MOBILE PHONE ADDICTION, ACADEMIC PROCRASTINATION AND ANXIETY IN UNIVERSITY STUDNETS

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KINNAIRD COLLEGE FOR WOMEN,

LAHORE, PAKISTAN

2023

MOBILE ADDICTION, ACADEMIC PROCRASTINATION AND ANXIETY IN UNIVERSITY STUDNETS

A BA/BSC RESEARCH REPORT SUBMITTED TO

KINNAIRD COLLEGE FOR WOMEN

IN FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

BSC (HONORS)

IN

APPLIED PSYCHOLOGY

BY

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It is stated that "*All changes suggested by the examiners during the defense have been incorporated in this final copy*".

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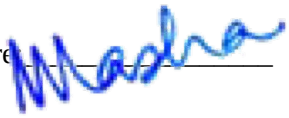
Signature: 

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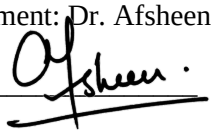
Signature: 

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It is certified that Ms. Noor Fatima of BSc (Hons) (session 2019 – 2023), Department of Applied Psychology has carried out research work entitled **"Mobile Phone Addiction, Academic Procrastination and Anxiety in University Students"** under my supervision.

It is assured that research work is original and has not yet been published anywhere else.

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Acknowledgements

I would like to thank my thesis advisor Prof. Dr. Masha Asad Khan dean of Social Sciences at Kinnaird College, Lahore. Ms. Masha was always present whenever I wanted her guidance or support about my research. She consistently allowed this paper to be my own work, but steered me in the right direction whenever she thought I needed it.

This thesis would not have been completed without the support of all teachers from Applied Psychology Department, Kinnaird College, Lahore. All teachers taught me things over the period of 4 years which helped me in the end when I was compiling this thesis.

Last but not the least, I would like to thanks my parents, siblings and my friends who were a constant support throughout this process.

List of Abbreviations

Abbreviations	Meaning
AP	Academic procrastination
CL	Confidence interval
LL	Lower limit
MPA	Mobile phone addiction
PIU	Problematic internet use
SAS-SV	Smartphone addiction scale-short version
UL	Upper limit

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List of Symbols

Symbols	Definition
a	Cronbach's index of internal consistency
β	Population value of regression coefficient
n	Total no. of items
p	Significant value
SD	Standard Deviation
%	Percentage

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Abstract

This study examined the relationship of mobile phone addiction, academic procrastination and anxiety among university students. A purposive sample of 300 university students (m= 112, f= 188) aged between 18-26 years (M= 21.20, SD= 1.97) from different educational institutions were included. Smartphone Addiction Scale-Short Version (SAS-SV), Academic Procrastination Scale (APS; McCloskey, 2011), Anxiety Subscale of Depression Anxiety Stress Scale and demographic form were administered. Correlational research design was used. Data was analyzed using Pearson Product Moment Coefficient of Correlation and Linear Regression Analysis using Statistical Package for Social Sciences (SPSS) version 25. Normality of the data was checked using normality tests, reliability analysis was done for checking psychometric properties of the scale independent sample t-test was done to see the gender differences in academic procrastination and anxiety among university students. The findings of this study may help in the identification as well as early prevention of mobile phone addiction.

Keywords: Mobile Phone Addiction, Academic Procrastination, Anxiety

CHAPTER I

Introduction

This research aims to investigate the relationship between mobile phone addiction, academic procrastination and anxiety among university students. Currently the most common trend among any university student is mobile phone addiction. These days every student possesses his/her own smartphone which makes their life very easy as they can use it for multiple reasons such as: Communication, education and entertainment. Although mobile phones are now mostly used for entertainment purposes. According to a study by Jafari et al (2019) students fall in the moderate dependency category of mobile addiction were 17.8%, 10.9% fall in extreme dependency range and the percentage of students who identified as mobile phone addicts was 71.3%. In developed countries the usage of mobile phones has increased up to 50% (Parasuraman et al., 2017). According to a report, in Malaysia the number of national internet users have increased from 76.9% to 87.4% in 2018. Which makes 28.7 million people who use internet and this number has significantly increased from 2016 as the number then was 24.5 million (Aydin et al., 2023).

Today the most common nonsubstance addiction is of mobile phone addiction which is combined with pessimistic consequences such as anxiety and depression. Compulsively using these devices interferes with education, work and relationships (Samar et al., 2022). Smartphone addiction is also called nomophobia which is a state of fear caused when you are without a phone. Since mobile phones make internet more accessible, the trend of its addiction is consequently becoming more prevalent specifically among adolescents in developed as well as developing countries (Kwon et al., 2013). Mobiles are not only used for accessing internet but it is also used for gaming, social networking and streaming movies (Abbasi et al., 2021). Numerous mobile phone users have become so dependent on their mobile phones that they feel that they can't work without them, use them a significant part of

the time, misuse them, become dependent, neglect their duties and tasks, and influence the people financially and mentally by causing health problems (Parasuraman et al., 2017). Ziapour et al., (2020) conducted a study which showed that excess internet use leads to anxiety, depression, poor mental health and impacts academic performance. A study conducted by Abbasi et al., (2021) revealed that addiction of mobile phones among Pakistani adolescents is at a whopping 60% and the cause of it being lack of awareness among students as well as the overdependence on it for study purposes. Approximately 27% of young people never shutoff their phone and use it on an average of 10 hours per day.

Before the far and wide use of mobile phones, a study in Saudi Arabia connected the mobile phone usage with various dangers to wellbeing, including headaches, sleep disturbances, dizziness, strain, weariness, and dizziness (Al-Khlaiwi et al., 2021). Later, another Saudi Arabian study discovered that 44.4% of the medical students credited the migraines that they experienced, diminished concentration, cognitive decline, hearing loss, and weariness to the use of mobile phones. Time after time studies have shown the youth to be the highest consumer of mobile phones which is also the most vulnerable group particularly students (Surat et al., 2021). Globally mobile phones were used by a total of 1.85 billion people in the year 2014 which in 2017 was expected to reach 2.32 billion and eventually in 2020 to reach 2.87 billion (Cha & Seo, 2018). Although mobile phones make our life easier but they sure do tie us and such too much dependency make us addicts. As numerous studies have reported the relation of cell phone addiction with negative academic effects as well as psychological problems such as sleep deficit, anxiety, depression, academic procrastination and these are all associated with internet abuse which is linked with excessive use of mobile phones (Cha & Seo, 2018).

Internet usage dependent on mobile phones has become quite essential among youth as there are multiple different applications present, which work in day-to-day life, for

example, lifestyle, education and wellbeing applications (Aydin et al, 2023). Newer ways of socialization have become more prevalent, preferred and common among the youth as most of the university going students like to interact with their peers through social media apps. This excessive usage becomes a factor of distraction for the students which is why their studies are negatively affected. They start indulging into things like deviation, laziness, lack of focus and they have poor psychological as well as physical functioning as a result of lack of sleep (Ziapour et al., 202). A survey was conducted which showed negative psychological effects of mobile phone use on the young generation. It was reported that they felt anxious and depressed while using mobile phones. While some youngsters show symptoms of calmness and relax behavior when they were not using their phones (Abbasi et al., 2021).

Universally, the pervasiveness of mobile addiction varies from 2.4% to 60.3% in school going children and adolescents (Gangadharan et al., 2020). India is one of the fastest and biggest developing business sectors when it comes to digital consumers, with 560 million web subscribers in 2018, second only to China. Social media users of India spend more time on social networks than both China and United States users by spending 17 hours weekly. Half of India's mobile phone users are somewhere in the range of 15 to 24 years of age and generally are students (Gangadharan, 2018). More than 50% time spent on mobile phone is spent using social networks, photo apps, video streaming apps and so on. Negative psycho-social as well as physical effects of mobile phone use are highlighted through studies. Internet use through mobile phone is said to cause a lot of problematic behaviors such as violence which can be triggered through games and cyber bullying on social media. Mobile phone addiction is common among all genders and socio-economic classes but has seen to be widespread among women and adolescents (Ferrera et al., 2018).

During the Covid-19 pandemic government restricted all social/educational/work gatherings to prevent the spread of the virus which consequently changed the life of

adolescents (Chaturvedi et al., 2021). Living in times like this made the use of internet and mobile phones a necessary tool for learning (Elhai et al., 2021). Mobile phones were used not only for entertainment but also for learning and socializing which led to increased use of phones during the pandemic as it was the only link people had with the outside world and information related to this pandemic which led to addiction (Garcia et al., 2022). Addiction of mobile phone is depicted as the compulsive habit of staying away from the real world or creating fervor through mobile phone use, with side effects like withdrawal and salience (Liu et al., 2022). Various kinds of research have shown that addiction of mobile phone has huge unfortunate results on emotional and physical health as well as academic performance (Cha & Seo., 2018). According to statistics the number of mobile phone users is increasing very rapidly and is reported to reach 42 million by the year 2025 in Italy alone and its overuse will lead to psychological, social and clinical problems (Gracia et al., 2022).

