PRECIOUS AGNES SUAH

THE IMPACT OF SMARTPHONE ADDICTION AND DISTRACTION ON THE PSYCHOLOGICAL WELLBEING AND ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS IN NORTH CYPRUS

MSc. THESIS

FEBRUARY, 2023

NEAR EAST UNIVERSITY

INSTITUTE OF GRADUATE STUDIES

DEPARTMENT OF PSYCHOLOGY

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MSc. THESIS

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Approval

We certify that we have read the thesis submitted by PRECIOUS AGNES SUAH titled **"THE IMPACT OF SMARTPHONE ADDICTION AND DISTRACTION ON THE PSYCHOLOGICAL WELLBEING AND ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS IN NORTH CYPRUS"** and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Social Sciences.

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Declaration

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of Institute of Graduate Studies, Near East University. I also declare that as required by these rule and conduct, I have fully cited and referenced information and data that are not original to this study.

PRECIOUS AGNES SUAH

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Firstly, I would want to express my gratitude to God for providing me with the strength, wisdom, and insight to complete my master's thesis. I also thank Him for constantly providing my tuition, housing, and basic needs during my master's program. I want to acknowledge and express my sincere gratitude to my thesis supervisor, Dr. Gloria Manyeruke, for her sound, well-articulated, and helpful counsel and direction during the entire process of writing this thesis. She was always accessible when I needed her and supportive when I had obstacles along the way. Special thanks to the General Psychology Department at the Near East University, especially the Dean, Assistant Professor Dr. Ezgi Ulu, and all the lecturers who guided me throughout my studies and prepared me for writing this thesis.

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PRECIOUS ANGES SUAH

Abstracts

THE IMPACT OF SMARTPHONE ADDICTION AND DISTRACTION ON THE PSYCHOLOGICAL WELLBEING AND ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS IN NORTH CYPRUS

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MSc., Department of Psychology

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Due to the widespread use of smartphones among university students in the twenty-first century, more students are now at risk of developing smartphone addictions, which is associated with compulsive impulses to use the device and leads to distraction from vital tasks and academic works. The purpose of this research was to examine the influence of smartphone addiction and distraction on the psychological wellbeing and academic performance of university students. A sample of 386 students were recruited from the Near East University in Northern Cyprus using a convenience sampling technique. A structured questionaire was used to collect data. The findings show a positive relationship between smartphone addiction, smartphone distraction and the emotional states of depression, anxiety and stress. Additionally, there was a negative relationship among smartphone addiction, smartphone distraction, and academic performance. Older university students had higher smartphone addiction and distraction scores than young students. The findings also shows that university students who stored their smartphones in their bags or pockets had higher smartphone addiction and distraction scores than those who kept their phones on the desk. Also, students who kept their phones on silent scored higher in attention impulsiveness than those who kept their phones on ring and vibrate. In light of these findings, it is important for instructors to employ integrative learning strategies, such as smartphone-enabled learning activities and gamification factors to motivate and engage their students.

Keywords: Smartphone addiction, Smartphone distraction, Psychological Wellbeing, Emotional states, Academic performance

ÖZ

KUZEY KIBRIS'TAKI ÜNIVERSITE ÖĞRENCILERININ AKILLI TELEFON BAĞIMLILIĞININ DIKKAT DAĞITMA, PSIKOLOJIK IYI OLUŞLARI VE AKADEMİK PERFORMANSI ÜZERİNE ETKİSİ

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MSc., Psikoloji Bölümü

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Yirmi birinci yüzyılda üniversite öğrencileri arasında akıllı telefonların yaygın kullanımı nedeniyle, daha fazla öğrenci, cihazı kullanmak için zorlayıcı dürtülerle ilişkili olan ve hayati görevlerden ve akademik çalışmalardan dikkatin dağılmasına yol açan akıllı telefon bağımlılıkları geliştirme riski altındadır. Bu araştırmanın amacı, akıllı telefon bağımlılığının ve dikkat dağıtmanın üniversite öğrencilerinin psikolojik iyi oluşları ve akademik performansları üzerindeki etkisini incelemektir. Kuzey Kıbrıs'taki Yakın Doğu Üniversitesi'nden 386 öğrenciden oluşan bir örneklem, uygun örnekleme tekniği kullanılarak araştırmaya alınmıştır. Veri toplamak için yapılandırılmış soru formu kullanıldı. Bulgular, akıllı telefon bağımlılığı, akıllı telefon dikkat dağınıklığı ve depresyon, anksiyete ve stresin duygusal durumları arasında pozitif yönde bir ilişki olduğunu göstermektedir. Ek olarak, akıllı telefon bağımlılığı, akıllı telefon dikkat dağıtma ve akademik performans arasında olumsuz bir ilişkinin olduğu görülmüştür. Daha yaşlı üniversite öğrencileri, genç öğrencilerden daha yüksek akıllı telefon bağımlılığı ve dikkat dağıtma puanlarına sahip olduğu görülmüştür. Bulgular ayrıca, akıllı telefonlarını çantalarında veya ceplerinde saklayan üniversite öğrencilerinin, telefonlarını masada tutanlardan daha yüksek akıllı telefon bağımlılığı ve dikkat dağıtma puanlarına sahip olduklarını göstermektedir. Ayrıca, telefonlarını sessiz tutan öğrenciler, telefonlarını zilde tutan ve titreşenlere göre dikkat dürtüselliğinde daha yüksek puan aldılar. Bu bulgular ışığında, eğitmenlerin öğrencilerini motive etmek ve meşgul etmek için akıllı telefon özellikli öğrenme etkinlikleri ve oyunlaştırma faktörleri gibi bütünleştirici öğrenme stratejileri kullanmaları önemlidir.

Anahtar kelimeler: Akıllı telefon bağımlılığı, Akıllı telefon dikkat dağıtma, Psikolojik İyilik Hali, Duygusal Durum, Akademik Performans.

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List of Abbreviations

ACT: American College Testing

CA: Cronbach Alpha

CGPA: Cumulative Grade Point Average

CSDS: Cumulative smartphone Distraction Scores

DASS-21: Depression Anxiety Stress Scale-21

DCT: Distraction Conflict Theory

ELAT: English Language Achievement Test

FOMO: Fear of Missing Out

I-PACE: Interaction of Person-Affect-Cognition-Execution

MAT: Mathematic Achievement Test

MPUQ: Mobile Phone Usage Questionnaire

NEU: Near East University

PSU: Problematic Smartphone Use

PSUPM: Problematic Smartphone Use Pathway Model

SAS: Smartphone Addiction Scale

SAT: Scholastic Aptitude Test

SD: Smartphone Distraction

SDS: Smartphone Distraction Scale

SMS: Short Message Service

SPSS: Statistical Package for the Social Sciences

CHAPTER I

Introduction

The proliferation of mobile phones has brought about a remarkable shift in the way that people communicate with one another. In the past, the only functions available on mobile phones were voice calls and text messages. However, with the advent of new technology, mobile phones can now perform a wide variety of functions, which is why they are referred to as smartphones (Ward et al., 2017). Smartphone users can now engage in tasks like gaming, researching information, shopping, banking, keeping track of appointments, accessing variety of social media applications, doing homework, studying, among others (Chen et al., 2017). The device also enables users to be online at any time and from anywhere (Nayak, 2018).

Although smartphones offer many benefits, they have also been the target of criticism for allegedly causing students to be less productive in the classroom and less physically active. Students are also less aware of their surroundings when walking, driving or other activities (Gökçearslan et al., 2016). Particularly among young people, there is a perception that there is a transition from smartphone use to smartphone addiction and distraction. In a study, more than half of all smartphone owners were found to check their devices within five minutes of waking up, with instant messaging applications and social media sites being the most popular destinations (Deloitte, 2020).

Smartphone technology has improved to the point that it has become increasingly important to university students. According to Junco and Cotton (2012), young college and university students are shown to be the primary users of smartphones due to the perception that they lack familial responsibilities and are not mature enough to exercise discipline and restriction when utilizing technological gadgets, which makes them particularly prone to technology addiction and excessive usage. Junco and Cotton (2012) also found that university students are categorized as significantly dependent on smartphones mainly for internet access.

Addiction is the act of using a substance obsessively or engagement in an activity to the point where it interferes with daily life (Rozgonjuk et al., 2018). While distraction is defined as the shifting of one's attention and concentration from one task to another (Weksler &Weksler, 2012). According to a study, the addictive

potential of smartphones is caused by the fact that these devices have a propensity to distract their users such that they appear to prefer putting off necessary chores so as to perform trivial tasks on their phones (Elhai et al., 2021). Individuals who are addicted and distracted by smartphones experience a recurrent shift of attention from every day or important activities to consciously engage in a compulsive need (Park & Lee, 2014).

Smartphone addiction and distraction have been said to have an impact on psychological wellbeing, especially due to the user fear of missing out on the activities of their family members and friends (Bhattacharya et al., 2019). The emotions that are associated with smartphone addiction and distraction have been linked by some studies to anxiety, depression, sleep disturbance and poor quality of life (Andreassen et al., 2016). Smartphone addiction and distraction may also have a tendency to affect students' academic performance. There is evidence of "distracted learning" among college students, wherein academic performance is adversely influenced by talking or texting as well as by the distraction brought on by the alert tone from incoming test messages or the ringing of the phone in classroom or while studying (Wu & Cheng, 2018). These ringtones and beeps may interfere with students' attention, causing them to miss critical material in class or hinder them from studying or meeting essential deadlines for class work, which could have an impact on their overall academic performance. In this vein, the primary focus of the present study is to examine the effects of smartphone addiction and distraction on the psychological wellbeing and academic performance of university students.

Statement of the problem

The increase and reliance on smartphone usage continue to rise among young people today. As a result, university students and their smartphones have become inseparable, even in learning environments. Rosen (2017) found that, students check their phones an average of 50-60 times each day and spend 3.5-4.5 hours on their devices. They routinely multitask on their smartphones whether they are doing tasks alone or in groups, or even studying outside of class.

Research by Kumcagiz and Gündüz, (2016) showed that 60% of young people are addicted to their smartphones. According to another study, 93% of

students acknowledged to actively chatting on their smartphones while working on school work (Junco & Cotton, 2011). Their obsession with the plethora of apps on the smartphone may be a factor that fuels these diversions from learning. As students become increasingly reliant on and distracted by their phones, their overall academic performance may suffer due to their inability to pay attention. They are also less likely to receive high GPAs since their attention is more focused on their smartphones.

Smartphone addiction and distraction may also have a detrimental effect on students cognitive performance since it reduces focus and results in subpar performance on activities demanding mental concentration and decision-making. The negative effects of smartphone addiction and distraction are even more prominent in the classroom setting, where students are more likely to be distracted from their work and less likely to be engaged by what they are learning. This, in turn, can have a negative impact on academic performance because of issues like decreased motivation, decreased retention of material, and decreased efficiency (Uncapher et al., 2017).

In a similar vein, studies have shown that smartphone addiction and distraction can result in maladaptive behaviors as well as other psychosocial issues like depression, sleep problems, and increased interpersonal anxiety (Oulasvirta et al., 2012). Additionally, researchers have discovered that "nomophobia", a condition associated with discomfort, worry, and agony brought on by lack of a mobile phone or internet, is a problem that affects psychological wellbeing (Braggazzi & Punente, 2014). For instance, the Cisco Connected World Technologies Report (CCWTR) found that 42% of the global youth population and 77% of the youth population in Turkey 'would feel anxious like part of them was missing' if they were unable to continuously check their smartphones (CCWTR, 2012). Students may therefore experience anxiety, depression, and rage when they cannot access their phones, and these emotions are likely to last for the majority of the day until they can reconnect. (Cha & Seo, 2018). This may likely have a detrimental impact on their social interaction, psychological wellbeing and academic performance.

The researcher examines whether smartphone addiction and distraction may have an adverse influence on the mental health and academic performance of

university students in North Cyprus, as studies have revealed a direct correlation between educational outcomes and later-life economic and health outcomes.

Purpose of the study

The goal of the present study is to examine the influence of smartphone addiction and smartphone distraction on the psychological wellbeing and academic performance of university students. The researcher will concentrate on the emotional states of depression, anxiety and stress as measure of psychological wellbeing.

Research questions

The following research questions will lay the premise for this study:

1. Is there a relationship between smartphone addiction, smartphone distraction and the emotional states of depression, anxiety and stress among university students?

2. Is there a relationship between smartphone addiction, smaertphone distraction and the academic performance of university students?

Sub-questions

3. Is there a relationship between the age of the participants and smartphone addiction and distraction?

4. Are there significant differences in smartphone addiction and smartphone distraction based on gender?

5. Are there significant differences in smartphone addiction and smartphone distraction based on phone notification mode during class?

6. Are there significant differences in smartphone addiction and smartphone distraction based on smartphone storage during class?

Significance of the study

It is important to conduct this study as there are limited studies that link both smartphone addiction and smartphone distraction to academic achievement and the psychological well-being of university students. The majority of studies focused on either smartphone addiction and academic performance (Lepp et al., 2015; Spaci et al., 2021) or smartphone distraction and psychological wellbeing (Oraison et al., 2020; Yang et al., 2022). Furthermore, previous studies only measured smartphone addiction, not smartphone distraction as an independent construct (Chen et al., 2015; May & Eider, 2018). Therefore, this study will measure smartphone addiction and smartphone distraction separately in order to determine the influence that each of these factors may have on university students psychological well-being and academic performance. Moreover, limited research has been conducted on this problem as it applies to university students in North Cyprus.

The results of this research are intended to contribute to the current research on the influence of smartphone addiction and smartphone distraction on university students psychological health and academic performance. Additionally, the findings will also raise awareness of the problems associated with excessive smartphone use.

