and Modern Research*. USA: Allyn & Bacon.

Gençöz, T., & Öncül, Ö. (2012). Examination of personality characteristics in a Turkish sample: development of Basic Personality Traits Inventory. *The Journal of general psychology*, *139*(3), 194-216.

Gezgin, D. M. (2017). Exploring The Influence of The Patterns of Mobile Internet Use on University Students' Nomophobia Levels. European Journal of Education Studies, 3(6), 29-53.

Gezgin, D. M., & Çakır, Ö. (2016).Analysis of nomophobic behaviors of adolescents regarding various factors. *Journal of Human Science*, 13(2), 2504-2519.

Gezgin, D. M., Cakir, O., & Yildirim, S. (2018). The Relationship between Levels of Nomophobia Prevalence and Internet Addiction among High School Students: The Factors Influencing Nomophobia. *International Journal of Research in Education and Science*, *4*(1), 215-225.

Gezgin, D. M., Hamutoglu, N. B., Sezen-Gultekin, G., & Ayas, T. (2018). The Relationship between Nomophobia and Loneliness among Turkish

Adolescents. *International Journal of Research in Education and Science, 4*(2), 358-374.

Gezgin, D. M., Sumuer, E., Arslan, O., & Yildirim, S. (2017). Nomophobia prevalence among pre-service teachers: A case of Trakya University. *Trakya University Journal of Education Faculty, 7(1), 86-95.*

Gezgin, D. M., Şahin, Y. L., & Yıldırım, S. (2017). Sosyal Ağ Kullanıcıları Arasında Nomofobi Yaygınlığının Çeşitli Faktörler Açısından İncelenmesi. *Eğitim Teknolojisi Kuram ve Uygulama, 7*(1), 1-15.

Girgin, B. (2007). *Beş faktör kişilik modelinin işyerinde duygusal tacize (mobbing) etkileri*. (Unpublished master's thesis). Dumlupınar University, Kütahya.

Glass, R., Prichard, J., Lafortune, A., and Schwab, N. (2013). The Influence Of Personalıty And Facebook Use on Student Academıc Performance. *Issues in Information Systems*. 14(2), 119- 126.

Goldberg, L. R. (1990). *An alternative description of personality: The Big-Five factor structure. Journal of Personality and Social Psychology*, 59, 1216– 1229.

Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the BigFive personality domains. *Journal of Research in personality*, 37(6), 504-528.

Gula, T. (2016). *Problemli Cep Telefonu Kullanımı, Kişilik Özellikleri ve Sosyo-Demografik Değişkenlere Göre Sosyal Medya Kullanım Tercihleri: Tanımsal Bir Çalışma* (Master's thesis). Fatih Sultan Mehmet Vakıf Üniversitesi, Istanbul.

Harkin, J. (2003). *Mobilisation: The growing public interest in mobile technology.* Demos.

Hoşgör, H., Tandoğan, Ö., & Gündüz Hoşgör, D. (2017). Nomofobinin Günlük Akıllı Telefon Kullanım Süresi Ve Okul Başarısı Üzerindeki Etkisi: Sağlık Personeli Adayları Örneği. *The Journal of Academic Social Science* 46, 573-595.

Hunsley, J., & Mash, E. J. (Eds.). (2008). *A guide to assessments that work*. Oxford University Press.

Isır, T., (2006). *Örgütlerde Personel Seçim Süreci: Bir Kamu Kuruluşundaki Yönetici Personelin Kişilik Özelliklerinin Tespit Edilerek, Personel Seçim Sürecini İyileştirilmesi Üzerine Bir Araştırma* (Unpublished doctoral dissertation). Çukurova University, Adana.

İnanç, B.Y. and Yerlikaya, E. E. (2011). *Kişilik Kuramları (4. Edition).* Ankara: Pegem Akademi.

John, O. P., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin, & O. P. John (Eds.), Handbook of personality: Theory and research (pp. 102-138). New York: Guilford Press.

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). *The "Big Five" Inventory--Versions 4a and 54. Berkeley:* University of California, Berkeley, Institute of Personality and Social Research.

John, O. P., Naumann, L. P. and Soto, C. J. (2010), Paradigm shift to the integrative big-five trait taxonomy: History, measurement and conceptual issues.