There are many negative effects that come along with the overuse of mobile phones. These negative effects can be poor sleep quality, everyday inattention, academic procrastination as well as attention deficit (Cha et al., 2018) and negative academic performance. Mobile phone addiction has been linked with physical and mental problems such as blurred vision, tactile illusion, muscle pain and stiff spine (Kamal et al., 2022). A research concluded that teenagers who spend a lot of their time on mobile phones are more prone to the risk of suicide (Shoukat, 2019). Another researcher studied the association of over use of mobile phones and psychological health which indicated chronic stress, emotional stability, depression and anxiety have a correlation with mobile phone usage. Using mobile phones in class for irrelevant activities is called cyber loafing. Cyber loafing is related with mobile phone addiction and is viewed as a negative element which brings down the performance and academic achievement students (Ali Raza et al., 2020). All these negative effects in certain instances overweigh the good that comes with mobile phones.

These days all areas of life are dominated by procrastination but its most common domain is academic procrastination which is practiced in academic settings. It is about being aware and having the knowledge that one has to do a certain task(s) but lacking the motivation to do so (Pamuk, 2017). Academic procrastination becomes a hurdle to achieve academic goals in a destined amount of time which causes psychological distress among students (Ferrara et al., 2018). Student's perception of themselves as procrastinators varies and studies concluded unrelenting and consistent procrastination among most of the students. There are some gender-based studies which revealed that female students are more likely to procrastinate than male students. On the other hand, there are some studies which show that male students are more likely to procrastinate than females (Parasuraman et al., 20). Balkis and Duru conducted a study on 580 university students and its results showed that men procrastinate more than women. Whereas, Ozer and Ferrari (2011) found that there was no difference among university students based on gender. Students who have problematic mobile phone usage issues are not able to control the urge to use it while working on an assignment. They spend most of their time using social media rather than reading school books (Surat et al., 2021). Almost every adolescent is addicted to their phones which may result in procrastinating school tasks and duties. This procrastination makes it difficult for them to achieve high academic goals which in result lowers their academic self-esteem, all due to problematic use of mobile phones (Caplan, 2010).

In technologically advanced and pragmatic societies procrastination has become a common phenomenon. Academic procrastination is thought as a kind of situational procrastination. It is a psychological phenomenon that revolves around students postponing the completion of their assignments or projects unnecessarily. Such procrastination creates a feeling of anxiety and stress for students (Steel, 2007). Students are continuously stressed out because of their procrastination but that doesn't stop them from indulging in it and they are

constantly thinking about all their pending work at subconscious level. Although academic procrastination adds to their number of problems and to some extent, they are aware of this fact but breaking this cycle is as if it is impossible for them. Mobile phone addiction is one of the leading factors of this procrastination. Although it can be a great learning tool for students but it's problematic and excessive use can have adverse effects on students. Moreover, academic procrastination and addiction of mobile phone are negatively associated, it is observed that students who are mobile addicts they spend less time on academic performance, attention, interest and investment (Amez & Baert, 2020). A research revealed that 80-90% students are actively involved in academic procrastination (Kim & Seo, 2015). While another study revealed that 97% students do academic procrastination (Janssen, 2015).

Academic procrastination is defined as a gap that exists between both action as well as intent. It is considered as dysfunctional just when this will in general hinder with work ability and when this appears to hamper student performance (Steel, 2007). Not all types of delay or postponement have negative consequences such as postponement in planning the work with more utility oriented detailed information and to gain a more comprehensive data (Rahimi et al., 2016). Zohar et al., (2019) highlighted two kinds of procrastination such as active procrastination and passive procrastination. People who indulge in active procrastination they do complete the task within its given time but they delay working on it intentionally to work on something other which they consider more important. On the other hand, passive procrastinators don't intentionally delay their tasks but they are unable to make decisions and work on it within the given appropriate time.

There are some students who procrastinate in specific situations which is known as state procrastination and then there is trait procrastination which takes on features of a disposition or habit. According to studies all students procrastinate at some point but 75% of students consider their own self as habitual procrastinators. Almost half of these

procrastinators want to tackle and deal with their behavior as it is a persistent and real problem (Steel, 2007). Due to self-regulative problems they don't tend to seek out for help as such problems are inherent to procrastination and due to the feelings of guilt and shame that are attached with procrastination. When students do seek for help, the cases should be screened according to less severe and severe cases so that the support they require can be tailored to their own specific needs (Ali Eissa Saad et al., 2020).

When the world was struck with Covid-19 and had to make adjustments according to the new set norms such as the online learning model many issues came forward including academic procrastination. From that point forward there has been a huge surge in procrastination done academically (Elhai et al., 2020). There are a number of previous studies which show the link between online learning system and delay in completing academic tasks aka academic procrastination. Students procrastinate even though it results in negative consequences like low grades. Students put off finishing school work in light of multiple factors, they do and submit assigned tasks late, and face trouble in time management (Ucar et al., 2021). In case if practice of procrastination remains unresolved, it will bring about a terrible mindset for student's psychological development (Rozental et al., 2022).

Excess use of mobile phone has been linked with many psychological issues such as anxiety, depression, social anxiety and low psychological wellbeing (Elhai et al., 2018). When habits are converted into obligation it becomes an obstacle. Even the Covid-19 pandemic anxiety correlated with problematic use of smartphones, anxiety and depression (Elhai et al., 2020). Anxiety linked with procrastination is a vicious cycle. There are some tasks that make people anxious but there is a large probability that putting that task off may produce even more anxiety (Li et al., 2020). Another perspective to be considered is that mobile phone addiction also makes students disengage from learning activities while in class, enable cheating on exams as well as it enables academic procrastination (Ward et al., 2017).

Addiction of mobile phone, academic procrastination and anxiety are common factors in almost all university students.

Elhai et al. (2017) conducted a systematic review of the literature on mobile phone or smartphone behaviors. They studied 23 peer reviewed articles on the relation that exists between anxiety and addiction of mobile phone and through these studies they developed a broader picture of how these factors work and are related. The analysts found that mobile phone use was as a matter of fact related with symptoms of anxiety as well as increased experience of stress. The more the mobile phone usage increases the more the symptoms of such disorders increase. Problematic mobile phone use is very similar to internet addiction. Checking notifications from phone can be rewarding for some people but compulsively checking phone for updates and getting addicted to this positive feeling is what causes addiction. These behaviors lead to worsening symptoms of anxiety (Kuss et al., 2018). The failure to limit mobile phone use regardless of knowing the destructive impacts of its usage; extreme craving, joined by restlessness and anxiety, to use the phone when they are not using it; and the inclination to sleep with the phone close by joined by the need to awaken and check the phone over and over. The "fear of missing out" (FOMO) could to some extent drive this cycle, driving the users of mobile phones to really take a look at their phones due to a paranoid fear of missing out on important get-togethers or events (Alosaimi et al., 2016).

As mobile phone and internet usage has been intertwined with smartphones, social media apps like Instagram for example has everyone obsessed with its “like and view” feature. Youth is obsessed with getting more likes and views than their peers and this constant and easily accessible positive reinforcement and validation can become a source of anxiety. Constant checking of the number of likes or views they have reached, or not getting as many likes as their friends can cause anxiety. Less number of 'likes' on a photograph could cause pessimistic reflection of self, provoking constant 'refreshing' of page in the expectation

for seeing that another person has 'appreciated or enjoyed' their post, in this way it helps with achieving personal validation. A study conducted in 2015 showed that change or decrease in the levels of dopamine can increase the chances of feeling anxious. The longing for a 'hit' of dopamine, combined with an inability to acquire instant gratification, may provoke people to perpetually refresh their feeds on social media. According to reports since the year 2021 there are 3 billion monthly social media users. Social media addiction is recently reported to be more addictive than cigarettes or alcohol (Akinci, 2021).

Negative attitude and feelings of anxiety and dependency on gadgets paired with excessive use of mobile phones increases the likelihood of anxiety (Rosen et al., 2013). Thomee et al. (2011) conducted a study which concluded that excess use of mobile phones results in negative psychological effect. Another study revealed mobile phone usage at night time is quite prevalent among youngsters which consequently reported bad perceived health due to staying up all night long although there was no linkage between mobile phone and performance of memory (Schoeni et al., 2015). A researcher studied the mental health effects of digital stress he surveyed individuals from age 14 to 85 after which he concluded that communication load was related with perceived stress positively which also indirectly impacted depression and anxiety. Negi and Godiyal (2016) found through a questionnaire that 64% students use mobile phones on campus. They collected data through randomized sampling of 100 students which showed mobile phone use has negative psychological effects on youngsters as they felt depressed and anxious while using it.