Due to the detrimental distractions caused by smartphones during class time, university administrations can use these findings to develop initiatives that discourage the usage of smartphones during active class hours. The results of this study can also be used by lecturers to develop creative strategies for retaining students' attention during lectures. It is hoped that as a result of this research, students would become aware of how smartphone addiction and related distractions impair their general psychological health and academic performance. This intention is to make them more self-conscious of their smartphone usage in order to increase their focus on course-related objectives.

Limitation

- The method of data collection, which depended on a convenient sampling approach, is a significant weakness of this study, as it has the potential drawback of not accurately reflecting the population under investigation and hinders the capacity to generalize. As a result, the findings and outcomes may

only be applied to the study population at Near East University and not to the broader student population or to other universities in North Cyprus.

- Another disadvantage of this study is that there are not enough relevant studies that examine the influence of smartphone addiction and smartphone distraction on university students' psychological wellbeing and academic performance.

- The questionnaire used for data collection was in English; hence, the study was limited to English-speaking students at Near East University and did not include Turkish students.

Definition of key terms

Academic performance: The term academic performance is the level of success students achieve in their studies across a range of subjects.

Emotional States: Emotional state is the state of a person's emotions, particularly happiness or sadness, that develops as a result of specific actions or situations (Pettinelli, 2013).

Psychological well-being: Psychological well-being is a term used to describe the inter- and intra-individual levels of positive functioning, which might include self-mastery and personal development (Plominski et al., 2018).

Smartphone: A smartphone is a portable device that provides access to the services available on a regular desktop computer without any time or space restrictions (Kim et al., 2014).

Smartphone Addiction: Smartphone addiction is the compulsive usage of a phone, which is mostly measured by how frequently users access their device and/or how much time they spend online in a certain time frame. (Wingmore, 2018).

Smartphone distraction (SD): Smartphone distraction is the inability to give one's full attention to the situations immediately surrounding them owing to the compulsive need to check the gadget. (David et al., 2015).

CHAPTER II

Literature Review

The aim of this study is to examine the influence of smartphone addiction and smartphone distraction on the psychological wellbeing and academic performance of university students in North Cyprus. This chapter covers the theoretical background related to smartphone addiction and smartphone distraction, relationship between smartphone distraction and smartphone addiction, smartphone usage among university students, smartphone use patterns of university students, effects of smartphone addiction and distraction on psychological health, smartphone addiction and distraction impact on academic performance and smartphone as a learning tool. The chapter also evaluates related literature on smartphone addiction and smartphone distraction, specifically with regard to their effects on university students' psychological wellbeing and academic performance.

Smartphone Addiction

The term "addiction" has been traditionally linked to drug usage, alcohol, gambling, among others. Majority of definitions for addiction emphasize drug use (Alavi et al., 2012), however, there is an increasing body of research that suggests that a wide variety of behaviors are potentially habit-forming or addictive (Sinha, 2009). As a result, researchers began to examine addiction from the perspective of the concept of behavioral addiction. This concept holds that addiction is not limited to experiences that include a direct biological effect but also includes experiences that exhibit excessive psychological and behavioral dependence on particular things or activities, such as gambling and internet addictions (Griffiths, 2005). To this effect, Rozgonjuk et al. (2018) defines "addiction" as compulsively using a drug or engaging in a behavior to the point where it interferes with one's day-to-day activities.

Smartphone addiction therefore refers to the involuntary and excessive use of smartphones that interferes with everyday life and leads to negative outcomes (Park & Lee, 2012). Individuals who are addicted to their smartphones experience a recurrent shift of attention from every day or important activities to consciously engage in a compulsive need with their smartphones (Park & Lee, 2014) Smartphone

use is typically related with the urge to be current on news and events as well as the need to stay in constant communication with friends and family, all of which contribute to smartphone addiction (Kim et al.,2019). Smartphone addiction has been associated with a variety of physical and mental health problems including headaches, dizziness, nausea, vomiting, anxiety, stress, depression, and even sleep disturbances (APA, 2013). A study by Alasdair and Phillips (2011) found that excessive use of smartphones can lead to fatigue, sleep difficulties, and damage to the eardrum, wrist, neck, and joints.

In addition, research has linked late-night smartphone use to increased suicidal thoughts (Oshima, 2012). According to Maya and Nizar (2016), smartphone addiction is strongly associated with perceived stress. In academic settings, excessive smartphone use has been linked to poor academic achievement as it's shown to divert students' attention away from their school work (Duncan et al., 2012; Wu &Chen, 2018).

Problematic Smartphone Use Pathway Model (PSUP)

Smartphone addiction and problematic smartphone use (PSU) can be used interchangeably. The problematic smartphone use pathway model was proposed by Billieux et al. (2015) and it captures the complexity of problematic smartphone usage and addiction symptoms, by placing an emphasis on psychological pattern such as anxiety symptoms and self-control. This model suggested three developmental pathways for PSU, namely; the excessive reassurance pathway, the impulsive pathway, and the extraversion pathway.

The excessive reassurance pathway refers to those who use PSU to seek and get reassurance from others while also maintaining their relationships (Lee et al., 2014). The term "excessive reassurance seeking" was initially identified in the interpersonal theory of depression and is now understood to be the relatively steady propensity to excessively and repeatedly seek assurances from others that one is loved and worthwhile, regardless of whether such assurance has previously been supplied (Lee et al., 2014). Previous research has linked excessive and unregulated social media and SMS (Short Message Service) use via smartphones to relationship

maintenance concerns (Lui et al., 2011). Communication via these social networking apps may serve as a reassuring channel, which may lead to excessive smartphone use. In this vein, researchers have proposed that this pathway is responsible for smartphone addiction, such as a sensation of dependence on the gadget (Lepp et al., 2015).

Additionally, it is hypothesized that both general and social anxiety are linked to PSU and excessive smart phone use (Lee et al., 2014). This indicates that the desire to constantly use the smartphone as a means of distraction and reassurance seeking is elevated among those with high levels of anxiety, low self-esteem, unsure attachment styles, depression, and neuroticism. Therefore, people with these issues may cling to their smartphones, using a variety of social media apps and text messages to distract themselves from their feelings while seeking comfort from loved ones (Drouin & Landgraff, 2011). This, in turn, may lead to an addictive PSU pattern (Zheng, 2014).

The impulsive pathway is associated with PSU patterns that are supported by deficits in impulse control, which in turn leads to unrestrained impulses and unregulated usage of the smartphone (Fjeldsoe et al., 2009). Several studies have found correlations between PSU and specific impulsive characteristics including lack of preparation, premeditation and urgency, which may result in the urge to act hastily in highly emotional situations (Khang et al., 2013). This pathway may also result in different types of PSU, including compulsive and antisocial usage, such that individuals tend to use their smartphones even in locations where it is forbidden (Billieux, 2012).

Lastly, the extraversion pathway describes people who exhibit symptoms of smartphone dependence and whose over-use is driven by a constant desire to build and maintain relationships, communicate with others; mostly via calls, SMS, and social media, and satisfy a constant need for stimulation and reward (Augner & Hacker, 2012). Extroverted individuals are more likely to seek out novel experiences and to use a wide range of communication methods to satisfy their social demands (Bianchi & Phillips, 2005). Individuals will therefore develop a reliance on and addiction to their smartphones if they help them achieve the desired results that they seek (Ehrenberg et al., 2008). In several investigations, researchers have discovered a

correlation between extroversion and PSU (Horwood & Anglim, 2018; Panda &Jain, 2018; Pivetta et al., 2019). According to Andreassen et al. (2013), extroverted people are more likely to suffer from behavioral addiction to mobile phones. Similarly, Volungis et al. (2019) showed that extraversion was a significant predictor of frequent texting.

Similar to impulsivity, it has also been proposed that the extraversion pathway might result in dangerous, addictive, and antisocial patterns of usage. Notably, the sensation-seeking tendencies that are typical of extraverted people can result in dangerous and antisocial patterns of behavior like sexting and cyberbullying (Stead & Bibby, 2017). According to Kita and Luria (2018), young extraverts are more likely to use their smartphones while driving.

Based on this model, smartphone addiction could be caused by either emotional and attachment-related factors, as described in the excessive reassurance pathway, or impulsivity and self-control-related factors, as described in the impulsive pathway.

Smartphone Distraction

The term "technology distraction" has been widely used as a catch-all phrase for a variety of technology-related occurrences that divert attention from other tasks (Seemiller & Stover, 2017). Over the years, the smartphone is one technological advancement that has been investigated as a potential cause of distraction (Wu & Xie, 2018). Behaviors that have been frequently attributed to smartphone distraction include multitasking on smartphone devices, sending texts or instant messages while working on other tasks, compulsively checking one's phone, FOMO (Fear of Missing Out), and cyblerloafing (Przybylski et al., 2013).

Distraction primarily involves the shifting of focus and attention from one job to another (Weksler &Weksler, 2012). Hence, smartphone distraction (SD) describes the phenomenon in which the use of a mobile device prevents its user from paying complete attention to their immediate surroundings (Chu et al., 2021). According to Throuvala et al. (2021), this distraction is caused by external cues like alerts, internal

ideas about checking the smartphone, such as FOMO; or a conflict between the two. When these external and internal stimuli collide, the executive system that is responsible for cognition, organizing and regulating information, becomes engaged, and this may lead to attention discontinuity and inefficiency (Wegmann et al., 2020). According to Rozgonjuk et al. (2019), smartphones disrupt these attention networks, which leads to distraction.

Distraction-Conflict Theory (DCT)

The distraction-conflict theory was formulated by Robert Baron and is based on the idea of conflict between attention to one item and attention to another object (Baron, 1986). There are three important steps in this model which includes; distraction by others, distraction leads to conflict, and conflict leads to stress (Nicholson et al., 2005). According to studies, when an individual is surrounded by others, it is tough to focus on one item at a time (Baron et al., 1978). When performing a task, one may feel compelled to pay attention to the distractor; such as a smartphone, especially if it is attention-grabbing and impossible to ignore (Baron, 1986).

Distraction is said to originate from within or from without (Nicholson et al., 2005). Distractions from the outside can include social engagements, music as well as texts and phone calls. Internal distractions on the other hand may include hunger, exhaustion and worry (Leung 2015). External and internal distractions may both contribute to the loss of focus (Schumm & Post, 1997). Smartphone distraction can be explained by the "distraction-conflict theory" (Leung, 2015), such that, due to the widespread use of smartphones, its portability and its ease of accessibility, it has the potential to serve as a means of distraction (David et al., 2015).

Smartphone distraction may be initiated by either a text tone or ringtone, by seeing social media alerts or internet updates from friends and family (Brooks, 2015). In order to stay up to date on the activities of their friends and family on social networking sites, smartphone users tend to skim through their feeds, comment on posts, send movies and photos, reply to text messages, watch videos, among others (Wu et al., 2018). Research by Thomee et al, (2011) reveals that students are constantly distracted by their smartphones even while they are studying or in a

lecture which might have a detrimental effect on their ability to recall important information.

Relationship between Smartphone Distraction and Smartphone Addiction

Theoretical frameworks have consistently shown that distraction and smartphone addiction may be connected (Billieux et al., 2015; Davis, 2001). As suggested by the cognitive-behavioral model of pathological internet use (Davis, 2001), smartphone addiction may be maintained by conditioned reactions to online-related cues. Throuvala et al. (2021), based on this theory, argued that Smartphone Distraction, which is a common response to online signals like alerts, could be a predictor of Smartphone addiction. Additionally, the I-PACE (Interaction of Person-Affect-Cognition-Execution) model for internet use disorders reveals that distraction may predict smartphone addiction (Brand et al., 2019). People with internet use disorders, for example, may have an uncontrollable urge for certain behaviors like checking smartphone notifications, which might serve to reinforce the addictive nature rather than a means to gain gratification (Brand et al., 2019).

Moreover, recent studies have also established a link between smartphone addiction and distraction (Yang et al., 2021; Oraison et al., 2020). According to a study by Throuvala et al. (2021) there is a positive correlation between SD and smartphone addiction. In contrast to this finding, Oraison et al. (2020) reported a negative correlation between SD and smartphone addiction. However, their study made use of inverse scores from a mindfulness scale to quantify participant distraction rather using validated smartphone distraction scale.

Studies on SD are increasingly concentrating on students, particularly those in higher educational settings (McCoy, 2020; Ragan et al., 2014). Smartphones have been praised for helping students study because they give them easy and quick access to a lot of educational resources. However, they have also been criticized for distracting students in class, which could have an effect on their academic performance (Andrews et al., 2015). Nenstial (2019) established that between 58.5% and 97.5% of college students in the United States admitted to using smartphones on a regular basis in the classroom. According to Troll et al. (2021), undergraduate students reported that smartphones are much more distracting during lectures than

any other digital device. Similarly, Cho and Lee (2016) looked into the effects of smartphone use and distraction on nursing students performance in a clinical setting. 24.7% of respondents admitted to being distracted by their phones.

Smartphone distraction has also been reported to have a variety of unfavorable effects on an individual (David et al., 2015). According to Oviedo-Trespalacios et al. (2016), SD has a negative effect on tasks like learning and driving. Some studies have also linked SD to psychological problems. Researchers found that the mental health problems of Chinese college students are positively correlated with their level of SD (Chu et al., 2021). In addition, Oraison et al. (2020) found that SD was positively related to high levels of stress, anxiety, and depression.