John, O. P., Naumann, L., & Soto, C. (2008). Paradigm Shift to the Integrative Big Five Trait Taxonomy (pp. 114—158): *Handbook of Personality: Theory and Research*, New York: Guilford Press.

Judd, T. (2014).Making sense of multitasking: The role of Facebook. *Computers & Education*, 70, 194-202.

Kahveci H. (2001).*Yardım Arama Davranışları İle Fatalistik Düşünce Ve Beş Faktör Kişilik Özellikleri Arasındaki İlişkinin Araştırılması (*Unpublished masters thesis).Yüksek Lisans Tezi, Karadeniz Technical University, Trabzon.

Kalaskar, P. B. (2015). A study of awareness of development of NoMoPhobia condition in smartphone user management students in Pune city. ASM's International E-Journal on Ongoing Research in Management and IT, 320-326.

Kamibeppu K, Sugiura H. (2005). Impact of the mobile phone on junior hightschool students' friends hips in the Tokyo metropolitan area. *Cyberpsycholgy and Behavior*, 8(2):121–130.

Kanmani, A., Bhavani, U. ve Maragatham, R.S. (2017). Nomophobia–an insight into its psychological aspects in india. *The International Journal of Indian Psychology*, 4(2): 5-15.

Karaman, N. G., Dogan, T., & Coban, A. E. (2010). A study to adapt the big five inventory to Turkish. *Procedia - Social and Behavioral Sciences*, 2(2), 2357-2359. doi: http://dx.doi.org/10.1016/j.sbspro.2010.03.336.

Karanci, A. N., Dirik, G., & Yorulmaz, O. (2007). Reliability and validity studies of turkish translation of eysenck personality quesonnaire revised-abbreviated. *Turkish Journal of Psychiatry*, *18*(3), 1-8.

Karasar, N. (2004). *Bilimsel araştırma yöntemi.* Ankara: Nobel Yayın

Karpinski, A. C., Kirschner, P. A., Ozer, I., Mellott, J. A., &Ochwo, P. (2013). An exploration of social networking site use, multitasking, and academic

performance among United States and European university students. *Computers in Human Behavior,* 29(3), 1182-1192.

Katigbak, M. S., Church, A. T, & Akamine, T. X. (1996). Cross-cultural ganeralizability of personality dimensions: Relating indigenous and imported constructs in two cultures. *Journal of Personality andSociaI Psychology,* 70, 99-114.

Kibona, L., & Mgaya, G. (2015).Smartphones' Effects on Academic Performance of Higher Learning Students. *Journal of Multidisciplinary Engineering Science and Technology*, 2(4), 777-784.

King, A. L. S., Guedes, E., Neto, J. P., Guimarães, F., & Nardi, A. E. (2017). Nomophobia: Clinical and Demographic Profile of Social Network Excessive Users. *Journal of Addiction Research & Therapy,* 8(339), 2.

King, A. L. S., Valença, A. M., & Nardi, A. E. (2010). Nomophobia: the mobile phone in panic disorder with agoraphobia: reducing phobias or worsening of dependence. *Cognitive and Behavioral Neurology*, 23(1), 52-54.

King, A. L. S., Valença, A. M., Silva, A. C. O., Baczynski, T., Carvalho, M. R., & Nardi, A. E. (2013). Nomophobia: Dependency on virtual environments or social phobia. *Computers in Human Behavior,* 29(1), 140-144.

King, A. L. S., Valença, A. M., Silva, A. C., Sancassiani, F., Machado, S., & Nardi, A. E. (2014). Nomophobia: Impact of Cell Phone Use Interfering with Symptoms and Emotions of Individuals with Panic Disorder Compared with a Control Group. *Clinical practice and epidemiology in mental health,* 10, 28–35

Kircaburun, K. (2016). Effects of Gender and Personality Differences on Twitter Addiction among Turkish Undergraduates. *Journal of education and practice*, *7*(24), 33-42.

Koptagel, G.(1991) *Tıpsal Psikoloji*, Güneş Kitapevi, Ankara.

Korean Internet and Security Agency(2012). Intervention and resolution strategy for smart media addiction.

Köknel, Ö. (2005). *Kaygıdan Mutluluğa Kişilik* (17. Basım). Istanbul: Akdeniz Yayıncılık.

