SMARTPHONE ADDICTION AND ACADEMIC PROCRASTINATION AMONG STUDENT-TEACHERS

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DECLARATION

I hereby declare that the project entitled **'Smartphone Addiction and Academic Procrastination of Student-teachers'** submitted to Internal Quality Assurance Cell is my original work and the project has not formed the basis for the award of any degree, diploma, associateship, fellowship or similar other titles. It has not been submitted to any other University or Institution for the award of any degree or diploma.

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1.1 INTRODUCTION

In today's world, digital technology changes so rapidly and integrates into our society at such an accelerated rate, it is hard to keep up with it, let alone reflect on the effects it has on our lives. Although Facebook, YouTube, and Twitter, did not exist a mere decade ago, they are now ubiquitous forms of media and communication in our culture. Today's generation of teenagers, born in the 1990s, aptly labeled the "iGeneration", are the most connected generation ever. These iGen teens are digital natives growing up in an era of a massive influx of technology. They do not know of a world that does not include the Internet and easy access to technology. Parents of iGen youth, however, are "digital immigrants".

Mobile phones are no longer instruments that are solely dedicated to communication between two individuals. Indeed, the latest generation of mobile phones (smartphones) allows people to engage in a wide range of online activities—such as Internet surfing, managing email, playing video games, gambling or involvement in social networks (e.g., Facebook, Twitter)—without being constrained to their home, educational institution or office. These kinds of online activities differ in important ways from traditional mobile phone communication, which was restricted to calls and written messages (Short Message Service; SMS).

Smartphone ownership has become increasingly more prevalent over the past decade since Apple's first iPhone smartphone device was launched in 2007 (Apple Inc, 2007). The popularity of smartphones is undeniable in nearly all facets of society. As lifestyle becomes more complex and elusive in the way humans interact, smartphone is indirectly changing the way humans live, communicate and socialize. Despite the many benefits attributed to the technology, concern has grown over the potential for excessive smartphone use to become problematic in nature. Due to the growing concerns

surrounding the recognized and unrecognized implications of smartphone use, great efforts have been made through research to evaluate, label and identify problematic smartphone use. In the fields of psychology and cognition, it is not the mere ownership of the technological devices that is causing increased concern. It is, instead, the potential for dysfunction associated with smartphone use that is leading researchers to stress the importance of investigating the behavior.

1.2 ORIGIN OF THE RESEARCH PROBLEM

The rapid development of information technology brings a lot of convenience in the life of higher education students who are digital natives; however, it also causes a series of problems like problematic mobile phone use for higher education students. Problematic mobile phone use, defined as one's compulsive use of mobile phones, which generally gives rise to negative consequences in various aspects of life, has attracted increasing attention. Problematic phone use would not only have many adverse effects on college students' physical and psychological health, like sleep quality and depression, but also have a negative impact on their life and study such as academic performance and interpersonal relationships.

Addiction has been defined by the American Society of Addiction Medicine (2011) as a "chronic disease of brain reward, motivation, memory and related circuitry"), which is characterized by a person's inability to abstain from use, impairment in behavioural control, lack of recognition of problems with behaviours and interpersonal relationships, and emotional response dysfunction. Addiction typically is discussed as it relates to drug use, but the language of addiction can also pertain to a variety of stimuli, including cellphone use. According to Griffiths (1996), a behavior must fulfill six criteria in order to be considered an addiction: salience, mood modification, tolerance, withdrawal, conflict, and relapse. Many researchers see these as the core components of behavioral addiction (De-Sola Gutiérrez et al., 2016; Jenaro et al., 2007; Roberts et al., 2014; Smetaniuk, 2014).

As the internet is becoming easier to access through the means of smartphone, the pattern of addiction in using smartphone has increased tremendously. This addiction has affected all segments of human life and it is more prevalent in adolescents. Adolescents are pleasure-seekers and have the purchasing power in acquiring materials that they desire. They have unique characteristics and behaviours which are very distinct to the older generation. They are born and raised in an epoch of booming technology and using smartphone is considered a norm in their life. This has a significant impact on their engagement with internet especially on social networking sites which impacted on their lives in term of social, cognitive and emotional aspects

Addiction to cellphones, and addiction to smartphones in particular, has gained research interest due to the steady increase in smartphone users within the past decade, The concept of addiction in relation to cellphone and smartphone use is not a new phenomenon, with several researchers who have explored this phenomenon (De-Sola Gutiérrez et al., 2016; Jenaro et al., 2007; Kwon et al., 2013; Roberts et al., 2014; Smetanuik, 2014; Tossell et al., 2015). Within the literature, "cellphone" and "smartphone" has been used interchangeably, but specifically, smartphones are simply cellphones that have advanced capabilities such as the ability to download and use apps and access to the internet (Smith, 2011).