Research suggests that addiction of mobile phone can cause psychological problems such as depression as well as anxiety, these issues can create critical problems and barriers in physical and mental wellbeing, relationships and activities. This issue became so big that it reached significant public health concern due to which WHO issued a report on it. To summarize the report included problems which are associated with excessive use of mobile

phones (WHO, 2015). According to a study Malaysian private university students admit that mobile phones can cause sleep disorders, headaches and mental loss (Kumar, 2011). The research in Malaysia found that students who invested more energy on cell phones were more prone to mental issues brought about by unhealthy and uncontrolled use of cell phones (Kumar, 2011). Researches reveal mobile phone addiction to be similar with drug addiction except it is behavioral addiction which doesn't require any substance. Although in behavioral addiction physical symptoms are absent but it can undergo the same result if abused for too long. United Nations Conference on Trade and Development (UNCTAD) conducted a study and Saudi Arabia was ranked at the top among proportion of mobile phone users (ITP Staff, 2020) with distribution rate of 86.1% in 2015. A study was conducted with the sample of King Saud University students which revealed the prevalence of smartphone addiction by 48% along with significant gender differences when it came to the degree of addiction (Aljomaa et al., 2016).

THEORETICAL FRAMEWORK

Problematic Internet Use

Mobile phone problematic behavior was suggested to be integrated with internet problematic behaviors. Davis (2001) was the first person to propose a cognitive-behavioral model Problematic Internet Use also known as (PIU). There are two main components in this model, first one being distal i.e., individual's psychopathology and second is proximal i.e., cognition which are maladaptive with internet usage. Later the model of Davis was revised and included variables of cognitive/behavioral for example, the inclination for online social interactions, related with adverse results associated with smartphones and internet use (Caplan, 2010). He found that although communication through cell phones has significantly decreased the trouble of face-to-face interactions however it is not appropriate for self-regulation. This defected self-regulation in return produces negative outcomes in the lives of people. Due to the portability and accessibility that comes with mobile phones the linkage between internet and mobile phone usage has become more pervasive and insidious than ever before (Parasurman et al., 2017).

Flow Theory

Flow theory was introduced by a psychologist called Csikszentmihalyi. This theory depicts a particular state of mind when a person is fully engaged in a task or activity. Flow is a state of mind in which a person is so engaged in a task or activity that they might become oblivious to their surroundings as well as lose track of time. People feel they are in charge of their actions and in a sense of exhilaration and enjoyment, when the degrees of task difficulties and their own abilities are both equally high. It basically equates to being lost in the experience. It can be said that this state of flow is what mobile phone addicts experience. A person who is addicted to their mobile is so occupied using it that they often lose track of time and are unaware of what is happening around them because of the state of flow they are in. These

people may pick up their phone for a break between their work but when it comes to putting it back down, it is “flow” which makes that hard for them. Another aspect why mobile phone addicts may slip into this state of flow can also be the fact that when a person is in that state, they forget all the unpleasant aspects of their life (Csikszentmihalyi, 2014).

Freud’s Anxiety Theory

Freud (1917, 1926) developed two theories of anxiety in which he saw anxiety as a mean to explain neuroses and he saw it as an everyday phenomenon. There are two types of anxiety; (i) realistic anxiety which is referred by real objects and is called everyday anxiety (ii) neurotic anxiety on the other hand is an unconscious conflict which is within the individual and since the conflict isn't in the consciousness of the individual, he/she doesn't know about the reason of their tension bringing about a fit of anxiety. Similarly, mobile phone addiction can be a huge reason behind anxiety it is like neurotic anxiety, unconscious conflict within oneself. A person experiencing anxiety due to mobile phone addiction might not be aware of the reason behind their anxiety as it also satisfying their addiction but consuming all sorts of content to an extent of addiction can be the leading cause of anxiety among people (Morris, 1973).

Emotional Regulation Theory

Emotional regulation theory revolves around the idea of people prioritizing short-term feeling and mood over long-term goal satisfaction. This happens when a person postpones or delays a task to avoid any negative feelings such as boredom, frustration, confusion etc. It can also occur if a person avoids the absence of positive emotions or to prolong the period of positive emotions (e.g., joy from using mobile phones). The behavioral pattern that this theory is discussing is viewed as a maladaptive coping strategy as it hampers with long-term progress and can be a variable decreasing individuals' overall emotional wellbeing. For instance, this can occur when somebody postpones a task that they're unwilling to do, and thus stress over

it at the back of their brain for long time, while likewise experiencing added negative emotions (e.g., anxiety and shame) because of their procrastination. Emotional regulation theory also aligns with self-control and self-regulation models as hedonistic impulses come between long-term objectives or goals. Although, the focus is on the concept of mis-regulation in which people think that procrastination will make them feel better, instead of under-regulation in which people indulge in procrastination because they fail to exert necessary self-control. Though both can equally contribute to procrastination. A critical part of the emotion-regulation theory is temporal disjunction, where people feel isolated from their future self, which drives them to focus on the necessities and wants of their ongoing self. For instance, a person procrastinates on an important project just to make their present self feel good while ignoring the negative consequences that their procrastination will have on their future self (Rolston et al., n.d)

Literature Review

The following section reviews literature related to study variables namely: Mobile phone addiction, academic procrastination and anxiety among university students.

Ithnain et al. (2018) conducted research to study the relation of addiction of smartphone with depression and anxiety in undergraduate students of a Malaysian university. This research was a cross-sectional study in which the researcher used purposive sampling technique. The sample size was of 369 students out of which 299 were women and 70 men. Tools used to collect data were Smartphone Addiction Scale, Beck Anxiety Inventory and Beck Depression Inventory. According to results mobile phone was used for more than four hours a day by 70% of the sample, half of them (57.2%) used it for social media. This addiction was divided in two categories: High smartphone addiction and low smartphone addiction. Results concluded that almost half of the student sample (47.7%) has high smartphone addiction. As for anxiety, 54.2% indicated mild anxiety, 14.6% moderate anxiety, 11.1% severe and 6.3% showed extremely severe anxiety. Whereas, mild symptoms were indicated by 80.5%, moderate by 14.1%, severe by 5.1% and extremely severe by 0.3% on the level of depression. According to the results, there is a positive significant correlation between mobile phone addiction with depression ($r=0.302$; $p<0.001$) and anxiety ($r=0.227$; $p<0.001$).

Boumosleh et al. (2017) conducted a cross-sectional research to study the prevalence of smartphone addiction symptoms and to find out if anxiety or depression independently play a contributing role to the smartphone addiction level among Lebanese university students. The sampling strategy used was random sampling and the sample size was 688. The tools used in this study were Smartphone Addiction Inventory (SPAI), PHQ-2 – Brief

Screener of Depression and GAD-2 for anxiety. According to the results, 49% of the sample reported excessive use of smartphone. Top reasons for the use of smartphones were reported to be texting (83%), entertainment (67%), calling friends (62%). One third of the sample reported to have compulsive behavior. More than 38.5% of the sample reported compulsive behaviors. Functional impairment was reported by more than one-fifth of the sample, symptoms of withdrawal were reported by 63.5% and indication of tolerance was reported by 54.3%. In conclusion, prevalence of addiction of smartphone was significant in the sample of college understudies. A few independent risk factors for addiction of smartphone arose which include excess usage of smartphone, depression, personality type A, anxiety as well as absence of family social help.

Imam et al. (2018) conducted this research to study the level of cell phone addiction and its relationship with anxiety. The study consisted of 100 Ph.D. students (70-male, 30-female) from Aligarh Muslim University, India through purposive sampling technique. The tools which were used for this research were Mobile Phone Addiction Scale (MPAS) and Beck's Anxiety Inventory (BAI). Pearson correlation co-efficient analysis was used. According to the results the correlation was positive between anxiety and mobile addiction which means higher mobile phone addiction indicates higher anxiety among participants. The relation of mobile phone addiction as well as anxiety was significant among males although it was not very strong in females. As for the level of mobile phone addiction among participants was concerned, female Ph.D. students reported mobile phone addiction at a higher level than male students. In conclusion, mobile phone addiction was one of the reasons behind anxiety though it was not a very significant one.

Qaiser et al. (2018) conducted a research to study the relation between problematic use of mobile phone, academic performance and academic procrastination in students who go to college. This study was based on cross-sectional research design which consisted a sample of 200 college students from different government colleges of Lahore. Age of participants vary from 17 to 25 years of age. The tools that were used are General Procrastination Scale (Lay, 1986) and PMP questionnaire. The results of this research revealed a negative and significant relationship between PMP and academic procrastination among college students as well as a negatively significant relationship between academic performance and academic procrastination. This study highlighted the negative effects that mobile phone usage has on students which is related to academic procrastination along with low grades.

Malla (2021) conducted a study to observe gender differences in academic procrastination and addiction of smartphone in students who attend secondary school. Aim of study was to observe the influence that addiction of smartphone has on procrastination done academically. This research used a mixed method research design and the sample consisted of 200 secondary school students from the South of Kashmir. The tools used were Smart-phone Addiction Scale, Academic Procrastination Scale as well as in-depth semi structured interview. According to the computed t-value significance reported at 0.01 level (t-value 3.01) which means there was a difference of significance between female and male students from secondary schools on academic procrastination. Male students were reported to be bigger procrastinators than female students. Mean difference was found to be significant among female and male students on addiction of smartphone as well with a significant t-value of 0.01 level of significance (t-value 2.79). According to reports male students scored higher on smartphone addiction than female students.