Kuss, D. J., & Griffiths, M. D. (2011). Online social networking and addiction—a review of the psychological literature. *International journal of environmental research and public health*, *8*(9), 3528-3552.

Kutlu, M., & Pamuk, M. (2017). Investigation of university students' problematic usage of mobile phone in the context of personality. *Journal of Human Sciences*, *14*(2), 1263-1272.

Pervin, L. A. & John, O. P.(Eds.), Handbook of personality: *Theory and research (*2nd ed.), 102- 139, New York: Guilford Press.

Landers, R. N., & Lounsbury, J. W. (2006). An investigation of Big Five and narrow personality traits in relation to Internet usage. *Computers in Human Behavior*, 22, 283-293.

Larsen, R. J., & Buss, D. M. (2009). *Personality psychology: Domains of knowledge about human*, Fourth Edition, McGraw-Hill.

Cervone, D., & Pervin, L.A. (2013). *Personality Psychology* (*12th Edition International Student Version).* John Wıley & Sons.

LeBeau, R. T., Glenn, D., Liao, B., Wittchen, H. U., Beesdo-Baum, K., Ollendick, T., & Craske, M. G. (2010). Specific phobia: a review of DSM-IV specific

phobia and preliminary recommendations for DSM-V. *Depression and Anxiety*, *27*(2), 148-167.

Lin YH, Lin SH, Li P, Huang WL, Chen CY. (2013). Prevalent hallucinations during medical internships: phantom vibration and ringing syndromes. PloS one. 8: 1-6.

Lounsbury, J. W., Smith, R. M., Levy, J. J., Leon, F. T., & Gibson, L. W. (2009). Personality characteristics of business majors as defined by the Big Five and narrow personality traits. Journal of Education for Business, 84(4), 200-206.

Love, S., & Kewley, J. (2003). Does personality affect peoples' attitude towards mobile phone use in public places? In R. Ling, & P. Pedersen (Eds.), Front stage/ Back stage: Mobile communication and the renegotiation of the social sphere (pp. 273–284). Grimstad, Norway: Conference Proceedings

Luegar, R. J., Sarason, B. R., & Sarason, I. G. (1989). *Abnormal psychology: the problem of maladaptive behavior*. Prentice Hall.

Masood, A. F.,(2009). Correlations between the Five Factor Model of Personality and Problem Behavior in Children (Doctoral dissertation). ThessisAuburn, Alabama.

Mayer, J. D. (2007). *Personality: A systems approach.* Boston: Allyn & Bacon.

McCrae R. R., Costa, P. T. (1985).Updating Norman's Adequate Taxonomy: Intelligence and Personality Dimensions in Natural Language and in Questionnaires", *Journal of Personality and Social Psychology*, 49, 710-721.

McCrae, R. R., & Costa, P T. Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology,* 52 (1), 81-90.

McCrae, R. R., & John, O. P. (1992). An introduction to the five factor model and its applications. *Journal of Personality,* 60, 175-215.

McCrae, R. R., Zonderman, A. B., Costa Jr, P. T., Bond, M. H., & Paunonen, S. V. (1996). Evaluating replicability of factors in the Revised NEO Personality Inventory: Confirmatory factor analysis versus Procrustes rotation. *Journal of Personality and Social Psychology*, *70*(3), 552.

Moore K, McElroy JC. (2012). The influence of personality on Facebook usage, wall postings, and regret. *Computer in Human Behavior* 28, 267–274.

Morgan, C. T. (2005). *Psikolojiye giriş.* Hacettepe Üniversitesi Psikoloji Bölümü Yayınları, 1.

Morsünbül, Ü. (2014). The association of internet addiction with attachment styles, personality traits, loneliness and life satisfaction İnternet bağımlılığının bağlanma stilleri, kişilik özellikleri, yalnızlık ve yaşam doyumu ile ilişkisi. *Journal of Human Sciences*, *11*(1), 357-372.

Nikhita, C. S., Jadhav, P. R., & Ajinkya, S. A. (2015). Prevalence of mobile phone dependence in secondary school adolescents. *Journal of clinical and diagnostic research: JCDR*, *9*(11), VC06.