Smartphone usage among University Students

Numerous studies have found that the majority of university students own a smartphone (Mohtar et al., 2013; Alfawareh & Jusoh, 2014). University faculty and students are increasingly able to use smartphones as tools for academic work (Ajagbe et al., 2013). According to Anshari et al. (2017), many students use their smartphones to access online resources for learning. Also, research conducted by Al-Harrasi and Al-Badi (2014) revealed that smartphones give college students easy access to vast stores of material that may be used in their studies.

However, other studies tend to imply that students mostly use their smartphones for social activities while they are studying or in lectures. According to Hingorani et al. (2012), smartphones are becoming more popular for accessing internet sites, especially among university students. Research conducted by Harrasi and AlBadi (2014) revealed that up to 96% of college students use their smartphones for social networking purposes of all kinds, with 71% of them saying they use these platforms to contact their friends, family, and other loved ones. A study by Lau et al. (2017) found that both graduate and undergraduate students at a leading Japanese institution used their smartphones for purposes other than studying. Similar study conducted in South Korea indicated that while most students have access to 80 apps on their cellphones, only 16% of those apps are used for educational purposes (Park & Lee 2012).

Moreover, it has been found that the widespread availability of mobile phones among students has caused them to change their spending habits to the point where they are willing to forego necessities like food and rent in order to keep up with their social lives (Olukotun et al., 2013). In this survey, students reported that they would rather go hungry than to be without smartphone service.

Smartphone Use Patterns of University Students

University students' smartphone usage may follow a variety of distinct patterns, depending on factors such as how long they've been using them, how often they check them, how often they access the Internet from their phones, how often they check their messages, among others. Deloitte's (2017) research uncovered the mobile phone habits of college individuals between the ages of 18 and 24. The researcher discovered that over 50% of them check their phones first thing in the morning. Also, 30% of these students were found to check their phones within the first five minutes of waking up. Over 70% of people also made a quick phone check within the first half hour after waking up.

Furthermore, Gezgin (2017) investigated how the patterns of smartphone internet use influenced the degrees of nomophobia (fear of missing out) among 645 university students. According to his findings, 35.7% of the participants check their smartphones for mobile internet apps, more than 49 times per day, and 37.5% of the participants utilize mobile internet for more than 4 hours each day.

Additionally, Fernandez et al. (2017) conducted a cross-cultural empirical study to learn more about young people dependency on smartphones. According to the survey, an average weekday and weekend involved 3 hours of mobile phone use. The same data revealed that young people spend between 14 to 43 hours every week on their smartphones. Aljomaa et al. (2016), found that 64.7% of university students use smartphones for more than 4 hours a day. A study of 269 female college students from Taiwan also found that students average daily smartphone use time was 102.61 minutes, which represented 1.71 hours (Hong et al., 2012). They also looked at the smartphone usage and addiction of 1519 young people. It was found that the majority of them used their smartphones for between 3–6 hours on a regular day

(42.8%), and the most severe users, which represented 8.2%, used them for more than 6 hours a day (Hong et al., 2012).

Effects of Smartphone Addiction and Distraction on Psychological Health

Psychological well-being, according to Rehman and Sohlai (2018), is an umbrella term that includes self-esteem, self-concept, mood, mentality, and quality of life. Smartphone addiction have been identified as a significant trigger for a number of psychological and behavioral adaptation issues (Soni et al., 2017; Yang et al., 2019). A study by Torrecillas (2007) found that, unlike drug addiction, which has physical manifestations, smartphone addiction has mostly psychological manifestations, such that those who are addicted to their smartphones are unable to focus on their life work or education, avoid social interaction, and are always attached to their devices (Khang, 2014). This is supported by the fact that several studies have discovered a negative correlation between excessive smartphone use and several aspects of well-being, mood or anxiety problems, and subjective happiness (Chen & Li., 2017; David et al., 2018; Hughes & Burke, 2018).

Conversely, other researchers also argue that psychopathological elements may contribute to smartphone addiction (Chiu, 2014). According to Kim et al. (2015), depressed people use their smartphones more frequently to block out unpleasant feelings. However, there is the possibility of a vicious cycle between problematic use behavior and psychopathology, since high levels of use might unintentionally exacerbate stress, anxiety and other psychopathological symptoms (Wickord & Quaiser, 2022). Moreover, components of poor mental health, such as anxiety and depression, is shown to have unfavorable consequences on a person's disposition, motivation, sleep, physical health and self-esteem (APA, 2013; Sowislo & Orth, 2013; Valiente et al., 2012).

Anxiety, Smartphone Addiction and Distraction

According to Barlow (2002), anxiety is an uncontrolled, broad, unpleasant, and prolonged feeling of negative affect marked by anxious expectation of unforeseeable and inescapable future danger, and accompanied by physiological signs of tension and heightened attention. The American Psychological Association (APA) describes anxiety, as a negative emotion which is characterized by feelings of

tension, anxious thoughts, and bodily changes such as raised blood pressure. In previous research, anxiety, which is found to be the most common mental health issue among adults and college students alike, has received particular attention (Hawi & Samaha, 2017).

Researchers have been interested in two distinct forms of anxiety related to smartphone addiction. The first is referred to as FOMO, or the Fear of Missing Out (Rosenfeld, 2017). FOMO is the need to continually check social media platforms and the want to be aware of everything going on in one's social circle (Rosenfeld, 2017). The driving force behind fear of missing out is a want to participate actively in the lives of others (Barkley, Karpinski, & Lepp, 2014). Although the need for knowledge may appear insignificant, studies have shown that if it is not satisfied, it can lead to undesirable outcomes, such as increased stress and anxiety (Hashemi et al., 2022).

In a study done by Wolniewicz et al. (2018), the fear of missing out (FOMO) was found to have a moderate relationship with problematic smartphone use (PSU), and PSU was found to have a strong relationship with social smartphone use. The majority of research on FOMO is more concentrated on how this form of anxiety is related to social media use, but this study demonstrates that excessive smartphone use can also cause FOMO. FOMO, which frequently begins as a basic curiosity, may turn into an overwhelming worry (Wolniewicz et al., 2018) Continually viewing the greatest parts of other people's life might make one feel disappointed in their own, which can cause a time of tension, despair and unhappiness and in turn lead to the need to check one's phone more frequently (Barkley et al., 2014).

The second form of anxiety related to smartphone dependency is more comparable to that of social anxiety disorder. With this subtype of anxiety, scholars are particularly interested in the phenomenon wherein people use their phones to avoid dealing with or engaging with other people (Enez Darcin et al., 2016). Researchers in China surveyed hundreds of university students to learn more about the relationship between smartphone dependence, low self-esteem, and social anxiety. They discovered that those with poor self-esteem tend to have more social anxiety and be more sensitive to assessments as a result of faulty cognitions and maladaptive emotion regulation (You et al., 2019). The authors add that, these individuals use their mobile phones excessively in order to feel secure in their social

interactions. According to You et al. (2019), since mobile phones are so widely available, they are useful for people who want to escape reality. These people are therefore more prone to using their phones excessively (You et al., 2019). However, the current study, investigates whether smartphone addiction causes anxiety in its users, specifically anxiety related to the desire to be always present in their social space or missing out on information from their social networks.

Depression, Smartphone Addiction and Distraction

Depression is a mental condition characterized by a persistent feeling of melancholy and a general lack of interest in most activities (Salik & Marwaha, 2020). Symptoms of depression include feelings of melancholy, emptiness, or irritability, as well as physical and mental shifts that make it difficult for the person to carry out daily tasks (Ormel et al., 2019). Researchers have closely explored the link between smartphone addiction and anxiety, but depression has not received as much attention. There is currently limited research explicitly relating smartphone addiction to depression, and the general agreement on this connection appears to be less clear than that of anxiety (Dissing et al., 2022).

According to the findings of a study that investigated the relationship between depression, attachment styles, and smartphone addiction, there is a significant and positive relationship between depression and smartphone addiction. The study further revealed that depression can also help predict smartphone addiction among college students (Ghasempour & Mahmoodi-Aghdam, 2015). According to the researchers, one possible explanation is that depression symptoms cause people to have low self-esteem and struggle more when interacting with others face to face. As a result, persons with depression will avoid face-to-face interactions in favor of other forms of communication like using their phones (Ghasempour & Mahmoodi-Aghdam, 2015). However, persons who spend more time using their phones are shown to have greater levels of depression (Demirci et al.,2015). These individuals tend to experience loneliness without their smartphones and this frequently leads to chronic sadness, which is frequently accompanied by obsession, tolerance, lack of control, withdrawal, mood alteration, conflict, excessive usage, and loss of interest (Alhassan et al., 2018).

Stress, Smartphone Addiction and Distraction

The term stress refers to a mental health condition that occurs when a person's well-being is threatened by external stimuli (Arslan,2017). Smartphones are now a substitute for other communication channels and have become more multifunctional as a result of the numerous applications they run (Kim et al., 2014). Smartphones are built to be carried around constantly and keep users connected at all times, ensuring that they never get bored and can get work done at any given time (Rush, 2011). As a result, many people have developed a serious dependence on their smartphones (Rush, 2011). A lack of access to one's smartphone might disrupt their sense of well-being and lead to stress as a result of the strong sense of belonging the individual have developed with it (Carbonell et al., 2013). Moreover, when these individuals are unreachable, cut off from their social circle, or otherwise fall behind in information, they experience feelings of persistent stress until they regain access to their phones (Sayrs, 2013).

A study by to Lee, Chang, and Cheng (2014) revealed that people experience stress when they cannot access their smartphones. According to the researchers, individuals who are dependent on their smartphones become anxious when they are away from their phone because they believe it is required to carry out certain tasks, achieve certain objectives, or satisfy certain desires. As a result, when the smartphone is out of their reach, they become anxious because they believe they can no longer function normally (Lee et al., 2014).

The Impact of Smartphone Addiction and Distraction on Academic Performance

The term academic performance is the level of success students achieve in their studies across a range of subjects. This refers to how well students manage their studies and successfully fulfill the many tasks that their teachers asign to them (Bedassa, 2015). Many studies and research projects have been carried out in various parts of the world, and the outcomes have demonstrated that there is a connection between students' use of smartphones and their academic achievement (Damiao & Cavaliere, 2021; May & Eider, 2018). The constant usage of smartphones by students diverts them from their studies and might harm their

academic achievement (Froese et al., 2012). Moreover, Rathakrishnan et al. (2021) demostrates that using smatphones particularly for social networking, messaging, and talking, lowers students' grades and hinders their academic performance. According to a research by Sundari (2015), some students have a bad habit of leaving their phones on throughout lectures, study sessions, and even when at the library, disrupting other students and leads to information loss and poor retention and comprehension of academic materials. The study claims that it is difficult for teachers to manage student mobile phone usage during class time since it seems that students are unable to regulate their smartphone use, which causes distractions. When asked why they use their cellphones in the classroom , students admitted that they use them to send and read SMS as well as receive phone calls during class hours (Sundari, 2015).

Although it has been observed that excessive usage of smartphones can negatively impact students' ability to focus and learn, there are also claims that this technology has contributed to an improvement in the quality of education (Nehra & Mehrotra, 2022). A few educational institutions urge their students to bring their smartphone to class as a learning gadget (Eysenbach, 2014). Students with internet-enabled smartphone have easier access to a wide range of academic resources online; however, when attempting to obtain educational resources online, students may be tempted to use a variety of social media platforms (Bedassa, 2014). Most often, students spend nearly all of their time on social media and overlook the course resources they had initially meant to acquire (Bedassa, 2014). The use of smartphones allows students to merge their duties as students with other social interactions, which distracts them from their academic work and causes disruptions in their studies. (Soyemi, 2015).

The Smartphone As a Learning Tool

Although research has indicated that students' use of smartphones may distract them from their studies and hinder their academic performance, the mobile device have also been proven to be an essential tool that promotes learning (Ifeanyi & Chukwuere, 2018). According to Pullen et al. (2015), the smartphone is an internet-enabled device incorporated with a variety of computer programs and

applications and this has made it advantageous in the field of education, such that learning can now take place irrespective of geographical location or period of time. Due to its perceived usefulness, such as affordability, flexibility, popularity, and other valuable features, the majority of educators have begun to adopt the use of smartphones in the classroom (Ismail et al., 2013; Pullen et al., 2015).

Smartphone usage for learning has become the newest trend in higher education, where a computer is not always required for access to electronic learning resources and students no longer depend solely on paper-based materials (Ifeanyi & Chukwuere, 2018). Smartphones, in the opinion of Pullen et al. (2015), have helped to lessen the inherent limitations of traditional classroom learning by facilitating flexible and simple learning. Smartphones may enable learning to take place either online or offline such that users of smartphones may keep any kind of educational content offline, including PDFs, PowerPoint presentations, Word documents, Excel spreadsheets, images, animations, and symbols, regardless of where they are physically located (Pullen et al.,2015). In addition, Kumar (2011) found that the smartphone enables lecturers to communicate with their students from anywhere and at anytime, and students may download electronic books and courses that have been recorded online to help them study more effectively. Norries et al. (2011) claim that in addition to allowing students to access and read contents, smartphones also allow them to take pictures of abstract concepts during lectures so that they may subsequently make connections between the concepts and real-world examples.

A study conducted by Almansour and Alzougool (2017) on the use of smartphones for learning activities by university students in Kuwait revealed that the usage of smartphones plays a significant part in the educational pursuits of students, such that students use their smartphones to register for classes, check their lecture and test schedules, check their grades, participate in group discussions, read announcements, and pay their school fees, among other things. In a similar vein, Mohtar-Hassan (2013) revealed that students use their smartphones to share notes with one another, record lectures, take images of assignments for future reference, and share test results with their peers. Moreover, Tuncay (2016) investigated the use of smartphones for distant learning at the British University of Nicosia and discovered that smartphone has greatly improved the effectiveness of remote learning. The authors found that the smartphone gives students the option to save all

of their lesson materials on a small smartphone device instead of hauling bulky computers or books and lecturers are also able to communicate with their students online at any time. Contrarily, while some features of the smartphone are said to improve education and learning, excessive usage of the device might negatively impact students' physical, psychological, social, and educational well-being (Kang & Jung, 2014).