Saad (2020) conducted this research to study combined effects of academic procrastination, self-regulated learning on addiction of smartphone. It also investigated the relative contribution of self-regulated learning and academic procrastination to smartphone addiction among the population of differently abled middle school students. Correlations between and among academic procrastination and self-regulated learning on smartphone addiction. The researcher used convenient sampling method to collect data from four different schools. The tools that were used are; Brief Smartphone Addiction Scale, Self-Regulated Learning Scale and Procrastination Scale. According to results, there was negative correlation between academic procrastination and self-regulated learning (r= -0.53) and smartphone addiction (r= -0.49). Both the IVs contributed to predict addiction of smartphone. Outcome showed the following beta weights which addressed the relative contribution of the independent variables to the prediction were observed. Although both academic procrastination and self-regulated learning significantly predicted smartphone addiction but academic procrastination is a more dominant predictor.

Li et al. (2020) conducted a meta analysis review on correlations between addiction of mobile phone, impulsivity, anxiety, poor sleep quality and depression within students from college. The data was gathered by two researchers and the information that was extracted was: Geographical location, first author, publication year, survey method, students' specialty, sample size, school year, tools used to measure anxiety, sleep quality, impulsivity and depression. Pearson's correlation between MPA (mobile phone addiction) and other four outcomes. The methodological quality was assessed by two researchers by using Joanna Briggs Institution Critical Appraisal Checklist. Total of 33,650 pupils from forty studies were identified. The correlation between anxiety and MPA, impulsivity, poor sleep quality and depression was weak to moderate. When stratified by some moderators some discrepancies got revealed. Sensitivity analysis confirmed robustness of the results. This meta analysis

provided solid evidence about the positive correlation that MPA has with anxiety, impulsivity, sleep quality and depression. These findings tell us that students with MPA are more possible to have high level of anxiety, poor sleep quality, impulsivity as well as depression.

Hashemi et al. (2022) conducted a research to study the relation between over use of mobile phone scale with depression, anxiety and stress in university students. This research was conducted with the students in Khorramabad, Iran. It was a cross sectional study which consisted 212 students who were selected randomly stratified and clustered random sampling technique. The tools which were used are Cell-phone Over-use Scale (COS) and DASS for depression, anxiety and stress. Results revealed significant relation between over use of cell phone scale and stress of students (t= 2.61, *p*= 0.01) as well as the anxiety of students (t= 2.209, *p*= 0.028). Whereas, over use of cell phone scale and student's depression did not have a significant relation (t= 1.79, *p*= 0.08). In conclusion, harmful usage of cell phones can trigger mental problems, for example, anxiety, depression and stress and by controlling this variable one can improve the degree of psychological well-being and increase the quality of life in students.

Choksi (2021) conducted a correlational study of addiction of mobile with anxiety, stress, sleep quality and depression among the Surat city college students. The sample size was of 100 students, their ages vary from 18 to 23 years of age and the sampling strategy used by the researcher was convenient sampling. The tools which were used are DASS, Smart Phone Addiction Scale – Short Version and Athens Insomnia Scale. According to the statistical analysis 27% students were addicted to smartphones. Positive correlation was observed of anxiety, stress, depression as well as sleep quality with smartphone addiction

($p<0.05$). The two variables which were highly correlated with smartphone addiction are anxiety ($p=0.00$) and stress ($p=0.00$). High chances of anxiety and stress were revealed among mobile phone addicts. In conclusion, smartphone addiction was highly positively significant with stress and anxiety. Whereas, smartphone addiction is moderately correlated with depression and sleep quality.

Pamuk (2017) conducted a study to examine academic procrastination behaviors in relation to mobile phones among students. This research used the survey model and the sample size was of 481 high school students from Elazig in Turkey. The sample consisted of 58.8% of female and 41.2% male. The tools used were problematic mobile phone use scale and academic procrastination scale. Statistical analysis which the researcher used are: correlation, ANOVA, t-test, regression and Scheffé test. Moderate correlation was found through results between academic procrastination and problematic mobile phone use ($r= .31$). Results further revealed that academic procrastination was predicted significantly by mobile phone addiction, gender and daily phone use.

Liu et al. (2022) conducted a study to explore the effect that perfectionistic concerns may have on addiction of mobile phone and mediating role of academic procrastination and causality orientations. This research consisted of a cross-sectional sample from two universities in Jinan China which consisted of 625 Chinese college students among which 20.8% were male and 79.2% were female. The tools used in this study are Frost Multidimensional Perfectionism Scale, Procrastination Assessment Scale – Students, General Causality Orientation Scale and MPA index of (MPAI) was used to measure the level of MPA in students who go to college. According to results, perfectionistic concerns were correlated positively with both MPA ($r= 0.30$, $p< 0.001$) and AP ($r= 0.20$, $p< 0.001$).

Furthermore, academic procrastination was also positively correlated with mobile phone addiction ($r= 0.30$, $p< 0.001$).

Chen et al. (2021) conducted research to study the association between dependency of cell phone, time management, academic procrastination as well as self-regulated learning among Chinese students whose major was physical education while also exploring the mediating role of self-efficacy for time management and disposition and self-regulated learning. The sampling strategy used was random sampling, 324 students from physical education major from five different universities in Shaanxi Province, China were used as a sample in this study. The tools used were Mobile Phone Addiction Index, Self-Efficacy Self-Regulated Learning Scale, Adolescence Time Management Disposition Inventory and for academic procrastination the questionnaire used was compiled by Solomon and Rothblum. According to results self-efficacy and self-regulated learning ($r= 0.16$; $p< 0.00$) and mobile phone dependence ($r= 0.46$; $p= 0.00$) are positively correlated with academic procrastination. Time efficacy and academic procrastination are negatively correlated ($r= 0.10$, $p=0.04$). In conclusion, the findings highlight the effects that dependence of cell phone has on academic procrastination in college students who major in physical education.

Albursan et al. (2022) conducted a research in view of corona virus pandemic to identify the proportion as well as level of mobile addiction and academic procrastination in university students, identifying the differences in academic procrastination, addiction of smartphone and life quality according to the gender and stage of study. Sampling strategy used for this study was snowball sampling and the sample size consisted of 556 students from separate universities in Saudi Arabia. The tools used to measure the variables were SPAI for smartphone addiction, APS for academic procrastination and WHOQOL for quality of life.

Results reported 37.4% of the sample had addiction of smartphone, 62.8% of the sample had average level of procrastination and 7.7% of the sample had high level of procrastination. Statistically significant difference of academic procrastination was observed in reference to gender and stage of education, favoring men and undergraduate students. There was a significant and positive relation of academic procrastination and addiction of mobile phone. Whereas there was a significant and negative relationship between quality of life and smartphone addiction. Furthermore, the relationship of procrastination done academically and quality of life was negative.

Akinci (2021) conducted this research to study the relationship of problematic use of mobile phone, academic procrastination, self-regulation and stress of academics in university students. The sample size for this study was 632 university students from different teaching programs at Attaturk Faculty of Education, Marmara University. From the sample size 68.8% were female and 31.2% were male. The tools used for this study were Academic Expectation Stress Scale, Academic Procrastination Scale, Smartphone Addiction Scale and Academic Self-Regulation Scale. Path analysis was performed to examine the predictive relation between variables of interest. According to the result findings, problematic mobile phone use and academic procrastination have a significant positive relationship with each other at .396 level, significantly negative relationship with self-regulation at -.157 level and the relationship with academic stress was positively significant at .249 level ($p<.01$). In conclusion, problematic use of mobile phone has a positive significant relationship with academic procrastination. Whereas, its relationship with self-regulation is negatively significant.

Yang et al. (2018) conducted a study to explore problematic use of mobile phone in students of Chinese universities in association with academic procrastination, academic anxiety, subjective well-being and self-regulation. This study consisted of a sample of 475 undergraduate university going students in South China. Male to female ratio in this study was 266 and 209 respectively. The tools which were used are SAS-SV - smartphone addiction scale, AEQ – academic emotion questionnaire, IPS – irrational procrastination scale, SRS – self-regulation scale and SWLS – satisfaction with life scale. According to Pearson's correlation analyses indicated that almost all five variables were significantly correlated with one another (with the exception of life satisfaction and academic anxiety) and problematic smartphone use was both positively and significantly correlated with academic procrastination ($r= 0.36$, $p< 0.01$).

Moosivand et al. (2022) conducted research predicting anxiety, depression, stress, and academic procrastination in the light of smartphone addiction with emphasis on gender differences among students. This research was based on descriptive correlation and consisted of a sample of 275 students using the technique of stratified sampling. The students were freshman high school students in Turkmanchao. The tools used in this study are DASS21, Mobile Phone Addiction Questionnaire (2013) and Solomon and RatRathblum's Delayed Questionnaire. According to the results of this study, Pearson correlation coefficient confirmed phone dependency with academic procrastination ($p>0.001$, $r= 0.358$), with melancholy ($p= 0.001$, $r= 0.457$), tension ($p= 0.001$, $r= 0.363$). In other words, the better a student scores on phone dependency the greater anxious, depressed, procrastinating and stressed the become.