O'Brien, T. B., & DeLongis, A. (1996). The interactional context of problem-, emotion-, and relationship-focused coping: The role of the big five personality factors. *Journal of Personality,* 64, 775-813.

O'Neill, John W., and Xiao, Qu, (2010), Effects of Organizational/Occupational Characteristics and Personality Traits on Hotel Manager Emotional Exhaustion. *International Journal of Hospitality Management,* Vol: 29, No: 4, pp: 652 – 658.

Okoye, C. A., Obi-Nwosu, H., & Obikwelu, V. C. (2017). Nomophobia among undergraduate. *Practicum Psychologia*, *7*(2), 64-74.

Özbek, V., Alnıaçık, Ü., Fatih, K. O. Ç., Akkılıç, M. E., & Eda, K. A. Ş. (2014). Kişilik Özelliklerinin Teknoloji Kabulü Üzerindeki Doğrudan Ve Dolaylı Etkileri: Akıllı Telefon Teknolojileri Üzerine Bir Araştırma. *International Review of Economics and Management*, *2*(1), 36-57.

Pavithra, M. B., Madhukumar, S., & Mahadeva, M. (2015). A study on nomophobia-mobile phone dependence, among students of a medical college in Bangalore. *National Journal of Community Medicine*, *6*(3), 340-344.

Penley, J. A. and Tomaka, J. (2002). Associations among the big-five, emotional responses, and coping with acute stress. *Personality and Individual Differences*, 32, 1215-1228.

Pervin, L. A., Cervone, D., John, O. P. (2005). *Personality: Theory and Research (Ninth Edition).* New York: Wiley.

Pooja, N., Kajal, U., Supriya, Y., Reshma, T. and Shailaja, G. (2016); Are Students Becomıng Slaves Of Technology? *International Journal of Advanced Research.* 4 **(**9). 601-605.

Prasad, M., Patthi, B., Singla, A., Gupta, R., Saha, S., Kumar, J. K., ... & Pandita, V. (2017). Nomophobia: A Cross-sectional Study to Assess Mobile Phone Usage Among Dental Students. *Journal of clinical and diagnostic research: JCDR*, *11*(2), ZC34.

Prasyatiani T, Hijriarahmah D., Solamat Luthfi Assholam (2017). Proceedings of INTCESS 2017 4th International Conference on Education and Social Sciences 6-8 February 2017- Istanbul, Turkey.

Rahmani, S., & Lavasani, M. G. (2011). The relationship between internet dependency with sensation seeking and personality. *Procedia-Social and Behavioral Sciences*, *30*, 272-277.

Robbins, S. and Judge T. A. (2013). *Örgütsel Davranış.* Nobel Yayınları, Ankara.

Roberts, J. A., Pullig, C., & Manolis, C. (2015). I need my smartphone: A hierarchical model of personality and cell-phone addiction. *Personality and Individual Differences*, *79*, 13-19.

Rosen, L. D., Carrier, L. M. & Cheever, N. A. (2013). Facebook and texting made me do it: Media-induced task-switching while studying. *Computers in Human Behavior*, 29(3), 948-958.

Rosen, L. D., Whaling, K., Carrier, L. M., Cheever, N. A. & Rokkum, J. (2013). The media technology usage and attitudes scale: An empirical investigation. *Computers in Human Behavior*, 29, 250-251.

Rosen, L., Carrier, L. M., Miller, A., Rokkum, J. & Ruiz, A. (2016). Sleeping with technology: cognitive, affective, and technology usage predictors of sleep problems among college students. *Sleep Health*, 2(1), 49-56.

Salehan, M., & Negahban, A. (2013). Social networking on smartphones: When mobile phones become addictive. *Computers in Human Behavior*, *29*(6), 2632-2639.

Samaha, M., & Hawi, N. S. (2016). Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. *Computers in Human Behavior*, *57*, 321-325.

Sarason, I. G., Sarason, B. I. (2005). *Abnormal Psychology. The Problem of Maladaptive Behavior*. Pearson/Prentice Hall.

Savran, C. (2001). Factor analysis of the dimensions of the Turkish adjective checklist (Unpublished manuscript), Marmara University, Istanbul, Turkey

Saymaz, İ. (2003). *Üniversite Öğrencilerinin Kişilerarası İlişkileri ve Bağlanma Stilleri Arasındaki İlişkinin İncelenmesi* (Unpublished master's thesis). Istanbul University, Istanbul.