Related Research

Smartphone addiction, smartphone distraction and Academic Performance

Froese et al. (2012) investigated how smartphone use and distraction by text messages affected students' retention of lecture materials. 82 participants were selected for the study using a simple random sampling technique. An experimental method was employed to determine students' actual performance under smartphone use conditions. During the experiment, some participants were asked to hide their phones and not to use them at all throughout the lecture. The other group of participants were told to put their phones on vibration and respond instantly to any message they received from the researchers. After the lecture, participants were given a quiz to test their comprehension of the subject presented. The finding showed that, participants who placed their phones away during the lecture had higher quiz results than those who received and responded to text messages (Froese et al., 2012).

In contrast, Bulent et al. (2014) carried out a study to investigate the relationship between excessive smartphone use, metacognitive awareness, and academic achievement. Mobile phone usage was calculated based on the number of texts and calls made, as well as the time spent on the phone. The metacognitive awareness questionnaire was used to assess awareness, while overall GPA was used to assess academic performance. Using a convenience sampling approach, 209 college students was selected to take part in the study, which was carried out at a private institution in the southeast of Turkey. The findings suggested that there is a positive relationship between phone usage and academic performance, as well as metacognitive awareness (Bulent et al., 2014).

Lepp et al. (2015) also looked at the correlation between compulsive smartphone use and actual grades in college after adjusting for known factors. 536 undergraduates from 82 different majors were selected from a large public institution for the study. The results of the study showed that smartphone use was adversely correlated to college GPA. The results revealed that more frequent smartphone use was connected with worse academic achievement (Lepp et al., 2015).

Chen et al. (2015) studied the smartphone addiction and distraction level among college students as a means of understanding the difference between these variables and students self-regulated learning and learning flow. Using data from a survey and interviews with 210 college students in Seoul, researchers found that those with greater addiction levels had lower levels of self-regulated learning and study flow. More in-depth interviews with the smartphone dependency group revealed that participants lacked the self-discipline to take charge of their own learning strategy and pace when using smartphones. They were shown to also have a hard time concentrating on their schoolwork since they are always distracted by their phones (Chen et al., 2015).

Hawi and Samaha (2016) also investigated the relationship between smartphone addiction and academic performance among students at Notre Dame University in Lebanon. 300 college students participated in a survey that was administered through the student's information system. The survey questionnaire included demographic data as well as responses to measures of smartphone addiction and the perceived stress. The CGPA was a metric used to evaluate academic success, and it could be found in the formal university records. The results demonstrated a positive correlation between smartphone addiction risk and stress levels but a negative correlation with academic achievement (Hawi & Samaha, 2016).

Rabiu et al. (2016) investigated the effect of smartphone usage on the academic performance of pupils in senior secondary schools. The information was acquired from 300 students through a stratified sampling technique and a structured questionnaire which measured smartphone usage and academic. The findings point to the conclusion that there is no significant effect of the frequency of mobile phone use on the academic performance of secondary school students (Rabiu et al., 2016).

Another study conducted by May and Eider (2018) looked at the relationship between smartphone addiction and multitasking, a habit that is usually linked to smartphone distraction, and college students' academic performance. The independent variable was smartphone addiction, while the dependent variables were GPA, test scores, memory, reading comprehension, taking notes, self-control, and efficiency. Using a convenience sampling method and a structured questionnaire, 361 college students from Iqra University provided the data for this study. The questionnaire included items that assessed the relationship between smartphone addiction and multitasking in various academic situations and for various activities. The outcome showed that smartphone addiction and multitasking have a negative influence on GPA, exam performance, recollection, reading comprehension, taking notes, self-regulation, and efficiency (May & Eider, 2018).

Nayak (2018) studied the effects of mobile phone addiction on students' academic performance as well as the influence of gender and student relationships on the usage of mobile phones. Data was gathered for the study from university and higher education students at various technological institutes in India. Utilizing a convenience sampling strategy, a questionnaire was created and given to a sample size of 429 students. The questionnaire asked questions regarding changes in behavior, loss of self-control, preventing panic attacks, effects on work, excessive use of smartphones, among others. Academic achievement was measured using self-reported GPA. The results showed that, aside from behavioral changes, smartphone addiction had no effect on the academic performance of female students. In contrast, male students who used smartphones frequently neglected their school work, felt worried, and lost control of themselves, which had a negative impact on their academic performance (Nayak, 2018).

Khan et al. (2019) examined the relationship between smartphone addiction and academic performance, using time management as a moderating variable. He surveyed 360 undergraduates using a self-administered questionnaire from two separate private institutions in Rawalpindi, Pakistan. To measure smartphone addiction, he made use of both the Smartphone Addiction Inventory and the Estonian Smartphone Addiction Proneness Scale. Overall academic success was evaluated using grade point average (GPA). The results revealed a significant negative correlation between smartphone addiction and GPA among college students. It was

also shown that students who are able to effectively manage their time across various social networks, including sites like Facebook, Twitter, Instagram; perform better academically than those who are unable to do so (Khan et al., 2019).

Damiao and Cavaliere (2021) sought to ascertain the relationship between smartphone addiction and undergraduate college students' grade point averages (GPA) in the United States. 53 college freshmen where selected to participate in this study through a convenient sampling technique. A survey data was used to calculate the overall grade point average (GPA) and the smartphone addiction levels of participants. The findings of the study revealed that there is negative relationship between smartphone addiction and GPA.

Rathakrishnan et al. (2021) also conducted a study to investigate the relationship between smartphone addiction, sleep quality, and academic performance in 323 students attending a public university in Sabah. The study used a simple random sampling method to select these participants and they were asked to fill a structured questionaire which assessed self-reported CGPAs, sleep quality and smartphone addiction levels. The results showed that university students' academic performance was negatively correlated with their smartphone addiction.

Similarly, researchers Sapci et al. (2021) conducted a study to determine if and how frequent smartphone use by college students influences their performance in the classroom. A total of 99 iPhone-using college students from a prominent Midwestern US institution were surveyed. The poll combined objective smartphone usage time derived straight from Apple's Screen Time feature with official GPA and ACT/SAT scores from college records. The authors analyzed the correlations between demographics, ACT/SAT scores, school-related characteristics, study-related variables, socioeconomic factors, and time spent on smartphones, as well as GPA and self-reported indicators of academic performance. The results showed that the average current term GPA dropped by 0.152 points for every additional hour a day that students spent using their phones. This study provides substantial evidence that frequent smartphone use negatively affects grades (Sapci et al., 2021).

According to a more recent study, smartphone addiction may affect students' academic performance both positively and negatively. Nehra and Mehrotra (2022) investigated the impact of smartphone addiction on the educational outcomes of

young people, focusing on high school pupils in the Indian state of Rajasthan. The data was collected from 425 students aged 13–19 using an online questionnaire. Two key findings emerge from the data, both of which are critical to understanding how students' smartphone dependence affects their academic performance. The unfavorable side showed that excessive usage of smartphones by students has a negative effect on both their capacity for learning and their overall academic achievement. On the other hand, the study provides evidence that the usage of smartphones by students improves their skills and cognitive capacities, which in turn leads to improvements in their academic performance. Based on these findings, the authors recommended that effective strategies should be used in all educational settings to help students develop positive smartphone use habits (Nehra & Mehrotra, 2022).

Smartphone Addiction, Smartphone Distraction and Psychological Wellbeing

Augner and Hacker (2012) investigated the relationship between psychological variables and excessive mobile phone use. A questionaire was sent to a selected sample size of 196 young adults who answered questions about short message services, daily mobile phone usage in minutes, and traits related to mental and physical health, such as chronic stress and depression. The results showed that young adults who use their phones excessively have a higher risk of developing mental health problems like depression, emotional instability, and anxiety (Augner & Hacker (2012).

Hong et al. (2012) investigated the link between smartphone addiction, smartphone usage behavior, and psychological characteristics. There was a total of 269 female students selected at convenience from three different Taiwanese institutions. The authors employed a quantitative approach to their study by having participants fill out a mobile phone usage questionnaire, a mobile phone addiction scale, a self-esteem measure, and a personality trait assessment. Results showed that smartphone addiction is positively related to anxiety levels and social extroversion (Hong et al., 2012).

In a similar study, Ikeda and Nakamura (2014) investigated the relationship between high school students' psychological states and the amount of time they spent

using their mobile phones. 2,785 high school students from Niigata, Japan participated in the study. The researchers employed a self-administered questionnaire to gather data on sex orientation, school year, the number of hours spent on mobile devices, and psychological mood conditions. The five-subcomponent Mood Inventory was used to assess psychological mood. This inventory assessed tension and elation, refreshing mood, fatigue, depressed mood, and anxious mood. The findings demonstrated a link between prolonged phone use and a negative psychological state, particularly a depressed mood (Ikeda & Nakamura, 2014).

Demiraci et al. (2015) also examined the relationship between smartphone usage intensity, depression, anxiety, and sleep quality among university students. 319 university students were chosen at random to participate in the study. Participants were divided into three groups: those who didn't use smartphones at all, those who used them occasionally, and those who used them often. The results revealed that those who used their smartphones often scored higher for depression, anxiety, and daytime dysfunction than those who used them occassionally. Moreover, results from the Smartphone Addiction Scale showed a positive relationship with depression, anxiety, and sleep quality (Demiraci et al., 2015).

Kumcaiz and Gündüz (2016) investigated the relationship between smartphone addiction and the psychological well-being of university students. This research involved 408 students that were chosen at random from Ondokuz Mayis University. The authors used a quantitative approach by disseminating a structured questionnaire that measured smartphone addiction and psychological wellbeing. The findings suggested that a negative significant relationship exists between smartphone addiction and university students' levels of psychological well-being. They discovered that as the students' ratings on psychological well-being increased, their scores on smartphone addiction declined (Kumcaiz & Gündüz, 2016).

Similarly, Lee et al. (2016) looked at the connection between anxiety and smartphone dependence. 1,236 students were selected through a convenience sampling from six institutions in Suwon, South Korea. Participants filled up sociodemographic information, indices of anxiety and smartphone dependence. The findings of this study established that a positive correlation exists between smartphone dependence and anxiety levels of students (Lee et al. (2016).

Hawi and Samaha (2017) carried out a study to investigate the connections between family relationships, anxiety, and smartphone addiction. 381 university students who were selected using a simple random sampling technique completed an online survey which provided information about their smartphone addiction and anxiety levels. The findings revealed that undergraduate students who were addicted to their smartphones were more likely than those who were not addicted to have high levels of anxiety (Hawi & Samaha, 2017).

Furthermore, Munderia and Singh (2018) explored the relationship between mobile phone dependency and psychological wellbeing. A sample of 243 participants were selected at random for the study. The participants of the study filled out a mobile phone dependency and psychological wellbeing measure. The results suggest that prolonged smartphone use negatively affects psychological wellbeing.

Ithnain et al. (2018) also studied undergraduate students at a Malaysian local university to determine the relationship between smartphone addiction, anxiety and depression. Data were gathered from 369 students through a structured questionnaire which provided information about anxiety, depression and smartphone addiction levels of the participants. The results showed that a statistically significant positive relationship exists between smartphone addiction, anxiety and depression (Ithnain et al., 2018).

Oraison et al. (2020) also investigated the relationship between psychological factors, smartphone addiction and distraction. Using a combination of qualitative and quantitative methodologies, the study looked at these connections within a group of Australians. A total of 164 participants were selected from Victoria University campus and online through various social media platforms. Participants filled out a battery of standardized questionnaires, including the Depression, Anxiety and Stress Scale, the Smartphone Addiction Scale, and the Mindful Attention Awareness Scale. Furthermore, qualitative interviews were conducted with seven individuals. The findings indicated that smartphone addiction and distraction strongly predicted increased stress, depression, and anxiety levels (Oraison et al., 2020).

Lian et al. (2021) examined the relationship between mobile phone addiction and psychological distress, as well as the moderating effects of rumination and the ability to be by oneself. A convenience sample method was used to select 754 high

school pupils to participate in the study. Participants filled out a structured survey that included a measure of the mobile phone addiction, depression, anxiety and stress, as well as ruminative response. According to the results, mobile phone addiction was significantly and positive related with psychological discomfort (Lian et al., 2021).

A research was carried out by Al Battashi et al. (2021) to look at the relationship between smartphone use, anxiety, and Insomnia among college students. A convenience sample of 404 students from a public institution answered questionnaires including questions from the Smartphone Addiction Scale, the Depression Anxiety Stress Scale, and the Insomnia Severity Index, along with basic demographic information. The result of the data after analyses revealed that the Depression Anxiety Stress scale's scores were significantly and positively correlated with the smartphone addition scale scores (Al Battashi et al., 2021).

Contrarily, Raymond and Kartasasmita (2021) looked at the relationship between smartphone addiction and the psychological well-being of young adults. The writers used a quantitative research technique in this study. A snowball sampling technique was used to select 91 individuals between the ages of 18 and 25 to take part in the investigation. Participants filled out a structured questionnaire which included a measure of a smartphone addiction and psychological wellbeing. The results showed that there is no correlation between smartphone addiction and the psychological wellbeing of young adults, which means that smartphone addiction and distraction does not affect psychological wellbeing in anyway (Raymond & Kartasasmita, 2021).