Summary of Findings

The general findings that have been observed are that mobile phone addiction showed a positive relationship with academic procrastination as well as anxiety. Both academic procrastination and anxiety are becoming prevalent in students because of the easy escape aka mobile phones that today every student possesses. Mobile phone addiction and academic procrastination are observed more in men and undergraduate students than women. High level of mobile phone addiction indicated high level of anxiety and it is observed that mobile phone addiction and anxiety are significant among men as compared to women. In conclusion, the higher the level of addiction of mobile phone is in a person the higher are the chances of academic procrastination and anxiety.

Rationale

Mobile phone addiction is quite common among university students and some of the reasons for it can be loneliness, anxiety, depression and distraction. The best and most convenient form of distraction in today's age are mobile phones. According to stats 17.8% students fall under the range of moderate dependency, 10.9% fall under the range of extreme dependency and 71.3% are considered mobile phone addicts (Jafari et al., 2019). Specially, during the COVID-19 mobile phones became an even more essential thing to strengthen and foster social connections as well as overall well-being (David et al., 2021). As governments all around the world restricted their people within their homes and advised to practice social distancing, these changes impacted the use of mobile phones. It is quite obvious that Internet/Mobile Phone usage increased globally, a global survey indicated an increase of internet traffic by 60% after the onset of the pandemic (OECD, 2020). All these research findings suggest that COVID-19 regulations may have been a huge trigger for the excessive use of mobile phones. The present study will be focusing on filling the gaps that were identified in the previous researches. The focus of this study is to make students aware of the vicious cycle of addiction and procrastination that they are a part of which will consequently decrease their level of anxiety hence improving their learning experience as well as academic achievement. This study will also investigate significant differences in demographics among participants in terms of their gender. Moreover, this study will also fill on the contextual literature gaps in Pakistan. There have been researches with variables of mobile phone addiction and anxiety but the influence that it has on academics and how it promotes academic procrastination is yet to be studied in depth. This present study will focus on how mobile phone addiction is linked with academic procrastination and anxiety in university students.

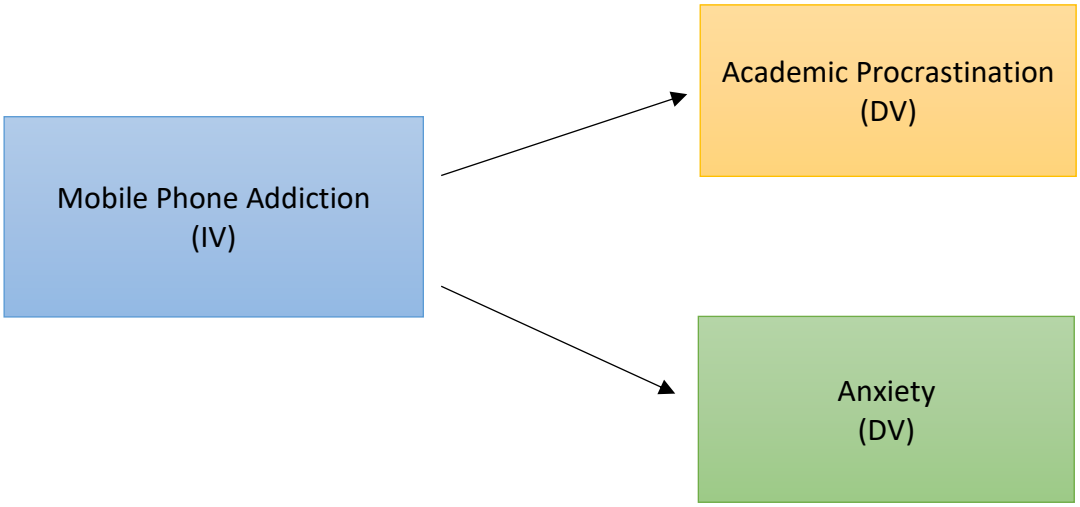
Objectives

- To identify the relationship of mobile phone addiction, academic procrastination and anxiety among university students
- To explore the predictors of mobile phone addiction among university students.

Hypotheses

- H1: There likely to be a significant relationship between mobile phone addiction and academic procrastination.
- H2: There is likely to be a significant relationship between mobile phone addiction and anxiety.
- H3: Mobile phone addiction will significantly predict academic procrastination and anxiety among university students.

Proposed Model of Study



CHAPTER II

Methodology

Research Design

The research design used for this study is correlational research design. It is a non-experimental research design in which the statistical relationship between variables is tested with little to no effort required to control any extraneous variables (Kanner et al., 1981).

Sampling Strategy

The sampling strategy used for the present study was purposive sampling strategy. It is a type of non-probability sampling strategy in which the participants are chosen because they have the same characteristics required for the sample (Saunders et al., 2012).

Sample

A purposive sample of 300 university students was taken. Age of participants of the study ranged from 18-26 years (M= 21.20, SD= 1.97). Data was gathered from University of Management and technology, Punjab University and Kinnaird College for Women. Majority of the participants were undergraduate university students.

Inclusion Criteria

- University students between the age group of 18-26 years.
- Students who own a personal mobile phone.
- Students enrolled in the undergraduate, graduate and postgraduate level were approached.

Exclusion Criteria

- Students younger than 18 or elder than 26 years of age.
- Students who don’t own a personal phone.

Operational and Conceptual Definitions

Mobile phone Addiction: it is defined as the uncontrolled usage of mobile phones in harmful or inappropriate situations and is common in college students (Gao et al., 2018). This will be operationally defined as the participant's score on Smartphone Addiction Scale-Short Version.

Academic Procrastination: it is a psychological factor that is negatively correlated academic achievement among college students (Karatas, 2015). This will be operationally defined as the participant's score on Academic Procrastination Scale.

Anxiety: the higher the level of mobile phone addiction in a person the higher the level of anxiety will be (Kwon et al., 2013). This will be operationally defined as the participant's score on the anxiety subscale of DASS.

Measures

Smartphone Addiction Scale-Short Version (SAS-SV)

SAS-SV was used to measure addiction of mobile phone in this study. This scale was originally developed for South Koreans adolescents and adults. The original SAS scale is a 33-item scale and its shorter version which is SAS-SV is a 10-item scale. It is a 10-item scale with six-point likert scale. Scores higher than 31 for males indicate that they are addicted to mobile phones whereas scores between 22 and 31 indicate high risk of addiction. For female scores 31 or above indicate addiction and scores 22 and 33 indicate high risk of addiction (Kwon et al., 2013). SAPS, SAS and KS-scale were used to test the concurrent validity of SAS-SV and showed good reliability and validity to assess mobile phone addiction.

Academic Procrastination Scale (APS; McCloskey)

APS; McCloskey was used to measure academic procrastination among university students in this study. This scale consists of total 25 items from which five items are reverse scored. The

reverse scored items are 1,8,12,14,25. It is scored on a five-point likert scale where 1 means (Disagree), 2 means (Slightly Disagree), 3 means (Neutral), 4 means (Slightly Agree) and 5 means (Agree). Higher overall scores are indicative of higher tendency to procrastinate.

Depression Anxiety Stress Scale (DASS-42)

The Anxiety subscale of DASS was used to examine anxiety in university students. The subscale consists of a total of 14 items and it is scored on 3-point likert scale where 0 means (Did not apply to me at all), 1 means (Applied to me to some degree, or some of the time), 2 means (Applied to me to a considerate degree, or a good part of time) and 3 means (Applied to me very much, or most of the time). Scores ranging from 0-7 indicates that the individual is normal, scores between 8-9 show mild level of anxiety, scores ranging between 10-14 show moderate level of anxiety, scores between 15-19 show severe level of anxiety and 20+ scores show extremely severe level of anxiety.

Procedure

First of all, permission from original scale authors was sought. Scales were used in their original forms. Subjects who fulfilled the inclusion criteria were the ones to become a part of the research study and were selected through purposive sampling technique. Participants were informed about the purpose, aim, objectives as well as future use of the study. Their consent was taken and confidentiality was maintained. The participants were asked to complete the questionnaires (containing the three scales of research) and were informed about their right to withdraw from the research at any given point. The participants were free to ask questions about the research and had been guided accordingly. Participants took 8 to 10 minutes to fill the forms.

Ethical Considerations

- Permission from authors was taken for using the scales in the research

- Consent form was signed by each participant
- The participant's respect, confidentiality and privacy had been maintained and not compromised
- The participants had been treated fairly and had not been forced to be a part of the research
- The participant's psychological, physical and emotional wellbeing was maintained

Statistical Analyses

The data was analyzed using IBM SPSS Statistics version 25. Demographic variables were analyzed in detail through descriptive statistics. Correlation between mobile phone addiction, academic procrastination and anxiety was assessed by using Pearson's Product Moment correlation. Regression analysis done to estimate the effect IV has on DVs. Reliability analyses was done.