Schmitt, D. P., Allik, J., McCrae, R. R., & Benet-Martínez, V. (2007). The geographic distribution of Big Five personality traits: Patterns and profiles of human self-description across 56 nations. *Journal of cross-cultural psychology*, *38*(2), 173-212.

SecurEnvoy. (2012). 66% of the population suffer from Nomophobia the fear of being without their phone. Retrieved October 21, 2017, from http://www.securenvoy.com/blog/2012/02/16/66-of-the-population-suffer-fromnomophobia-the-fear-of-being-without-their-phone/

Sharma N, Sharma P, Sharma N, Wavare RR. (2015). Rising concern of nomophobia amongst Indian medical students. *International Journal of Research in Medical Sciences*, 3:705-7.

Somer, O. (1998). Türkçe'de kişilik özelliğini tanımlayan sıfatların yapısı ve Beş Faktör Modeli. *Türk Psikoloji Dergisi,* 35-62

Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2008). The developmental psychometrics of big five self-reports: acquiescence, factor structure, coherence, and differentiation from ages 10 to 20. *Journal of personality and social psychology*, 94(4), 718.

Stieger, S., Burger, C., Bohn, M., & Voracek, M. (2013). Who commits virtual identity suicide? Differences in privacy concerns, internet addiction, and personality between Facebook users and quitters. *Cyberpsychology, Behavior, and Social Networking*, *16*(9), 629-634.

Störmer, S. ve Fahr, R. (2013). Individual determinants of work attendance: Evidence on the role of personality. *Applied Economics,* 45, 2863-2875.

Sümer, N., Lajunen, T., & Özkan, T. (2005). Big Five Personality Traits as the distal predictors of road accident. *Traffic and transport psychology: Theory and application, 215*.

Takao, M. (2014). Problematic mobile phone use and big-five personality domains. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, *39*(2), 111.

Tatlılıoğlu, K. (2014). Üniversite öğrencilerinin beş faktör kişilik kuramına göre kişilik özellikleri alt boyutlarının bazı değişkenlere göre değerlendirilmesi. *Journal of History School, 7 (17),* 939-971.

Tavolacci, M. P., Meyrignac, G., Richard, L., Dechelotte, P., & Ladner, J. (2015). Problematic use of mobile phone and nomophobia among French college students. *European Journal of Public Health,* 25.

Tevrüz, S., & Türk Smith, Ş. (1996). Üniversite gençliğinin kişilik profilleri [Personality profiles of the university students]. In Y. Topsever & M. Göregenli (Eds.), Proceedings of the Eight National Congress of Psychology (pp. 99-113). Ankara: Turkish Psychological Association.

Thomee, S., Harenstam, A., & Hagberg, M. (2011). Mobile phone use and stress, sleep disturbances and symptoms of depression among young adults – A prospective cohort study. *BMC Public Health,* 11(66).

Turan, Ö. A. T. S. N., & Kökçü, M. (2012). Beş Faktör Kişilik Özellikleri Ve Örgütsel Çatışma Yönetimi Arasındaki İlişkiler: Ankara'daki Beş Yıldızlı Otel İşletmeleri Üzerine Bir Uygulama. *Journal of Yaşar University*, *7*(27), 4611-4641.

Uysal, Ş., Özen, H., & Madenoğlu, C.(2016). Social phobia in higher education: the ınfluence of nomophobia on social phobia. *The Global e-learning Journal*,5(2),1-8.

Wentworth, D. K., & Middleton, J. H. (2014). Technology use and academic performance. *Computers & Education,* 78, 306-311.

Yanbastı, G. (1990). *Kişilik Kuramları*. İzmir, Ege Üniversitesi Edebiyat Fakültesi Yayınları, 50.

Yazgan, İ.B,Yerlikaya, E.E (2012). *Kişilik Kuramları (*6. Edition). Pegem Akademi, Ankara.

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

Yildirim, C. (2014). *Exploring the dimensions of Nomophobia: Developing and validating a Questionnaire using mixed methods research (*Graduate Theses and Dissertations). Iowa State University, USA.