Yang et al. (2022) also looked at the relationship between smartphone distraction, problematic smartphone usage, and mental health conditions. 320 smartphone users were selected for the study, using a combination of convenience sampling, random selection and snowball sampling. The questionnaire was made up of a measure of depression, anxiety and stress, smartphone addiction and smartphone distraction. The results showed a positive significant relationship between smartphone distraction, smartphone addiction, anxiety, depression, and stress. It was also found that PSU mediated the relationship between SD, depression and anxiety (Yang et al., 2022).

Hashemi et al., (2022) also investigated the relatioship between excessive cell phone use and depression, anxiety, and stress among Iranian university students. A combination of stratified and clustered random sampling was used to select 212 Lorestan University of Medical Sciences students at random. The data collected provided information about cellphone overuse, depression, anxiety and stress levels of the participants. The outcomes uncovered a significant positive relationship between cell phone over use, stress and anxiety. However, there was no significant link found between depression and cell phone overuse. (Hashemi et al., 2022).

The examined literature indicates that smartphone addiction and smartphone distraction can have either a favorable, a negative, or no relationship with academic performance. In terms of psychological wellbeing, the majority of studies indicates that smartphone addiction and smartphone distraction negatively impacts psychological wellbeing, with the exception of a study conducted by Raymond and Kartasasmita (2021), which indicates that there is no correlation between these variables. Few studies have also highlighted gender, social isolation, and self-control as variables that impact how smartphone addiction and smartphone distraction affects psychological wellbeing and academic performance.

CHAPTER III

Methodology

This chapter offers a comprehensive explanation of the methodology implimented in the current study. The chapter includes information on the research design, sample as well as data collection and analysis procedures. This section also discusses the various statistical approaches that were utilized to analyze the data acquired.

Research Design

The study made use of a quantitative research methodology. The research was conducted using a quantitative approach in order to acquire objective data that was not influenced by the researcher's personal opinions and perspectives (Williams, 2021). The study employed a correlational research model to assess the relationship between smartphone addiction, smartphone distraction, emotional states of depression, anxiety and stress and academic performance. A correlational model is a type of non-experimental research technique in which a researcher investigates two variables and evaluates the statistical relationship between them without taking into account the influence of any other variable that is not directly related to the study (Carlson & Wu, 2012).

Participants/Population and Sample

The target population of this study consists of university students in the Turkish Republic of North Cyprus. A sample was taken from this population to participate in the study by using a convenience sampling design. Convenient sampling design is a non-probability technique where respondents are selected because of convenience, accessibility, and proximity to the researcher (Saunders et al., 2012). The sample size of this study consists of 385 students from Near East University (NEU). This sample was chosen since the exact population of university students in the Turkish Republic of North Cyprus is unknown and this is a suitable sample size for an unknown population. The sample size was calculated using the sample size formulae for an unknown population. According to Shete et al. (2020),

the sample size of an unknown population can be calculated using the formulae below:

Sample Size $S = (Z\text{-score})^2 \times p \times (1-p) / (m)^2$, where S is the sample size for an infinite population, Z is the Z-score or confidence interval, p is the standard deviation and m is the margin of error. 381 responses were analyzed, since five (4) questionnaires were omitted due to a significant amount of missing data.

Table 1

Descriptive Statistics for Demographic variables

Variable	Frequency	Percentage
Gender		
Male	184	48.3%
Female	197	51.7%
Smartphone storage during class		
Desk	155	40.7%
Bag/pocket	226	59.3%
Phone notification mood during class		
Silence	254	66.7%
Vibrate	117	30.7%
Ring	10	2.6%
CGPA		
Less than 1.99	143	37.5%
2.0-2.99	150	39.4%
3.0-3.5	60	15.7%
3.5-4.0	28	7.3%
Age		
Minimum	**Maximum**	**Mean**
18.00	32.00	23.90 ± 3.889

Table 1 above shows that the participants of the study was made up of 184 (49.3%) males and 197 (51.7%) females. The table also reveals that 155 (40.7%) participants kept their smartphones on the desk during class, while 226 (59.3%) kept their phones in their bag/pocket. Additionally, majority of the participants admitted that their smartphone is always on silence during class and this made up 254 (66.7%) of the sample size. Also, 117 (30.7%) students said that they put their smartphones on vibrate mode, while 10 (2.6%) leave the smartphones on ring during class. It can also be seen from the table that 143 (37.5%) participants reported that they had a

CGPA of less than 1.99, while majority of the students which made up 150 (39.4) of the total sample had a CGPA between 2.0-2.99. Also, 60 (15.7%) students said that they have a CGPA between 3.0-3.5 and 28 (7.3%) students have a GCPA between 3.5-4.0. The data above also shows that the minimum age of participants who took part in the study was 18 years and the maximum age was 32 years. The mean age is 23 years, while the standard deviation for age is at 3.889.

Data Collection Tools/Materials

The study made use of a structured questionnaire. The questionnaire included a socio-demographic form as well as three standardized scales namely; Smartphone Addiction Scale (SAS), Smartphone distraction scale (SDS) and Depression, Anxiety and Stress Scale (DASS-21). These scales provided information about the smartphone addiction, smartphone distraction, depression, anxiety and stress levels of participants.

Socio-demographic Form

This form included questions that was used to gather basic socio-demographic information about the respondents, including gender, age, phone storage and notification mode during class. A question was also included in the socio-demographic form to assess students' self-reported academic performance based on Cumulative Grade Point Averages (CGPAs), as it is the most commonly used metric for evaluating academic achievement (Felton & Koper, 2005). Students was asked to select the CGPA range within which their current CGPA falls. Four options were available to the respondents: less than 1.99, 2.0–2.99, 3.0–3.5, and 3.5-4.0, which represented low to high academic performance. This form was developed by the researcher to obtain basic information that is relevant to the study.

Smartphone Addiction Scale (SAS)

The smartphone distraction scale (SAS) was developed by Kown et al. (2013) and is a self-report scale which consists of 33 items that assesses behaviours related with problematic smartphone use. The SAS has 6 subscales which are daily-Life

disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse and tolerance. A six-point Likert scale is used to rate this measure and responses ranges from 1 (strongly disagree) to 6. (Strongly agree). In the original validation study of the scale, the Cronbach alpha was calculated to be 0.967. (Kown et al., 2013).

Smartphone Distraction Scale (SDS)

This Scale was developed by Throuvala et al. (2021) and is made up of 16-items that measures smartphone distraction levels of smartphone users. The SDS is structured under four subscales, namely; attention impulsiveness, online vigilance, multitasking and emotion regulation. The scale is based on a five-point Likert scale and ranges from 1 (almost never) to 5 (almost always). The scale has a Cronbach alpha (CA) of 0.87. The subscales also have a CA value of 0.84 for attention impulsiveness, 0.80 for online vigilance, 0.75 for multitasking, and 0.74 for emotion regulation (Throuvala et al., 2021).

Depression, Anxiety, and Stress Scale (DASS-21)

This scale is a self-report scale which was developed by Lovibond & Lovibond (1995) to assess the three negative emotional states: depression, anxiety, and stress. This scale consists of 21 elements divided into three subscales namely; depression, anxiety and stress. Each subscale consists of 7-items. DASS-21 is scored on a 4- point Likert scale from 0 (Did not apply to me at all) to 3(Applied to me very much or most of the time). The Cronbach's alpha values for the subscales are: depression (0.87), anxiety (0.84), and 0.85 for stress (Lovibond & Lovibond, 1995).

Data Collection Procedures

In order to commence the study, ethical approval was received from the Near East University Social Science Ethical Committee (application number NEU/SS/2022/1375). A pen-and-paper version of the structured questionnaire was then administered to the participants. Data was collected during regular class hours with the consent of the lecturers. The researcher also visited the cafeteria and coffee

shops on campus, where students visit for leisure activities, to collect data. An informed consent form was attached to the questionnaire and participants agreed to participate in this research. Respondents were urged to complete each item on the questionnaire, which took about 15 minutes to complete. They were also informed of the aims of the study and guaranteed that their comments would be kept anonymous and confidential. Participants who took part in this study were not rewarded, and their participation was voluntary.

Data Analysis Procedures

IBM version 22 of the Statistical Package for the Social Sciences (SPSS) was used to analyze the data. A normality test was performed to ascertain if the data was normally distributed or not.

Table 2

Normality table

						Skewness		Kurtosis	
Variable	N	Min.	Max.	Mean	Std Dev	Stats	Std Error	Stats	Std Error
Attention impulsiveness	378	4.00	20.00	13.3704	3.84106	-0.353	0.125	-0.380	0.250
Emotional regulation	378	4.00	45.00	14.4471	4.34135	0.324	0.125	5.642	0.250
Online vigilance	378	4.00	20.00	13.0926	4.49455	-0.420	0.125	-0.884	0.250
Multitasking	378	4.00	20.00	13.7619	3.48341	-0.453	0.125	-0.331	0.250
CSDS	378	16.00	75.00	54.6720	13.13704	-0.560	0.125	-0.703	0.250
Daily life disturbance	378	5.00	30.00	17.9074	6.03389	-0.002	0.125	-0.778	0.250
Withdrawal	378	6.00	36.00	23.3836	7.93264	-0.452	0.125	-0.968	0.250
Cyberspace oriented relationship	378	7.00	42.00	25.7302	8.85013	-0.431	0.125	-0.963	0.250
Overuse	378	4.00	24.00	17.0159	4.89028	-0.650	0.125	-0.365	0.250
Tolerance	378	0.00	18.00	12.2857	4.20784	-0.406	0.125	-0.947	0.250
Positive anticipation	378	8.00	100.00	32.6270	10.31473	0.595	0.125	4.954	0.250
TotalSAS	378	33.00	229.00	128.9497	35.82976	-0.354	0.125	-0.824	0.250
Depression	378	0.00	46.00	10.7302	5.65134	0.392	0.125	2.745	0.250
Anxiety	378	0.00	21.00	11.8810	5.27635	-0.448	0.125	-0.774	0.250
Stress	378	0.00	21.00	11.2751	5.06755	-0.300	0.125	-0.933	0.250

According to George & Maller's (2010) definition of normality, skewness and kurtosis values should be between -2 and +2. In reference to this suggestion, the values of skewness and kurtosis represented in table 3 above indicates that the data for all variables is not normally distributed. As a result, non-parametric tests were employed to analyze the research questions of the study. Spearman Brown correlation was used to establish the relationship that exists between smartphone addiction, smartphone distraction, emotional states of depression, anxiety and stress, and academic performance. Mann-Whitney U and Kruskal Wallis H test was used to determine how smartphone addiction and smartphone distraction levels are influenced by demographic factors such as age, gender, smartphone storage and notification mode during class.

Research Plan and Process

The first step in the methodology of this study was to obtain permission from the authors who developed or adapted the Smartphone Addiction Scale, Smartphone Distraction Scale, and the Depression, Anxiety, and Stress Scale (DASS-21), which were used in this research.	September, 2022
An Ethical Approval Form was then filled out and sent via email to the Near East University Ethical Committee, and approval was granted to conduct the research.	September, 2022 – October, 2022
A paper and pen version of the questionnaire was given out to students at the Near East University using a convenience sample approach.	October, 2022
Review of relevant literature and an analysis of related research.	November, 2022

The data collected from the research participants was used to derive statistics, which were then anlayzed to inform the findings of the study. The results were discussed in light of the existing literature, and appropriate conclusions and recommendations were offered.	December, 2022 – January, 2023

CHAPTER IV

Findings and Discussions

This chapter will present the analysis of the data collected from the participants of the study and provide the main findings. The results will be presented in tables and table summaries. Firstly, it looked at the relationship between smartphone distraction, smartphone addiction, emotional states of depression, anxiety and stress, as well as their subscales. Secondly, it investigated the relationship between smartphone distraction, smartphone addiction and academic performance. Finally, it investigated how smartphone addiction and distraction levels are influenced by demographic factors such gender, age, phone notification mode during class, and smartphone storage during class.

The first table will address the relationship between smartphone distraction, smartphone addiction, emotional states of depression, anxiety and stress, academic performance and age.

Table 3

Spearman's Correlation Coefficient Matrix between Smartphone distraction, smartphone addiction, and the emotional states of depression, anxiety and stress, their subscales, CGPA and age.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Attention impulsiveness	r	0.489	0.530	0.517	0.768	0.357	0.499	0.510	0.504	0.556	0.500	0.575	0.512	0.566	0.518	-0.191	0.101
	p	0.000**	0.000**	0.000**	0.000**	0.000***	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.049*
2 Emotional regulation	r		0.595	0.557	0.802	0.375	0.533	0.582	0.468	0.559	0.599	0.608	0.539	0.491	0.515	-0.190	0.162
	p		0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.002*
3 Online vigilance	r			0.659	0.884	0.473	0.713	0.677	0.552	0.576	0.718	0.730	0.573	0.572	0.563	-0.304	0.268
	p			0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
4 Multitasking	r				0.811	0.467	0.688	0.642	0.611	0.611	0.649	0.722	0.550	0.564	0.562	-0.251	0.207
	P				0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
5 CSDS	r					0.505	0.731	0.728	0.637	0.686	0.753	0.798	0.653	0.652	0.663	-0.295	0.224
	p					0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
6 Daily life disturbance	r						0.591	0.450	0.544	0.594	0.496	0.715	0.477	0.370	0.422	-0.224	0.151
	p						0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.003*
7 Withdrawal	r							0.758	0.639	0.691	0.788	0.900	0.631	0.585	0.559	-0.259	0.237
	p							0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
8 Cyberspace-oriented relationship	r								0.706	0.673	0.782	0.878	0.632	0.618	0.604	-0.289	0.194
	p								0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
9 Overuse	r									0.674	0.661	0.811	0.571	0.590	0.548	-0.236	0.131
	p									0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.010*
10 Tolerance	r										0.616	0.804	0.600	0.608	0.558	-0.263	0.152
	p										0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.003*
11 Positive anticipation	r											0.880	0.556	0.543	0.507	-0.280	0.256
	p											0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
12 TotalSAS	r												0.686	0.641	0.632	-0.304	0.227
	p												0.000**	0.000**	0.000**	0.000**	0.000**
13 Depression	r													0.788	0.824	-0.222	0.093
	p													0.000**	0.000**	0.000**	0.069
14 Anxiety	r														0.831	-0.256	0.020
	p														0.000**	0.000**	0.704
15 Stress	r															-0.249	0.088
	p															0.000**	0.086
16 CGPA	r																-0.051
	p																0.381
17 Age	r																
	p																

p≤0.05* p≤0.001**

The spearman test results, as shown in table 4 above, demonstrate that smartphone distraction subscales (attention impulsiveness, emotional regulation, online vigilance and multitasking) are all positively correlated to smartphone addiction subscales (daily life disturbance, withdrawal, cyberspace-oriented relationship, overuse, tolerance, and positive anticipation) ($p< 0.001$). It is also shown that the cumulative score of smartphone distraction and the total score of smartphone addiction have a strong positive relationship ($p=0.000$).