Chapter III

Results

The present research targeted to evaluate the relation of mobile phone addiction with academic procrastination and anxiety among university students. This chapter revealed the findings of the study. Table 3.0 and 3.1 depicted the sociodemographic characteristics of participants used in the study, table 3.2 depicted the psychometric properties of study variables, table 3.3 depicted the Pearson product moment correlation and finally table 3.4 depicted the regression analyses.

Table 3.0

Sociodemographic Characteristics of Participants

Variables	*M*	*SD*	*n*	*%*
Age	21.20	1.97		
Gender				
Men			112	37.3
Women			188	62.7
Birth Order				
First born			67	22.3
Middle born			131	43.7
Last born			88	29.3
Only Child			14	4.7
Education				
Undergraduate			249	83.0
Graduate			51	17.0

Note. Men = 112; Women = 188

Table 3.1
Sociodemographic Characteristics of Participants

Variables	Men				Women				Full sample			
	M	*SD*	*n*	*%*	*M*	*SD*	*n*	*%*	*M*	*SD*	*n*	*%*
Age	21.41	2.04			21.07	1.92			21.20	1.97		
Birth Order												
First born			25	22.3			42	22.3			67	22.3
Middle born			50	44.6			81	43.1			131	43.7
Last born			26	23.2			62	33.0			88	29.3
Only child			11	9.8			3	1.6			14	4.7
Education												
Undergraduate			90	80.4			159	84.6			249	83.0
Graduate			22	19.6			29	15.4			51	17.0

Table 3.2

Psychometric Properties of Study Variables (N = 300)

Variables	M	SD	Range	*a*	Skewness	Kurtosis
1.SAS-SV	35.6	9.32	12-60	.78	-.19	-.33
2.Academic Procrastination Scale	76.77	15.84	28-151	.73	1.18	1.18
3.Anxiety Scale	16.84	7.93	.00-37	.81	.09	-.35

Table 3.3 shows psychometric properties for the scale used in present study. The Cronbach alpha value for Smartphone addiction scale-short version was .78 (> .70) which indicated satisfactory internal consistency. The Cronbach alpha value for Academic procrastination Scale was .73 (> .70) which also indicated satisfactory internal consistency. The Cronbach alpha for Depression anxiety stress scale was .81 (> .80) which indicated high internal consistency.

Table 3.3

Pearson Product Moment Correlation Coefficient among Mobile Phone Addiction, Academic Procrastination and Anxiety among University Students

	Mobile Phone Addiction	Academic Procrastination	Anxiety
Mobile Phone Addiction	1		
Academic Procrastination	.283**	1	
Anxiety	.058	.139*	1

*$p < .05$. **$p < .01$. ***$p < .001$

Table 3.4 indicate the correlation coefficient value (r) value between mobile phone addiction and academic procrastination is .283** which shows significant positive correlation between both the variables. So, we can say mobile phone addiction can result in academic procrastination, Hence, H1 is supported.

Table 3.4

Linear Regression showing Mobile Phone Addiction as Predictor of Academic Procrastination and Anxiety among Female University Students (N= 300)

Predictors	B	95% CI for B		SE B	β	R^2
		LL	*UL*			
Academic Procrastination						
Step I						
						.11***
Constant	56.64	49.59	63.69			
				3.68		
Mobile Addiction	.59	.39	.77	.19		
					.33***	
Anxiety						
Step I						.06
Constant	15.04	11.39	18.68			
				1.85		
Mobile Addiction	.05	-.05	.15	.05	.06	

*p<.05. **p<.01.***p<.001

Simple Linear Regression was used to test the predictor of academic procrastination and anxiety among university students. Mobile phone addiction was entered as predictor variable in the regression model. Academic procrastination and anxiety are entered as an outcome variable.

First, linear regression was run to identify predictor of academic procrastination. No influential cases were observed in the data except one case i.e., case number 33 which had

standard residual value greater than 3 due to which that case was deleted from the data and regression analysis was rerun. In the second run, all regression assumptions were fulfilled. The assumption of independent errors was met as the value of Durbin Watson was between the acceptable range of 1 and 3. The assumption of no perfect multicollinearity was tested by checking the tolerance values, and the assumption was met because the value was greater than .2. The assumptions of homoscedasticity, linearity and normally distributed errors were also met.

In table 3.5, one predictor variable was entered and the regression model was significant, R^2= .11, F (1, 297) = 36.2, p < .001. The predictor, mobile phone addiction emerged as significant positive predictor of academic procrastination among university students. This suggests that university students who were mobile phone addicts were more likely to engage in academic procrastination.

CHAPTER IV

Discussion

H1: There is likely to be a significant relationship between mobile phone addiction and academic procrastination among university students

The Pearson Product Moment of Correlation Coefficient analysis showed that mobile phone addiction and academic procrastination revealed a significant positive relationship among university students, hence supporting the first hypothesis. This explains that students who are mobile phone addicts, they are more likely to engage in academic procrastination.

In accordance with the present findings, the study of Khosravi et al., (2020) on the relationship that exists between degree of students' mobile phone usage and the domains of academic procrastination showed similar results. The study was conducted in Iran and its population was university students. According to results of this study, there was a significant positive relation reported between the usage of mobile phone with all the domain of academic procrastination among students, which affirms the notion that the more a student uses mobile the more he/she engages in academic procrastination.

In line with the present findings of our research, Garcia et al., (2022) conducted a research on the influence of gadget dependency on academic procrastination among STEM students. Dependency on gadgets has increased since the pandemic specially among students as educational mode shifted to online. The results of this study revealed a moderate significant relationship between the degree of dependence on gadgets and academic procrastination among students. If one of these variables rises, so does the other.

In accordance with the findings of our study, Qaiser et al., (2018) conducted a research to find out the relation between problematic use of mobile phones, academic procrastination and academic performance in college students. Results of study indicated

negatively significant relation between problematic use of mobile phone as well as academic procrastination.

In line with present findings, Pamuk., (2017) to investigate academic procrastination behaviors in relation to mobile addiction among students. The results of the study show that a moderate correlation exists between academic procrastination and problematic use of mobile phones.

The possible reason of the results of our study is that smartphones generally increased the use of mobiles as now they are not only used for entertainment but also for keeping a track of your health through fitness apps, staying constantly in touch with everything that's happening in the world, it is used as a major resource for education as well as keeping in touch with friends and family - which was its only role at one point. The use of mobile phones has greatly increased after being hit with the Covid-19 pandemic as people all around the globe were forced to stay within their homes. At a time like that the usage of mobiles increased significantly as it became the only source for keeping in touch with the outside world as well as seeking education (Elhai et al., 2021). As the usage of mobile phones increased and is still increasing with every passing year, students are being deeply affected by it, as the cons outweigh the pros for them. Like the results of our study, overuse of mobile phone has positive significant correlation with academic procrastination among university students. Also, mobile addiction proved to be a significantly positive predictor of academic procrastination.

H2: There is likely to be a significant relationship between mobile phone addiction and anxiety among university students

The Pearson Product Moment of Correlation Coefficient analysis showed that addiction of mobile phones and anxiety did not reveal a significant relationship among university students, hence rejecting the second hypothesis.

In line with the results of our findings, Ithnain et al., (2019) conducted a study to explore the relation that addiction of smartphone has with depression as well as anxiety in Malaysian university students of the undergraduate program. Results concluded that almost half of the student sample (47.7%) scored high on smartphone addiction. As for anxiety, 54.2% had mild anxiety, 14.6% moderate anxiety, 11.1% severe and 6.3% had extremely severe anxiety.

In accordance with the findings of present study, Imam et al., (2018) conducted a research to explore the level of mobile addiction and the relationship it has with anxiety and the study consisted of 100 Ph.D. students. According to the results anxiety and addiction of mobile phone are correlated positively although the correlation is not significant.

In line with our findings, Choksi (2021) did a correlational study of addiction of mobile phone with stress, depression, sleep quality as well as anxiety among students who attend college. According to the results the two variables with high correlation with mobile phone addiction are anxiety and stress. This research revealed high chances of anxiety and stress among mobile phone addicts. On the other hand, depression and sleep quality are moderately correlated with smartphone addiction.

The reason of our findings can be that mobile phones give us an unlimited virtual supply of social stimuli be it positive or negative, in the form of text messages, “like” on Instagram post, or a twitter notification. All these notifications have the potential to work as a positive social stimuli as well as serve as a dopamine influx (Haynes, 2018).

H3: Mobile phone addiction will significantly predict academic procrastination and anxiety among university students

The results of regression analyses revealed a partial support for the above mentioned hypothesis as mobile phone addiction significantly predicts academic procrastination with a variance of 10.9%. Whilst, mobile phone addiction did not predict anxiety in the sample. This shows that students who are addicted to mobile phones will also engage in academic procrastination.