Yildirim, C., Sumuer, E., Adnan, M., & Yildirim, S. (2015). A growing fear: Prevalence of nomophobia among Turkish college students. Information Development, 1-15.

Zulkefly, S. N. And Baharudın, R. 2009. Mobile phone use amongst students in a university in malaysia: Its correlates and relationship to psychological health. *Euro. J. Sci. Res*. 37, 2, 206–18.

APPRENDICES

Appendix A

DEMOGRAFİK BİLGİ FORMU

Açıklama: Aşağıda size ait bazı demografik bilgileri öğrenmek amacıyla yazılmış sorular bulunmaktadır. Lütfen her soruyu dikkatle okuyup size uygun olan cevabın yanındaki seçeneğin yanındaki parantezin içine çarpı işareti koyunuz ya da size uygun şık veya şıkları işaretleyiniz. Katkılarınız için teşekkür ederim.

Didem Damla Yoğurtçu

1. Cinsiyetiniz: Kadın ( ) , Erkek ( )
2. Yaşınız: ……..
3. Bölümünüz ……
4. Sınıfınız: 1.Sınıf ( ) 2. Sınıf ( ) 3.Sınıf ( ) 4.Sınıf ( )
5. Yanınızda şarj taşıma durumunuz: Evet ( ) Hayır ( )
6. Cep telefonunuzu günlük kontrol etme sıklığınız:
   a) 1-16 kez b)17-32 kez c)33-48 Kez d)49 ve üzeri
7. Günlük cep telefonu kullanma süreniz:
   a) 1 saatten az b) 1-3 saat c) 3-5 saat d) 5 saatten fazla
8. Günlük telefondan internete girme süreniz:
   a) 1 saatten az b) 1-3 saat c) 3-5 saat d) 5 saatten fazla
9. Aşağıda sıralanan telefon kullanma nedenlerinden size uygun olanları işaretleyiniz

( ) Sosyal medyaya göz atmak
( ) Aile üyeleriyle iletişim kurmak
( ) Arkadaşlarla iletişim kurmak
( ) Internette araştırma yapmak / eğitsel nedenler
( ) Oyun oynamak
( ) Müzik dinlemek / video izlemek
( ) Alışveriş yapmak
( ) Navigasyon

10. Telefon kullandığınız durumlardan size uygun olanları işaretleyiniz.
( ) Sıkıldığımda
( ) Yalnız olduğumda
( ) Birini ya da bir şeyi beklerken
( ) Toplu ulaşımda
( ) Uyandıktan hemen sonra
( ) Yatmadan hemen önce

Appendix B

BFI

Aşağıda sizi kısmen tanımlayan (ya da pek tanımlayamayan) bir takım özellikler sunulmaktadır. Örneğin, başkaları ile zaman geçirmekten hoşlanan birisi olduğunuzu düşünüyor musunuz? Lütfen aşağıda verilen özelliklerin sizi ne oranda yansıttığını ya da yansıtmadığını belirtmek için sizi en iyi tanımlayan rakamı her bir özelliğin yanına yazınız.

1 = Hiç katılmıyorum
2 = Biraz katılmıyorum
3 = Ne katılıyorum ne de katılmıyorum (kararsızım)
4 = Biraz katılıyorum
5 = Tamamen katılıyorum