The table reveals that there is a strong positive relationship between the subscales of smartphone distraction (attention impulsiveness, emotional regulation, online vigilance and multitasking) and emotional states of depression, anxiety and stress ($p <0.001$). The cumulative score of smartphone distraction also shows that there is a positive relationship between smartphone distraction and emotional states of depression, anxiety and stress ($p= 0.000$).

The data reveals that there is a strong positive relationship between smartphone addiction subscales (daily life disturbance, withdrawal, cyberspace-oriented relationship, overuse, tolerance, and positive anticipation) and the emotional states of depression, anxiety and stress ($p <0.001$). The total score of smartphone addiction also shows a positive relationship with emotional states of depression, anxiety and stress ($p= 0.000$).

It can also be seen from the table that there is a negative but significant relationship between the subscales of smartphone distraction (attention impulsiveness, emotional regulation, online vigilance and multitasking) and academic performance (CGPA) ($p<0.001$). The cumulative score of smartphone distraction also shows a negative but significant relationship with academic performance (CGPA) ($p= 0.000$).

There is a negative but significant relationship between smartphone addiction subscales (daily life disturbance, withdrawal, cyberspace-oriented relationship, overuse, tolerance, and positive anticipation) and academic performance (CGPA) ($p< 0.001$). Similarly, the total score of smartphone addiction shows a negative but significant relationship with academic performance (CGPA) ($p= 0.000$).

It can be seen from the table that there are strong significant differences in smartphone distraction according to age on the subscales of attention impulsiveness

(p=0.049), emotional regulation (p=0.002), online vigilance and multitasking (p=0.000). The cumulative score of smartphone distraction also shows that there is a significant difference in smartphone distraction (p=0.000) according to age.

The analysis also reveals that there are significant differences in smartphone addiction according to age on the subscales of daily life disturbance (p=0.003), withdrawal, cyberspace-oriented relationship (p=0.000), overuse (p=0.010), Tolerance (p=0.003) and positive anticipation (p=0.000). Similarly, the total score of smartphone addiction shows that there is a significant difference (p=0.000) according to age.

Table 4

Gender differences in smartphone distraction and its subscales

Variables	Gender	N	Mean rank	Sum of ranks	U	P
Attention Impulsiveness	Male	184	190.54	35059.00	18039.000	0.937
	Female	197	191.43	37712.00		
Emotional regulation	Male	184	185.49	34130.50	17110.500	0.341
	Female	197	196.14	38640.50		
Online vigilance	Male	184	187.42	34485.00	17465.000	0.595
	Female	196	193.39	37905.00		
Multitasking	Male	183	195.12	35706.50	17180.500	0.428
	Female	197	186.21	36683.50		
CSDS	Male	183	189.11	34606.50	17770.500	0.878
	Female	196	190.83	37403.50		

$p \leq 0.05$* $p \leq 0.001$**

Results of the Mann Whitney U test in table 5 above shows that there are no significant differences in smartphone distraction and its subscales (attention impulsiveness, emotional regulation, online vigilance and multitasking) according to gender.

Table 5

Gender differences in smartphone addiction and its subscales

Variables	Gender	N	Mean rank	Sum of ranks	U	P
Daily life disturbance	Male	184	194.32	35755.00	17513.000	0.569
	Female	197	187.90	37016.00		
Withdrawal	Male	184	186.46	34308.00	17288.000	0.486
	Female	196	194.30	38082.00		
Cyberspace oriented relationship	Male	184	192.59	35436.00	17832.000	0.785
	Female	197	189.52	37335.00		
Overuse	Male	184	201.73	37119.00	16149.000	0.065
	Female	197	180.97	35652.00		
Tolerance	Male	184	189.55	34878.00	17858.000	0.803
	Female	197	192.35	37893.00		
Positive anticipation	Male	184	187.85	34563.50	17543.500	0.589
	Female	197	193.95	38207.50		
TotalSAS	Male	184	191.17	35176.00	17908.000	0.908
	Female	196	189.87	37214.00		

$p \leq 0.05$* $p \leq 0.01$**

The results of the Mann Whitney U test in table 6 above shows that there are no significant differences in smartphone addiction and its subscales (daily life disturbance, withdrawal, cyberspace-oriented relationship, overuse, tolerance and positive anticipation) according to gender.

Table 6

Comparison of smartphone storage during class to smartphone distraction and its subscales

	Smartphone storage during class	N	Mean rank	Some of ranks	U	P
Attention impulsiveness	Desk	155	176.89	27311.50	15221.500	0.029*
	Bag\Pocket	226	201.15	45459.50		
Emotional regulation	Desk	155	176.18	27308.50	15218.500	0.029*
	Bag\Pocket	226	201.16	45462.50		
Online vigilance	Desk	155	177.87	27569.50	15479.500	0.062*
	Bag\Pocket	225	199.20	44820.50		
Multitasking	Desk	155	172.15	26683.50	14593.500	0.007*
	Bag\Pocket	225	203.14	45706.50		
CSDS	Desk	155	170.63	26447.50	14357.500	0.004*
	Bag\Pocket	224	203.40	45562.50		

$p \leq 0.05$* $p \leq 0.001$**

The results of the Mann Whitney U test displayed in table 7 above reveals that there are significant differences in smartphone distraction according to smartphone storage during class on the subscales of attention impulsiveness (0.029), emotional regulation (p=0.029) and multitasking (p=0.007), but not online vigilance subscale which shows no significant difference. However, the cumulative score of smartphone distraction shows that there is a significant difference (p=0.004) according to smartphone storage during class. On the subscale of attention impulsiveness, emotional regulation and multitasking, students who stored their smartphones in their bag/pocket scored higher than those who kept their smartphones on the desk.

Table 7

Comparison of smartphone storage during class to smartphone addiction and its subscales

	Smartphone storage during class	N	Mean rank	Some of ranks	U	P
Daily life disturbance	Desk	155	172.83	26718.50	14628.500	0.006*
	Bag\Pocket	226	203.77	46052.50		
Withdrawal	Desk	155	165.37	25633.00	13543.000	0.000**
	Bag\Pocket	225	207.81	46757.00		
Cyberspace oriented relationship	Desk	155	160.54	24884.00	12794.000	0.000**
	Bag\Pocket	226	211.89	47887.00		
Overuse	Desk	155	172.97	26811.00	14721.000	0.008*
	Bag\Pocket	226	203.36	45960.00		
Tolerance	Desk	155	168.27	26082.50	13992.500	0.001**
	Bag\Pocket	225	206.59	46688.50		
Positive anticipation	Desk	155	167.00	25885.00	13795.000	0.000**
	Bag\Pocket	226	207.46	46886.00		
TotalSAS	Desk	155	161.80	25078.50	12988.500	0.000**
	Bag\Pocket	225	210.27	47311.50		

$p \leq 0.05$* $p \leq 0.001$**

The results of the Mann Whitney U test as seen in table 8 above suggests that there are significant differences in smartphone addiction according to smartphone storage during class on the subscales of daily life disturbance (p=0.006), withdrawal (p=0.000), cyberspace-oriented relationship (p=0.000), overuse (p=0.008), tolerance (p=0.001) and positive anticipation (p=0.000). The cumulative score of smartphone addiction also shows a significant difference according to smartphone storage during class (p=0.000). On the subscale on daily life disturbance, withdrawal, cyberspace-

oriented relationship, overuse, tolerance and positive anticipation, students who stored their smartphones in their bag/pocket scored higher than those who kept their smartphones on the desk.

Table 8

Comparison of phone notification mode during class to smartphone distraction and its subscales

	Phone notification mode during class	N	Mean rank	X^2	Df	p
Attention impulsiveness	Silent	254	202.34	9.631	2	0.008*
	Vibrate	117	171.79			
	Ring	10	127.70			
Emotional regulation	Silent	254	192.44	1.278	2	0.528
	Vibrate	117	191.17			
	Ring	10	152.45			
Online vigilance	Silent	253	189.05	1.501	2	0.472
	Vibrate	117	196.71			
	Ring	10	154.50			
Multitasking	Silent	253	192.05	0.219	2	0.896
	Vibrate	117	188.15			
	Ring	10	178.80			
CSDS	Silent	252	194.55	2.781	2	0.249
	Vibrate	117	184.44			
	Ring	10	140.50			

$p \leq 0.05$* $p \leq 0.001$**

The Kruskal Wallis test results shown in table 9 above reveals that there are no significant differences in smartphone distraction according to phone notification mode during class on the subscales of emotional regulation, online vigilance and multitasking, but not attention impulsiveness (p=0.008) which shows a significant difference. However, the cumulative score of smartphone distraction shows that there is no significant difference according to phone notification mode during class.

Further pairwise analysis of attention impulsiveness subscale shows that the difference is between students who keep their smartphone on ring and silent (p= 0.035), as well as vibrate and silent (p= 0.013).

Table 9

Comparison of phone notification mode during class to smartphone addiction and its subscales

	Phone notification mode during class	N	Mean rank	X^2	df	p
Dailylife disturbance	Silent	254	196.46	3.039	2	0.219
	Vibrate	117	177.00			
	Ring	10	216.00			
Withdrawal	Silent	254	189.85	0.221	2	0.896
	Vibrate	117	193.07			
	Ring	10	177.15			
Cyberspace oriented relationship	Silent	254	197.35	2.659	2	0.265
	Vibrate	117	179.29			
	Ring	10	166.75			
Overuse	Silent	254	200.24	5.604	2	0.061
	Vibrate	117	173.82			
	Ring	10	157.20			
Tolerance	Silent	254	193.60	2.547	2	0.280
	Vibrate	117	189.94			
	Ring	10	137.40			
Positive anticipation	Silent	254	199.60	4.655	2	0.098
	Vibrate	117	173.81			
	Ring	10	173.70			
TotalSAS	Silent	254	197.63	3.313	2	0.191
	Vibrate	117	176.95			
	Ring	10	166.55			

$p \leq 0.05$* $p \leq 0.001$**

Results of the Kruskal Wallis H test as seen in table 10 above reveals that there are no significant differences in smartphone addiction and its subscales (daily life disturbance, withdrawal, cyberspace-oriented relationship, overuse, tolerance and positive anticipation) according to phone notification mode during class.

CHAPTER V

Discussion

The aim of the present study is to investigate the influence of smartphone addiction and smartphone distraction on the psychological wellbeing and academic performance of university students. The researcher concentrates on emotional states of depression, stress and anxiety, as a measure of psychological wellbeing. This chapter discusses the results according to related literature and the contextual factors that informed this study.

The findings of the study reveal that smartphone distraction is positively correlated to smartphone addiction. These results are consistent on the subscales of smartphone distraction (attention impulsiveness, emotional regulation, multitasking, online vigilance) and the subscales of smartphone addiction (daily life disturbance, withdrawal, cyberspace-oriented relationship, overuse, tolerance, positive anticipation). The result is similar to the findings of Zhao et al. (2022) that smartphone distraction was positively and significantly correlated with smartphone addiction. Smartphone addiction is primarily brought on by excessive smartphone use and is related to cognitive interference and distractions from notifications (Stothart, 2015). As a result, the user has a propensity to compulsively check their phones and multitask even when engaged in important activities, which ultimately distracts them from the tasks at hand. This implies that students who use their smartphones compulsively are more frequently distracted by them since their focus is mostly divided between their school work and their smartphones, which can be termed a distraction.

Moreover, smartphone distraction was found to be positively correlated to emotional states of depression, anxiety and stress. The results agree with the findings of Oraison et al. (2020) that smartphone distraction strongly predicted increased levels of stress, depression and anxiety. The usage of a smartphone typically involves the user's need to constantly be reachable and is associated with the requirement to be apprised of current events, as well as being in continuous communication with social media through the smartphone (Thomee, 2012). These actions that the user participates in often leads to distraction, particularly when the user is attempting to complete an important activity. Thus, the need to be constantly available in their

social sphere can contribute to negative emotional states such as FOMO, stress and depression (Elhai et al., 2018).