With an abundance of hedonic gratifications offered by social networking sites, a prolonged engagement on a smartphone is seen to have led to a severe addction . An excessive use of a smartphone leads to compulsive checking behaviors where individuals are prone to checking their smartphone in a state of unconsciousness. These compulsive disorders are also known as "disconnection syndrome" and "ring or phantom vibration syndrome" (Marazziti, Baroni and Mucci , 2017). This addiction could bring adverse effects on one's mental and physical well-being by inducing negative physiological and psychological effects such as depression and exhaustion (Luqman et al. 2017). Individuals with low self-esteem, social difficulties, high anxiety levels, marked interpersonal

sensitivity, obsessive thoughts, and compulsive behaviours are mostly affected by a smartphone addiction (Marazziti, Baroni and Mucci , 2017).

Ever since Griffiths (1995) published his paper on 'technological addictions, many authors have labelled problematic mobile phone or Internet use as an addiction, using terms such as 'mobile phone addiction', 'smartphone addiction', and 'Internet addiction' (Griffiths 2000; Hong et al. 2012; Liu and Kuo 2007; Widyanto and Griffiths 2006; Young 1998a, b). Such terminology draws on the idea of 'technological addiction' referring to 'nonchemical (behavioural) addictions which involve human-machine interaction' (Griffiths 1995). In the past, cellphone addiction has been categorized as problematic cellphone or smartphone use (Jenero et al., 2007; Smetanuik, 2014). The addictive nature of cellphones is characterized along the lines of a behavioral addiction, a disorder with symptoms behaviorally expressed, and associated with a pleasurable and irresistible quality (Black, 2013).

Procrastination was regarded as the habit of automation by Tuckman, who pointed out that was the tendency of which someone postpone or escape to undertake the due obligations, make decisions or execute the tasks (Junco, 2011). Milgram et al., (1993)distinguish several types of procrastination: domestic (postponing routine household chores); procrastination in decision-making, including minor ones; neurotic – postponing substantial decisions (choosing a profession, creating a family); compulsive, where two types of procrastination are combined – behavioural and in decision-making; academic – postponing the accomplishment of study assignments, preparation for exams, etc.

1.3 IDENTIFYING FEATURES OF PROCRASTINATION

Just as there are many different definitions of the concept of procrastination, there are many different emotions and personality features associated with the phenomenon (Fritzsche, Young, & Hickson, 2003; Lee, Kelly, & Edwards, 2006; Milgram, Dangour, &

Raviv, 2001; Onwuegbuzie, 2004; Scher & Osterman, 2002). With regard to emotional functioning, researchers have found that depression and worry are associated with procrastination (Antony, 8 Purdon, Huta, & Swinson, 1998; Ferrari et al., 1995; Rothblum, Solomon, & Marakami, 1986; Stoeber & Joormann, 2001; Van Eerde, 2003), along with low self-esteem (Beck, Koons, & Milgrim, 2000; Ferrari, 2010). Researchers also discussed other associated personality traits such as perfectionism (Ferrari, O'Callaghan, & Newbegin, 2005), lower conscientiousness, and higher neuroticism to be related to procrastination (Johnson & Bloom, 1995; Lee, et al., 2006; Milgram & Tenne, 2000; Schouwenburg, 1995). Research clearly demonstrates that when procrastination becomes a way of life rather than an occasional behavior, people frequently suffer a wide range of negative consequences. The most obvious impact people experience when procrastinating is added stress which affects their overall happiness.

1.4 THEORIES OF PROCRASTINATION

Various efforts have been made to comprehend the causes of individual's conduct of procrastination. There are several major explanations concerning procrastination according to the psychology mainstream theory. The four approaches psychoanalytic and psychodynamic, behaviouristic, cognitive and temporal motivation theories are discussed according to their time of publication.

1.4.1 Psychoanalytic and Psychodynamic Approach

In 1953, Freud had tried to explain the tendency of procrastination based on the concept of avoiding tasks (Ferrari, Johnson, and McCown, 1995). According to this concept, tasks that are not completed will be avoided because it poses a threat to the ego. Freud offers a postulate that anxiety serves as a warning sign of the existence of threat to the ego when individuals face the dangerous things that could not be realized. When the ego recognizes existence of threat posed by a task, defense mechanism such as avoiding the task will be raised. In the tradition of classical psychoanalytic theory, Blatt and

Quinlan in 1967 stated that the procrastinator generally oriented toward present and have difficulty in anticipating the future.