In accordance with our findings, Yang et al. (2018) conducted a study to explore problematic use of mobile phone among students of Chinese universities in association with academic procrastination, academic anxiety, subjective well-being and self-regulation. According to Pearson's correlation analyses almost all five variables were correlated significantly with one another (with the exception of life satisfaction and academic anxiety) and problematic smartphone use was both positively and significantly correlated with academic procrastination ($r= 0.36$, $p< 0.01$).

In line with our findings, Pamuk., (2017) conducted a study to investigate academic procrastination behaviors in relation to mobile phones among students. Moderate level of correlation was revealed between problematic usage of mobile phone and academic procrastination ($r= .31$). Further results revealed that academic procrastination was significantly predicted by mobile addiction, gender and daily phone use.

In accordance with the results, Chen et al. (2021) conducted research to study association between dependency of mobile phone, time management, academic procrastination and self-regulated learning among Chinese students whose major was physical education while also exploring the mediating role of self-efficacy for time management and disposition and self-regulated learning. According to results self-efficacy

and self-regulated learning (r= 0.167; $p< 0.001$) and dependence of mobile phone (r= 0.464; $p= 0.0001$) are positively correlated with academic procrastination.

The reason for the findings of our study is that mostly students who are addicted to mobile phones, they are satisfying the urge of their addiction by putting their education at stake as their addiction taints the attention of the students from education. The sample of our study consists of university students who are either enrolled in undergraduate or graduate program. These degrees and the educational environment at this stage in life specifically is very competitive. It requires constant effort and involvement in studies and that becomes difficult for students who are addicted to their mobiles. By constantly spending time on their mobiles, they put off their academic tasks till last minute (Qaiser., 2017).

Conclusion

The present study examined the relation of mobile phone addiction with academic procrastination as well as anxiety in university students. Findings of this research highlighted the positive significant relation of mobile phone addiction with academic procrastination. It can be said that students who have high addiction of mobile phones are also more possible to engage in academic procrastination. Although the relation of mobile phone addiction did not prove to be significant with anxiety. Present study also examined how addiction of mobile phone predicts academic procrastination and anxiety in university student. The results revealed partial support as mobile phone addiction significantly predicts academic procrastination.

Strengths of study

- There are not many researches published in Pakistan with the combination of my study variables.
- The reliability of the scales used in the research was good enough to proceed with the results.
- The sample was sufficient enough to detect small effect size.

Limitations

- Purposive sampling strategy was used in the study
- Data was only collected from urban areas
- The tools which were used in the research were available in English so bilingual example was taken

Recommendations

- To collect bilingual sample, Urdu language tools should be used with the goal that they understood by most of the students
- Data ought to be collected from both rural and urban regions so that results can be generalizable.

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Appendix A

(Permission Letter from University)

KINNAIRD

COLLEGE FOR WOMEN

Dated: _____

PERMISSION LETTER

To,

_____

_____

Subject: Educational Institutions (Schools/Colleges)

Our student, Ms. Noor Fatima of BSc Honors Applied Psychology program of Kinnaird College for Women, is conducting her research on:

Mobile Phone Addiction, Academic Procrastination and Anxiety among University Students

She has to collect primary data for fulfillment of her research project with the use of her research questionnaire. You are requested, therefore, to please allow her access to females in your institution. Your co-operation in this regard will be highly appreciated and would help promote research in Pakistan.
Thanking you in anticipation.

Dr. Afsheen Gul
Head of the Applied Psychology Department
Kinnaird College for Women, Lahore

93, Jail Road, Lahore-54000 Pakistan. Tel: 92-42-99203781-84 Fax: 92-42-99203788 Email: rukhsana.david@kinnaird.edu.pk

Appendix B

(Permission Letter from Authors)

Kwon Min 3 October 2022 at 11:58 AM
RE: FW: SAS-SV Scale Permission
To: noor fatima

Dear,

I'm Min Kwon, first author of the SAS and SAS-SV.
Thank you for the interest in Smartphone Addiction Scale.

You can use my tools.
The SAS consists of 33 questions and is grouped into six subscales, all weighted equally on a 6-point scale.
The six subscales' scores are summed up to yield a total SAS score with a 33–198 range, where a higher score indicates more serious smartphone addiction.
Cut-off of the SAS has not been proven yet, and you can do the comparison on the smartphone addiction severity.
The SAS-SV consists of 10 questions without subscales, and all weighted equally on a 6-point scale. And the scale is cut-off value of 31 in boys and cut-off value of 33 in girls.

I attach the material you ask me and you can review this information through to attach paper.
Please let me know about the results of future studies.
Good luck for your study and keep me posted of your progress.

Best Regards,

MIN KWON, RN, PhD.
Assistant Professor
Department of Nursing, The University of Suwon
17 Wauan-gil, Bongdam-eup, Hwaseong-si, Gyeonggi-do, Korea

--------- 원본 메일 ---------
보낸사람: sooy <sooy@catholic.ac.kr>
받는사람: <200032003@hanmail.net>
날짜: 22.09.30 08:01 GMT +0900
제목: FW: SAS-SV Scale Permission

JM **McCloskey, Justin**
RE: Scale Permission
To: noor fatima

23 January 2023 at 7:16 PM

Siri found new contact info Justin McCloskey justin.mccloskey@alcon.com add...

Yes, you have permission to use the scale, with proper citation. Good luck with the research!

Thanks,

JustinMcCloskey, SHRM-CP/PHR
Sr HR Business Partner I Finance/Procurement/Corp Affairs
T: 817-568-7128I M: 817-627-8144
Alcon

From: noor fatima <123noorfatima18@gmail.com>
Sent: Sunday, January 22, 2023 4:24 AM
To: McCloskey, Justin <justin.mccloskey@Alcon.com>
Subject: Scale Permission

Appendix C

(Consent Form)

Informed Consent

I _____ have been informed of the format of the research on the topic "Mobile Phone Addiction, Academic Procrastination and Anxiety University Students". I agree to give out my personal information and fill out the three required questionnaires along with the demographic information sheet. I have been made aware that the data that I will be sharing will be kept confidential and stored on the researcher's laptop and after the research work is done the researcher would delete my personal information keeping my participation anonymous. I am also aware of the fact that this research will take about three months and that the selection of participants is totally random. Also, I do understand that the data collected will be used for research purposes only to examine the reasons that promote academic procrastination and anxiety among university students. In this research, I (participant) also has an opportunity to gain new information related to the topic. The risk in this research study is only the fact that it continues for a couple of months and the participant can get bored of it. I am aware as to whom I have to contact for any sort of queries that I might have regarding the research and that my participation is voluntary and I can quit at any point as I wish.

……. ……

Participant's Signature Researcher's Signature

Date: _____ Date: _____

Appendix D

(Demographic Sheet)

Demographic Questionnaire

1. **Age: _____** years

2. **Sex:**

   - Male
   - Female

3. **Education:**

   - Undergraduate
   - Graduate
   - Post Graduate

4. **Birth Order**

   - First born
   - Middle child
   - Last born
   - Only child

5. **Do you own a personal mobile phone?**

   - Yes
   - No

Appendix E

(Mobile Phone Addiction Scale-Short Version)

Table 3: Smartphone Addiction Scale-Short Version (SAS-SV)

	Items	Strongly disagree	Disagree	Weakly disagree	Weakly agree	Agree	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	Feeling pain in the wrists or at the back of the neck while using a smartphone	1	2	3	4	5	6
4	Will not be able to stand not having a smartphone	1	2	3	4	5	6
5	Feeling impatient and fretful when I am not holding my smartphone	1	2	3	4	5	6
6	Having my smartphone in my mind even when I am not using it	1	2	3	4	5	6
7	I will never give up using my smartphone even when my daily life is already greatly affected by it	1	2	3	4	5	6
8	Constantly checking my smartphone so as not to miss conversations between other people on Twitter or Facebook	1	2	3	4	5	6
9	Using my smartphone longer than I had intended	1	2	3	4	5	6
10	The people around me tell me that I use my smartphone too much	1	2	3	4	5	6

Note. Adapted from "The smartphone addiction scale: Development and validation of a short version for adolescents," by M. Kwon, D-J. Kim, H. Cho and S. Yang, 2013, *PLoS ONE, 8(12)*, (https://doi.org/10.1371/journal.pone.0083558). Copyright 2013 by Kwon et al.