Similarly, Lian et al. (2021) stated that smartphone addiction was significantly and positively correlated to emotional states of depression, anxiety and stress. The researchers contend that using a smartphone for activities such as gaming may help reduce psychological distress, however, abusing the device might lead to psychological problems. According to Coyne et al. (2019), smartphone addiction might lead to psychological discomfort due to the withdrawal symptoms and daily life disruption that is associated with smartphone overuse. The uncontrolled use of smartphones can lead to smartphone addiction, which takes up most of the time people would spend talking to each other in person. This leads to strained relationships, which may cause psychological distress in the user. Moreover, Lui et al. (2017) found that smartphone addiction predicts poor sleep quality, which is a key predictor of emotional problems like depression, anxiety and stress symptoms. In light of the findings of this study and other relevant research, it is possible to draw the conclusion that students who are addicted to their smartphones may likely suffer from depression, anxiety and stress.

The results of the study also reveal that smartphone distraction was negatively correlated to academic performance. This result is consistent with a study by Froese et al. (2012), in which the authors defined distraction as sending or receiving texts during class time. It was discovered that students who texted during class hours had considerably lower test results. The authors assert that texting during class leads to information loss which could subsequently lead to lower test grades. Sustained attention is required when students are in class or studying in order for them to comprehend their course materials and ensure successful retention. Hence, it is evident from the findings that a student who is distracted by their smartphones, will not perform well in school.

Smartphone addiction was also indicated to be negatively correlated to academic performance. This indicates that students who are addicted to their smartphones will most likely obtain lower grades in school. These results agree with the findings of Lepp et al. (2015) that students with smartphone addiction are likely to have a lower GPA than students who are not. The researchers emphasized that the

modern smartphones make it more likely for people to engage in a variety of cell-phone-based leisure activities like browsing the internet, checking social media, playing games, talking to friends, and exploring new applications, among other things. Some students are unable to resist indulging in these activities, even though they should otherwise be concentrating on their academics. Therefore, the negative relationship between smartphone addiction and academic performance among university students may be attributed to reduced focus when studying or less time spent studying without being interrupted by the phone.

Age was found to be positively correlated to smartphone addiction and smartphone distraction. This implies that as an individual grows older, they develop increased levels of smartphone addiction and smartphone distraction. This result is contrary to the findings of Hall and Zwarun (2014) that there is a negative relationship between multitasking, a factor in smartphone distraction, and the student's age. They assert that younger students are more inclined than older ones to multitask or be distracted. This may be due to the difficulty that younger people experience in blocking out distractions and focusing on the important tasks at hand.

Similarly, Van Deursen et al. (2015) found that age and smartphone use have an inverse relationship; as people age, they use their phones less frequently for socializing. As a result, older individuals are less likely to engage in smartphone-related habits or addictions. A study done in Turkey also revealed that younger people were more likely to become addicted to their smartphones (Augner & Hacker, 2012). This is because they are reported to be more open to embracing new technologies than the older ones. The findings of this research may be contrary to other studies because the participants were all within the same developmental age range, from adolescence to young adulthood. It is possible that the young adults showed greater levels of smartphone addiction and distraction than adolescents because this is the intimacy vs. isolation developmental stage (Erikson, 1993). In this developmental stage, the need for forming and maintaining relationships becomes increasingly paramount. Therefore, older university students are more likely than younger ones to be addicted to and distracted by their smartphones, which are the primary means of staying in touch with family and friends.

The study results showed that there are no significant differences in smartphone addiction and smartphone distraction based on gender. Similarly, Chen et al. (2017) discovered no significant differences in smartphone addiction by gender. However, according to De-Sola Gutiérrez et al. (2016), smartphone addiction is more common among female participants than male participants. A similar study revealed that female students experienced more mobile phone interference than male students (David et al., 2015). The researchers claim that males are more interested in texting and gaming applications, which are less addictive, but females perceive the smartphone as a method of social engagement where they constantly yearn to be in communication with their social groups (David et al., 2015). It is possible that the findings of this study suggest no differences in smartphone addiction and smartphone distraction between male and female students because the participants were predominantly foreign students studying far from home. Hence, both male and female students alike may experience a shared desire to stay in touch with family and friends back home, which could lead to addictive use of the smartphone and distraction from schoolwork.

The findings also indicate that there are significant differences in smartphone storage during class in terms of attention impulsiveness, emotional regulation, multitasking and the cumulative score of smartphone distraction. The students who stored their smartphones in their bag or pocket had higher smartphone distraction scores than those who kept their phone on the desk. This is consistent with study by Delaney (2022), that the absence of a smartphone was more distracting since students were continuously thinking about their phones and worried about missing out on crucial occurrences, information, and news. On the other hand, Ward et al (2017) found that there are no significant differences in smartphone distraction between students who keep their phones on the desk and in their bag or pocket. The authors contend that even the mere presence of the phone may cause distraction and reduce cognitive function, as students may experience nomophobia which may affect their ability to focus on the task at hand. However, there was no significant difference in smartphone storage during class according to online vigilance.

In the same way, it was revealed that there are significant differences in smartphone storage during class in terms of daily life disturbance, withdrawal, cyberspace-oriented relationship, overuse, tolerance, positive anticipation and the

cumulative score of smartphone addiction. Students who stored their phones in their bag or pocket had higher smartphone addiction scores than those who stored their phones on the desk during class. This may be because students who left their phones on their desks felt confident in their ability to regulate smartphone use since they have the willpower to repress both internal and external impulses in order to concentrate on the task at hand. It has been argued that a lack of self-control is directly correlated with excessive smartphone use (Fabio & Faro, 2022). According to Li et al. (2021), individual with low self-control are more likely to get addicted to their smartphones because they use them as a kind of escapism. Limited levels of self-control have been linked to heavy smartphone use, withdrawal symptoms, emotional swings, low tolerance, and relationships centered on the internet (Wilmer & Chein, 2017; Berger et al., 2018). Students who put their smartphones away may have had higher smartphone addiction scores because they did so as a coping mechanism against continual smartphone usage during class.

The results of the study showed that there are no significant differences in emotional regulation, online vigilance, multitasking and the cumulative score of smartphone distraction according to phone notification mode during class. Similar findings were published by Pielot et al. (2014), who discovered that individuals involuntarily seek out notifications and are thus distracted by them regardless of whether the phone is set to ring, silent, or vibrate. This suggests that students, regardless of their phone notification mode, can become distracted by their phones through compulsive checking and multitasking because they may be expecting these notifications or may be suffering from nomophobia, which makes them curious about what is happening in their social space.

Furthermore, the study finds significant differences in smartphone distraction on the subscale of attention impulsiveness between students who kept their smartphones on ring and silent, as well as vibrate and silent mode during class. Students who kept their phones on silent scored higher in attention impulsiveness than those who kept their phones on ring and vibrate. This is consistent with the research of Pielot et al. (2015), who found that switching a mobile phone to silent mode did not help mitigate the distracting impacts of notifications. They argue that placing a phone on silent might cause anxiety due to the possibility of missing alerts, and that this worry can cause some people to interrupt themselves, leading to

increased distraction. Contrarily, Chang and Tang (2015) discovered that people are more likely to pay quick attention to notifications, which are the primary source of distraction, when their phones are set to vibrate or ring mode rather than silent. This is due to the fact that the buzz from these messages often causes users to pause what they are doing and focus on the notifications instead. However, students in this research who kept their phones on ring or vibrate mode may have scored lower on attention impulsiveness because it is possible they were not expecting calls or notifications during class hours and hence did not feel anxious about what they might be missing out on. This allowed them to be more focused in class.

According to the results of this study, there are also no significant differences in smartphone addiction in terms of phone notification mode during class. This agrees with the finding of Mikulic (2016) that there are no significant differences in smartphone overuse between individuals whose phones were set to silent mode and those whose phones were set to vibrate or ring mode. They suggest that turning off alerts has no impact on how often people use their smartphones. According to the findings of Liao and Sundar (2022), individuals who set their phones to silent mode also engage in obsessive smartphone use. This is because they experience FOMO and a strong need to fit in when they go even a short amount of time without checking their phones. Research reveals that the majority of students use their smartphones as a means of keeping in touch with their social contacts (Al-Harrasi & Albadi, 2014). As a result, it stands to reason that they would suffer from severe cases of nomophobia when they were unable to check their phones. Students may therefore engage in compulsive smartphone use as a way of alleviating their emotional distress, regardless of their phone's notification mode.

CHAPTER VI

Conclusion and Recommendations

Conclusion

This study investigated the relationship between smartphone addiction, smartphone distraction, emotional states of depression, anxiety and stress, and academic performance among university students in North Cyprus. The results of the study show a positive relationship between smartphone addiction and smartphone distraction. University students who are dependent on their smartphones are often distracted by them because their attention is divided between their phones and their schoolwork. The study also reveals that smartphone addiction and smartphone distraction is positively correlated with emotional states of depression, anxiety, and stress. Smartphone addiction and distraction are linked to an obsessive desire to be constantly present in one's social sphere; hence, students often experience anxiety, depression, and stress when they are unable to meet this need. Additionally, the study indicates a negative relationship between smartphone addiction, smartphone distraction, and academic performance. The results suggests that university students who are addicted to or distracted by their phones are more likely to divide their attention between schoolwork and their phones, increasing the likelihood of both information loss and poor retention.

The results indicates that a positive relationship exists between smartphone distraction, smartphone addiction, and university student's age. The study suggests that older university students are often young adults who are still in the intimacy versus isolation stage of development and are therefore more focused on making and sustaining meaningful relationships which may cause them to be dependent on and distracted by their smartphones. The study reveals that university students who stored their smartphones in their bags or pockets were more addicted to and distracted by their smartphones than those who kept their phones on the desk. Such students may lack the self-control to resist compulsive smartphone usage caused by nomophobia, so they put their phones away to avoid frequent use, which causes distraction during class. The study shows that there is a difference in attention impulsiveness between university students who keep their phones on silent and on ring or vibrate, as those who keep their phones on silent are more distracted by their

phones. Placing a phone on silent most often causes anxiety associated with the possibility of missing important alerts, which may cause distraction from schoolwork.

Recommendations for future research

- The data collection strategy used in the study was a convenience sampling approach, which have the downside of not precisely representing the population being studied and limiting the ability to generalize the results. Hence, it is recommended that further studies be done to incorporate other universities in North Cyprus so as to provide a more thorough understanding of the research questions and determine if the results are consistent.

- A self-report questionnaire was used to measure smartphone addiction, smartphone distraction, emotional states of depression, anxiety and stress, and academic performance, which are susceptible to response bias. It is therefore recommended that future studies consider employing objective measures of smartphone addiction, smartphone distraction, and academic performance. Researchers may also take into account clinical assessment, which is useful for making accurate diagnoses of mental health issues.

Recommendation for Practice

- It is recommended that student affairs at educational institutions and school health professionals work together to develop and implement a variety of educational initiatives and seminars to raise students' awareness of smartphone addiction and distraction. Students need to have a thorough understanding of the negative effects that prolonged use of smartphones and subsequent distraction can have on their mental health as well as their academic achievement. This will enable them to be more self-aware of the problem and further encourage conscious smartphone usage.

- The results of this study suggest that students who kept their smartphones in their bags or pockets and on silent had higher smartphone addiction and distraction scores. As a result, it is recommended that institutions develop policies and guidelines for limiting the use of smartphones during lectures beyond simply encouraging students to put them away or on silent modes. Students can be encouraged to prioritize their lecture and study hours by informing their closest friends and family about their class and study schedules and discourage them from calling or reaching out during those times. By doing this, the student is less likely to feel anxious, worried, or distracted when they temporarily put away their phone to focus on academic pursuits.

- Based on the findings of this study which reveals that most university students who are addicted to their smartphones tend to suffer from increased anxiety, depression and stress, it is recommended that university administrations plan and carry out psychological counseling for students who are reliant on their smartphones in an effort to maintain their psychological wellbeing.

- It is evident from the results of the study that university students are addicted to their smartphones which mostly distract them from their schoolwork and negatively affects their academic performance. It is therefore recommended that university administrations collaborate with tech experts and instructors to include gamification into their teaching strategy. Gamification is an intentional effort to increase user motivation and engagement in a variety of activities by simulating the enjoyable and rewarding aspects of playing games. University administrations may provide instructors training on how to use a game-like approach in the classroom to motivate and retain students' interest in their studies. Students will be motivated to learn and use their smartphones more efficiently if course materials are designed to mimic the experiences they have when playing games.

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Appendices

Appendix A

Participants Informed Consent Form

Dear Participant,

You are asked to take part in a study being conducted to better understand the effects of smartphone addiction and smartphone distraction on university students' psychological wellbeing and academic performance. The information gathered using this scale will be utilized to analyse the effects of smartphone addiction and the ensuing distraction on university students' academic performance and mental health. The questionnaire should take no more than 15 minutes to complete. Participation in the research is entirely voluntary, and refusal will have no effect on your term marks. The information gathered will only be used for academic purposes, and no personally identifying information will be gathered or included in the report. You can opt out of the study at any time by contacting the researcher. Following that, your data will be removed from the study database. If you have any questions or issues regarding the study, please contact us using the information provided below:

Precious Agnes Suah

Psychology Department

Near East University

20214199@std.neu.edu.tr

By signing below, you agree to take part in the study.

Signature…….

Date……

Appendix B

Participant information sheet

Dear Participant,

This scale is a component of a study we are conducting to look at the effects of smartphone addiction and distraction on university students' psychological wellbeing and academic performance. The researcher will focus on psychological issues including stress, depression, and anxiety. The information gathered using this scale will be utilized to analyse the effects of smartphone addiction and the ensuing distraction on university students' academic performance and mental health. You consent to taking part in this study by completing the following scale.