___ 1. Konuşkan
___ 2. Başkalarında hata arayan
___ 3. İşini tam yapan
___ 4. Bunalımlı, melankolik
___ 5. Orijinal, yeni görüşler ortaya koyan
___ 6. Ketum/vakur
___ 7. Yardımsever ve çıkarcı olmayan
___ 8. Biraz umursamaz
___ 9. Rahat, stresle kolay baş eden
___ 10. Çok değişik konuları merak eden
___ 11. Enerji dolu
___ 12. Başkalarıyla sürekli didişen
___ 13. Güvenilir bir çalışan
___ 14. Gergin olabilen
___ 15. Maharetli, derin düşünen
___ 16. Heyecan yaratabilen
___ 17. Affedici bir yapıya sahip
___ 18. Dağınık olma eğiliminde
___ 19. Çok endişelenen
___ 20. Hayal gücü yüksek
___ 21. Sessiz bir yapıda
___ 22. Genellikle başkalarına güvenen
___ 23. Tembel olma eğiliminde olan
___ 24. Duygusal olarak dengeli, kolayca keyfi kaçmayan
___ 25. Keşfeden, icat eden
___ 26. Atılgan bir kişiliğe sahip
___ 27. Soğuk ve mesafeli olabilen
___ 28. Görevi tamamlanıncaya kadar sebat edebilen
___ 29. Dakikası dakikasına uymayan
___ 30. Sanata ve estetik değerlere önem veren
___ 31. Bazen utangaç, çekingen olan
___ 32. Hemen hemen herkese karşı saygılı ve nazik olan
___ 33. İşleri verimli yapan
___ 34. Gergin ortamlarda sakin kalabilen
___ 35. Rutin işleri yapmayı tercih eden
___ 36. Sosyal, girişken
___ 37. Bazen başkalarına kaba davranabilen
___ 38. Planlar yapan ve bunları takip eden
___ 39. Kolayca sinirlenen
___ 40. Düşünmeyi seven, fikirler geliştirebilen
___ 41. Sanata ilgisi çok az olan
___ 42. Başkalarıyla işbirliği yapmayı seven
___ 43. Kolaylıkla dikkati dağılan
___ 44. Sanat, müzik ve edebiyatta çok bilgili

Kendimi ..... biri olarak görüyorum

Appendix C

Nomofobi Ölçeği (NMP-Q)

Akıllı telefonun kullanımınızla ilgili olarak aşağıdaki ifadelere katılma derecenizi belirtiniz.

1.)Kesinlikle katılmıyorum 2.)Katılmıyorum 3.)Kısmen katılmıyorum 4.)Kararsızım 5.) Kısmen katılıyorum 6.) Katılıyorum 7.) Kesinlikle katılıyorum

		1	2	3	4	5	6	7
1	Akıllı telefonumdan sürekli olarak bilgiye erişemediğimde kendimi rahatsız hissederim.							
2	Akıllı telefonumdan istediğim her an bilgiye bakamadığımda canım sıkılır.							
3	Haberlere (örneğin neler olup bittiğine, hava durumuna ve diğer haberlere) akıllı telefonumdan ulaşamamak beni huzursuz yapar.							
4	Akıllı telefonumu ve telefonumun özelliklerini istediğim her an kullanamadığımda rahatsız olurum.							
5	Akıllı telefonumun şarjının bitmesinden korkarım.							
6	Kontörüm (TL kredim) bittiğinde veya aylık kota sınırımı aştığımda paniğe kapılırım.							
7	Telefonum çekmediğinde veya kablosuz Internet bağlantısına erişemediğimde sürekli olarak sinyal olup olmadığını veya kablosuz erişim bağlantısı bulup bulamayacağımı kontrol ederim.							
8	Akıllı telefonumu kullanamadığımda, bir yerlerde mahsur kalacağımdan korkarım.							
9	Akıllı telefonuma bir süre bakamadıysam, bakmak için güçlü bir istek hissederim.							
	Eğer akıllı telefonum yanımda değilse,							
10	Ailemle ve/veya arkadaşlarımla hemen iletişim kuramayacağım için kaygı duyarım.							
11	Ailem ve/veya arkadaşlarım bana ulaşamayacakları için endişelenirim.							
12	Gelen aramaları ve mesajları alamayacağım için kendimi huzursuz hissederim.							
13	Ailemle ve/veya arkadaşlarımla iletişim halinde olamadığım için endişelenirim.							
14	Birinin bana ulaşmaya çalışıp çalışmadığını bilemediğim için gerilirim.							
15	Ailem ve arkadaşlarımla olan bağlantım kesileceği için kendimi huzursuz hissederim.							

16	Çevrimiçi kimliğinden kopacağım için gergin olurum.							
17	Sosyal medya ve diğer çevrimiçi ağlarda güncel kalamadığım için rahatsızlık duyarım.							
18	Bağlantılarımdan ve çevrimiçi ağlardan gelen güncelleme bildirimlerini takip edemediğim için kendimi tuhaf hissederim.							
19	Elektronik postalarımı kontrol edemediğim için kendimi huzursuz hissederim.							
20	Ne yapacağımı bilemiyor olacağımdan kendimi tuhaf hissederim.							