Appendix F

(Academic Procrastination Scale – McCloskey, 2011)

Academic Procrastination Scale (McCloskey, 2011)

How much do you, yourself agree to the following statements? (Scored on a 1 to 5 scale where 1= Disagree and 5= Agree)

1. I usually allocate time to review and proofread my work.* ( )
2. I put off projects until the last minute. ( )
3. I have found myself waiting until the day before to start a big project. ( )
4. I know I should work on school work, but I just don"t do it. ( )
5. When working on schoolwork, I usually get distracted by other things. ( )
6. I waste a lot of time on unimportant things. ( )
7. I get distracted by other, more fun, things when I am supposed to work on schoolwork. ( )
8. I concentrate on school work instead of other distractions. * ( )
9. I can"t focus on school work or projects for more than an hour until I get distracted ( )
10. My attention span for schoolwork is very short. ( )
11. Tests are meant to be studied for just the night before. ( )
12. I feel prepared well in advance for most tests. * ( )
13. “Cramming” and last minute studying is the best way that I study for a big test. ( )
14. I allocate time so I don"t have to “cram” at the end of the semester. * ( )
15. I only study the night before exams. ( )
16. If an assignment is due at midnight, I will work on it until 11:59. ( )
17. When given an assignment, I usually put it away and forget about it until it is almost due ( )
18. Friends usually distract me from schoolwork. ( )
19. I find myself talking to friends or family instead of working on school work. ( )
20. On the weekends, I make plans to do homework and projects, but I get distracted and hang out with friends. ( )
21. I tend to put off things for the next day. ( )
22. I don"t spend much time studying school material until the end of the semester. ( )
23. I frequently find myself putting important deadlines off. ( )
24. If I don"t understand something, I"ll usually wait until the night before a test to figure it out. ( )
25. I read the textbook and look over notes before coming to class and listening to a lecture or teacher. * ( )

Appendix G

(DASS)

DASS

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

Items	0	1	2	3
I was aware of the dryness in my mouth.				
I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)				
I had a feeling of shakiness (eg, legs going to give way)				
I found myself in situations that made me so anxious I was most relieved when they ended				
I had a feeling of faintness				
I perspired noticeably (eg, hands sweaty) in the absence of high temperatures or physical exertion				
I felt scared without any good reason				
I had difficulty in swallowing				
I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)				
I felt I was close to panic				
I feared that I would be "thrown" by some trivial but unfamiliar task				
I felt terrified				
I was worried about situations in which I might panic and make a fool of myself				
I experienced trembling (eg, in the hands)				

Appendix H

(SPSS KEY)

SPSS KEY

Sex

Male – 1

Female – 2

Education

Undergraduate – 1

Graduate – 2

Birth Order

First Born – 1

Middle Child – 2

Last Born – 3

Only Child – 4

Appendix I

(SPSS OUTPUT)

Education of the participant

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	undergraduate	249	83.0	83.0	83.0
	graduate	51	17.0	17.0	100.0
	Total	300	100.0	100.0	

Birth order of the participant

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	first born	67	22.3	22.3	22.3
	middle child	131	43.7	43.7	66.0
	last born	88	29.3	29.3	95.3
	only child	14	4.7	4.7	100.0
	Total	300	100.0	100.0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MobileAddiction	300	12.00	60.00	35.6467	9.21148
AcademicProcrastination	300	28.00	151.00	77.7700	16.73791
Anxiety	300	.00	37.00	16.8400	8.01218
Valid N (listwise)	300				

```
RELIABILITY
  /VARIABLES=SASSV1 SASSV2 SASSV3 SASSV4 SASSV5 SASSV6 SASSV7 SASSV8 SASSV9 SASSV10
  /SCALE('Mobile phone addiction') ALL
  /MODEL=ALPHA.
```

Reliability

Scale: Mobile phone addiction

Case Processing Summary

		N	%
Cases	Valid	300	100.0
	Excluded[a]	0	.0
	Total	300	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.779	10

Reliability

Scale: Academic procrastination

Case Processing Summary

		N	%
Cases	Valid	300	100.0
	Excluded[a]	0	.0
	Total	300	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.733	25

Reliability

Scale: Anxiety

Case Processing Summary

		N	%
Cases	Valid	300	100.0
	Excluded[a]	0	.0
	Total	300	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.812	14

Correlations

Correlations

		MobileAddiction	AcademicProcrastination	Anxiety
MobileAddiction	Pearson Correlation	1	.283**	.058
	Sig. (2-tailed)		.000	.315
	N	300	300	300
AcademicProcrastination	Pearson Correlation	.283**	1	.139*
	Sig. (2-tailed)	.000		.016
	N	300	300	300
Anxiety	Pearson Correlation	.058	.139*	1
	Sig. (2-tailed)	.315	.016	
	N	300	300	300

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	56.644	3.580		15.822	.000	49.599	63.690					
	MobileAddiction	.585	.097	.330	6.020	.000	.394	.776	.330	.330	.330	1.000	1.000

a. Dependent Variable: AcademicProcrastination

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.330[a]	.109	.106	15.33695	1.592

a. Predictors: (Constant), MobileAddiction

b. Dependent Variable: AcademicProcrastination

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	63.6599	91.7227	77.5251	5.34878	299
Std. Predicted Value	-2.592	2.654	.000	1.000	299
Standard Error of Predicted Value	.887	2.520	1.205	.347	299
Adjusted Predicted Value	64.0496	91.4654	77.5148	5.35560	299
Residual	-45.01415	39.00156	.00000	15.31119	299
Std. Residual	-2.935	2.543	.000	.998	299
Stud. Residual	-2.943	2.567	.000	1.002	299
Deleted Residual	-45.27362	39.75404	.01026	15.43020	299
Stud. Deleted Residual	-2.982	2.592	.000	1.006	299
Mahal. Distance	.001	7.046	.997	1.284	299
Cook's Distance	.000	.064	.004	.007	299
Centered Leverage Value	.000	.024	.003	.004	299

a. Dependent Variable: AcademicProcrastination

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8525.621	1	8525.621	36.245	.000[b]
	Residual	69860.941	297	235.222		
	Total	78386.562	298			

a. Dependent Variable: AcademicProcrastination

b. Predictors: (Constant), MobileAddiction

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin–Watson
1	.058[a]	.003	.000	8.01202	1.690

a. Predictors: (Constant), MobileAddiction

b. Dependent Variable: Anxiety

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.987	1	64.987	1.012	.315[b]
	Residual	19129.333	298	64.192		
	Total	19194.320	299			

a. Dependent Variable: Anxiety

b. Predictors: (Constant), MobileAddiction

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	15.036	1.852		8.120	.000	11.392	18.680					
	MobileAddiction	.051	.050	.058	1.006	.315	-.048	.150	.058	.058	.058	1.000	1.000

a. Dependent Variable: Anxiety

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	15.6432	18.0726	16.8400	.46621	300
Std. Predicted Value	-2.567	2.644	.000	1.000	300
Standard Error of Predicted Value	.463	1.309	.629	.181	300
Adjusted Predicted Value	15.4459	18.0197	16.8404	.47338	300
Residual	-17.51583	21.15435	.00000	7.99861	300
Std. Residual	-2.186	2.640	.000	.998	300
Stud. Residual	-2.198	2.665	.000	1.002	300
Deleted Residual	-17.69922	21.55412	-.00036	8.05447	300
Stud. Deleted Residual	-2.212	2.693	.000	1.005	300
Mahal. Distance	.001	6.990	.997	1.284	300
Cook's Distance	.000	.067	.003	.006	300
Centered Leverage Value	.000	.023	.003	.004	300

a. Dependent Variable: Anxiety

T-Test

[DataSet1] /Users/noorfatima/Desktop/NEW DATA SHEET 2.0.sav

Group Statistics

	Sex of the participant	N	Mean	Std. Deviation	Std. Error Mean
AcademicProcrastination	male	112	79.2143	17.23417	1.62848
	female	188	76.9096	16.42117	1.19764
Anxiety	male	112	15.8393	7.93504	.74979
	female	188	17.4362	8.01944	.58488

Appendix J

(Additional Findings)

Table

Independent Sample t-test showing Gender Differences in Academic Procrastination and Anxiety among University Students

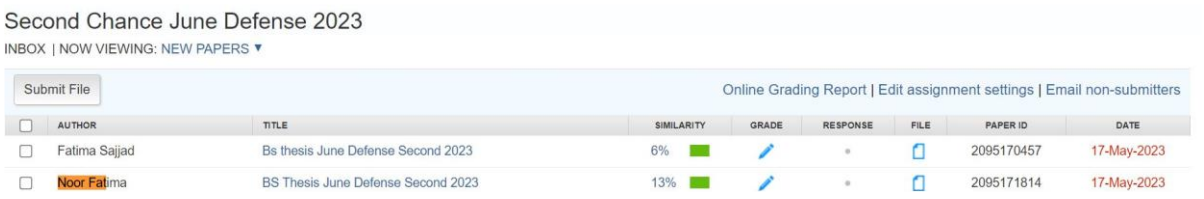
	Males		Females				95% *CI*	
Variable	*M*	*SD*	*M*	*SD*	*t(df)*	*p*	*LL*	*UL*
1.Academic Procrastination	79.21	17.23	76.91	16.42	1.25 (298)	.259	-1.62	6.23
2.Anxiety	15.84	7.94	17.44	8.02	-1.68 (298)	.095	-3.47	.28

Note: Males = 112; Females = 188; *M* = mean; *SD* = standard deviation; CI = confidence interval; *LL* = lower limit; *UL* = upper limit
*$p < .05$. **$p < .01$. ***$p < .001$

Results in this table indicate that gender differences are not significant in either academic procrastination or anxiety. Hence, gender has no influence on the results of this study.

Appendix K

(Plagiarism Report)



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