Your participation in this research is voluntary. Accepting or declining to engage in the research will have no effect on your exam grades. The participants' identity will not be revealed to any third party. There are no questions concerning identifying information, such as names or student numbers in the questionnaire. The information gathered will be utilized solely for academic reasons, and the data will be saved in password-protected files that will be removed a year after the study is done. You may withdraw from the study at any time, and your information will be removed from the research data. Please inform the researchers if our study causes you any injury or distress for emotional support. Should in case you have any more questions, please contact us via the contact information that is provided below:

Precious Agnes Suah

Psychology Department

Near East University

20214199@std.neu.edu.tr

Appendix C

Demographic Questions

Instruction: Please circle the best answer as it applies to you.

1.What is your gender?

a. Male b. Female

2.What is your age?

_____ (Please specify)

3. Where do you keep your phone during class?

a) Desk b) bag/pocket

4. During class, my phone is always on…….

a) Silent b) on vibrate c) on ring

5.What is your current CGPA?

a) less than 1.99 b) 2.0–2.99

c) 3.0–3.5 d) 3.5-4.0

Appendix D

Smartphone Distraction Scale (SDS)

Instruction: Below is a collection of statements about your everyday experience with your smartphone. Using the 1-5 scale below, please indicate how often you currently have each experience. Please answer according to what best reflects your everyday experience. The accompanying 5-point scale is: **1 (almost never), 2 (not very often), 3 (sometimes), 4 (often), 5 (almost always)**

1. I get distracted by my phone notifications 1 2 3 4 5
2. I get distracted by my phone apps 1 2 3 4 5
3. I get distracted by just having my phone close to me 1 2 3 4 5
4. I get distracted by my phone even when my full attention is required on other tasks 1 2 3 4 5

Appendix E

Smartphone Addiction Scale (SAS)

Instructions: Indicate the degree to which you agree with the following using this scale:

1 = strongly disagree, 2 = disagree, 3 = weakly disagree, 4 = weakly agree, 5 = agree, 6 = strongly agree.

1. Missing planned work due to smartphone use 1 2 3 4 5 6
2. Having a hard time concentrating in class while doing assignments, or while working due to smartphone use 1 2 3 4 5 6
3. Experiencing light-headedness or blurred vision due to excessive smartphone use 1 2 3 4 5 6
4. Feeling pain in the wrists or at the back of the neck while using a smartphone 1 2 3 4 5 6

Appendix F

Depression, Anxiety and Stress Scale (DASS-21)

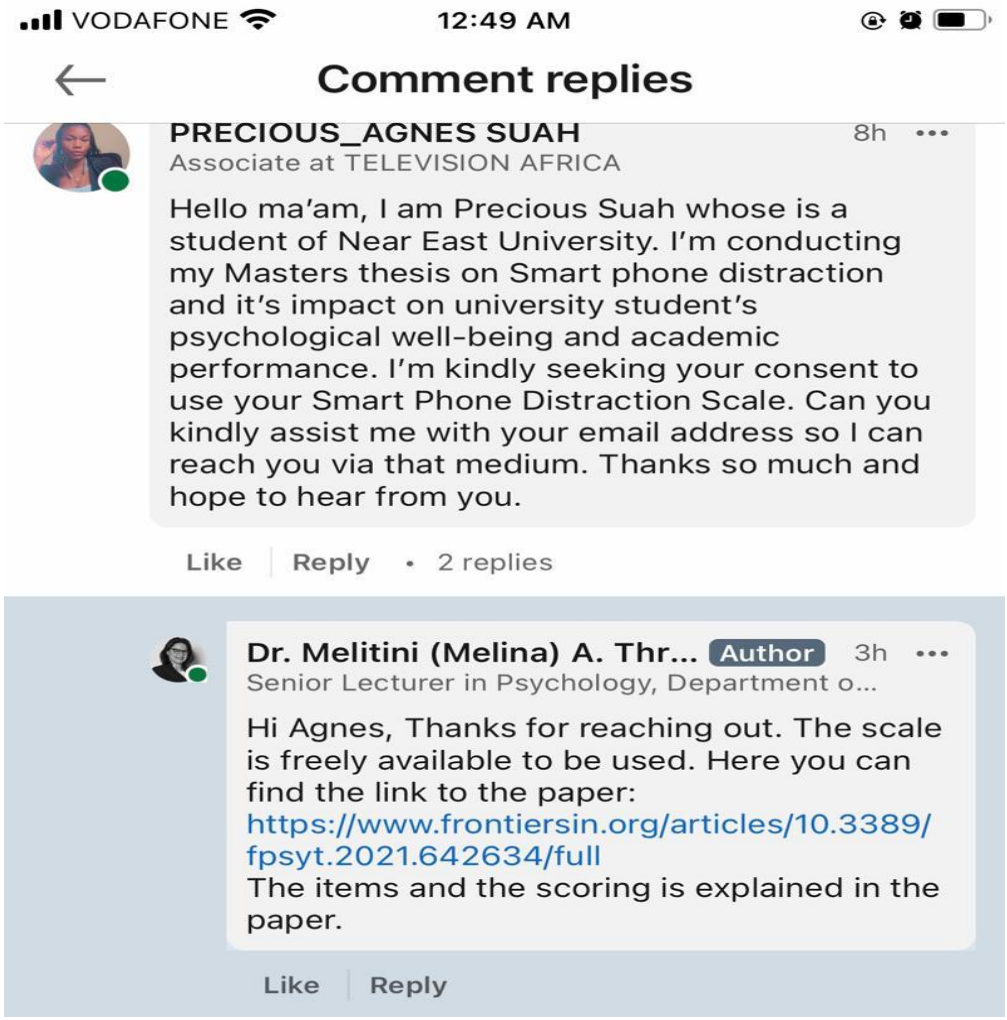
Instruction: Please read each statement and select a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement. The rating scale is as follows:

0 (Did not apply to me at all) 1- (Applied to me to some degree, or some of the time) 2- (Applied to me to a considerable degree or a good part of time) 3- (Applied to me very much or most of the time)

1.	I found it hard to wind down	0	1	2	3	4
2.	I was aware of dryness of my mouth	0	1	2	3	4
3.	I couldn't seem to experience any positive feeling at all	0	1	2	3	4
4.	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3	4

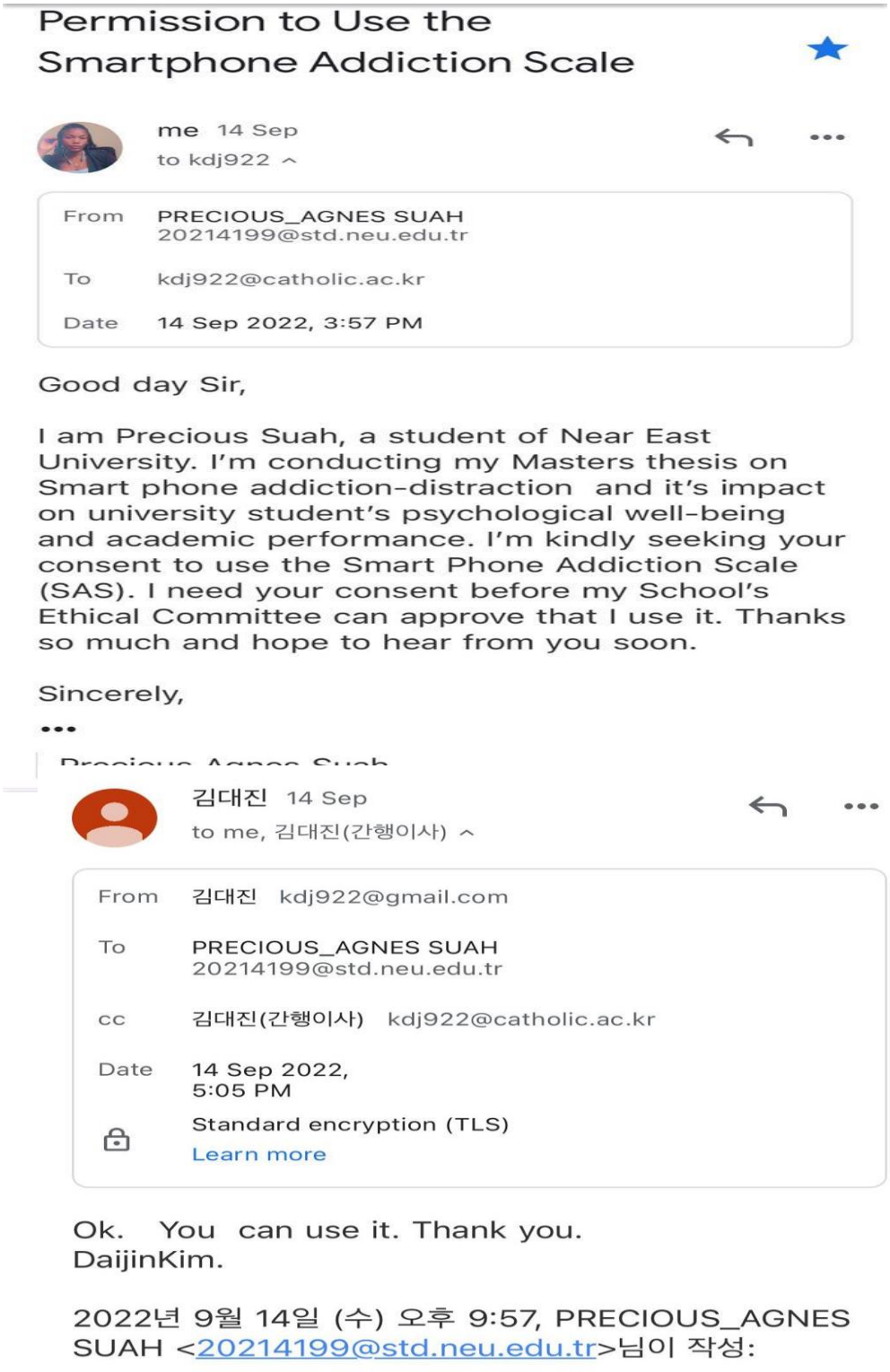
Appendix G

Permission to use the Smartphone distraction Scale (SDS)



Appendix H

Permission to use the Smartphone Addiction Scale (SAS)



Permission to Use the Smartphone Addiction Scale

me 14 Sep
to kdj922

From PRECIOUS_AGNES SUAH 20214199@std.neu.edu.tr
To kdj922@catholic.ac.kr
Date 14 Sep 2022, 3:57 PM

Good day Sir,

I am Precious Suah, a student of Near East University. I'm conducting my Masters thesis on Smart phone addiction-distraction and it's impact on university student's psychological well-being and academic performance. I'm kindly seeking your consent to use the Smart Phone Addiction Scale (SAS). I need your consent before my School's Ethical Committee can approve that I use it. Thanks so much and hope to hear from you soon.

Sincerely,

김대진 14 Sep
to me, 김대진(간행이사)

From 김대진 kdj922@gmail.com
To PRECIOUS_AGNES SUAH 20214199@std.neu.edu.tr
cc 김대진(간행이사) kdj922@catholic.ac.kr
Date 14 Sep 2022, 5:05 PM
Standard encryption (TLS)
Learn more

Ok. You can use it. Thank you.
DaijinKim.

2022년 9월 14일 (수) 오후 9:57, PRECIOUS_AGNES SUAH <20214199@std.neu.edu.tr>님이 작성:

Appendix I

Permission to use the Depression, Anxiety, Stress Scale

Not Secure — www2.psy.unsw.edu.au

2. Who can administer and interpret the DASS?

The DASS is a self-report instrument, and no special skills are required to administer it. However, interpretation of the DASS should be carried out by individuals with appropriate training in psychological science, including emotion, psychopathology and assessment.

When the DASS is administered to individuals who have sought professional help, or who are displaying high levels of distress, interpretation should be carried out by an appropriately qualified health professional such as a clinical psychologist.

3. How do I get permission to use the DASS?

The DASS questionnaire is public domain, and so **permission is not needed to use it**. The DASS questionnaires and scoring key may be downloaded from the DASS website and copied without restriction (go to Download page).

Appendix J

Curriculum Vitae

CURRICULUM VITEA

Personal Data

Name:	Precious Agnes Suah
Date of Birth:	October 20, 1990
Place of Birth:	Buchanan, Grand Bassa County
Marital Status:	Single
Nationality:	Liberian
Current Address: Northern Cyprus	78 sht mehmet kemal Sokak, kucuk kaymali, Nicosia,
Contact:	+905488541800
Email Address:	suahprecious1990@yahoo.com 20214199@std.neu.edu.tr

Educational Background

- Blessed Tutorial College / West African Examinations Certificate - 2009
- Ghana Institute of Journalism / Bachelor of Arts (Communication and Journalism Studies) - 2015
- Near East University / Graduate School of Social Sciences / M.Sc. General Psychology - 2023

Work Experience

- Producer of the 'Xplicit' show / X FM- 2013
- News Reporter / The General Telegraph – 2015
- Programs Producer / Television Africa (TV Africa) - 2020

Appendix K

Ethical Approval

YAKIN DOĞU ÜNİVERSİTESİ

BİLİMSEL ARAŞTIRMALAR ETİK KURULU

24.10.2022

Dear Precious Agnes Suah
Your application titled **"The Impact of Smartphone Addiction-Distraction on the Psychological Wellbeing and Academic Performance of University Students"** with the application number NEU/SS/2022/1375 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Prof. Dr. Aşkın KİRAZ
Rapporteur of the Scientific Research Ethics Committee

Appendix L

Turnitin Originality Report

Turnitin Originality Report

Processed on: 11-Jan-2023 10:20 EET
ID: 1991143649
Word Count: 14247
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thesis By Precious Precious

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https://mdpi-res.com/bookfiles/book/4223/Internet_and_Smartphone_UseRelated_A v=1663003956

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