Psychodynamic theorists stated that individual personality is closely related to their childhood experiences. Based on this understanding, procrastination behaviour is understood as a representation of childhood traumas or problems in the process of parenting. Missildine in 1963 (Ferrari, Johnson, and McCown, 1995) used the term chronic procrastination syndrome to describe the termination of work on task with daydreaming and acting slowly. Individuals slowness alleged rooted in unrealistic goals setting from parents, as well as providing conditional attention and affection. Permissive or authoritative parenting will increase the tendency of procrastination in children. Permissive parenting will produce underachiever children who feel so anxious and so difficult in fulfilling schedules which has been predetermined by him/her. Authoritative parenting will produce under achiever children which is easily upset and tried to oppose the rules to achieve freedom.

1.4.2 Behaviouristic Approach

In the behaviourist paradigm, reinforcement theorists formulate postulates that procrastination is raised by the repeated individuals' success of doing dilatory behaviour. Classical learning theory explains that behaviours usually occur automatically through the provision of reinforcement or lack of punishment (Ainslie, 1975). For procrastinators, this was reflected by the high capability of procrastinators to remember the incidents following the success when facing a deadline until the final seconds. Another approach made by behaviouristic theorist further aimed at behaviours to avoid unpleasant stimulus (Solomon & Rothblum, 1984). Escape conditioning occurs when individuals begin to do a task and then stops (Honig, cited in Ferrari, Johnson, and McCown, 1995). This will foster the attitude to quit before the job is fully completed (task incompletion). Avoidance conditioning occurs when individuals made extraordinary efforts to avoid tasks. Ainslie (1975) specious rewards theory stated that individuals would be conditioned to avoid tasks

when receiving reinforcement with varying frequencies. Ainslie stated that humans tend to choose short-term reinforcement or rewards rather than long-term goals, where short-term reinforcement causes pleasure which can be felt immediately. With this understanding, procrastinators are those who were accustomed to choose short-term rewards. These habits would hinder the achievement of long-term goals because they were trapped in a vicious circle search for immediate pleasure, which in turn increases the anxiety of the task at hand. This case in the end facilitates the avoidance of task, and led to negative feedback which continues to repeat on other tasks in the future (Ferrari, Johnson, and McCown, 1995).Although relatively new, the theory of cognitive approach is much more popular to explain behaviour and psychological concepts, including procrastination. There are three things that were proposed as causes of procrastination, irrational beliefs, vulnerable self-esteem, and the inability to take decisions (Ferrari, Johnson, and McCown, 1995). Although the three things were separated, all the three concepts are also believed to be interrelated to each other. Ellis and Knausin 1977 (cited in Ferrari, Johnson, and McCown, 1995) called procrastination as an emotional disorder that was rooted in irrational thinking. One of the irrational beliefs held by procrastinators is "I have to do something good" that should be appreciated. This belief would have negative consequences when individuals fail to do something optimally. This belief often encourages individuals to delay starting the job for fear of wrongdoing. This belief is considered irrational because the high standards already determined before often failed to be met. These irrational beliefs were also likely to cause delay in starting, doing, and completing other tasks. For procrastinators, delaying a task would give a good reason, because they can attribute their failure on lack of time, or their idleness, not as a disability. Although similar to the concept of ego defense, the concept is different from the concept raised by psychoanalytic theory, for not focusing attention on feelings of anxiety as an indicator of disturbance in the ego.

The second reason proposed is a vulnerable self-esteem. Burka and Yuen in 1983 emphasize the importance of procrastination as a strategy to protect a vulnerable self-

esteem. They based their theory compiled in a brief statement that the action to delay tasks serve as a precious feeling buffer of vulnerable procrastinators. When delayed, the assessment of individual ability will also be delayed. Related to the role of an inability to take decisions as a cause of procrastination, Janis and Mann in 1977 (cited in Ferrari, Johnson, and McCown, 1995) proposed a theory of conflict in decision-making. They looked procrastination as a coping disorder in dealing with difficult decisions. Beswick, Rothblum, and Mann in 1988 associate procrastination with conflict and inability to take decisions. Two examples of conflict that is often experienced by students who do academic procrastination is a conflict in choosing courses and writing topics.

1.5 THEORIES ON SMARTPHONE USAGE

Mobile technologies are one of the more recent technological innovations that have dramatically changed the way individuals interact and communicate with others. Mobile phones serve as our phones, watches, browsers, entertainment, links to social networks, and much more. As a result, individuals are self-describing themselves as "hooked" to their phones. What is unclear, however, is what the long-term implications of this dependence are. Is addiction to mobile technologies really a problem? What are the consequences for the self and others if one never disconnects? How does this potential addiction influence the use of other technologies? What are the positive and negative implications of mobile technology addiction for working adults?

1.5.1 Technology Acceptance Model

Technology Acceptance Model (TAM; Davis, 1989) has been one of the most influential models of technology acceptance, with two primary factors influencing an individual's intention to use new technology: perceived ease of use and perceived usefulness. An older adult who perceives digital games as too difficult to play or a waste of time will be unlikely to want to adopt this technology, while an older adult who perceives digital games as providing needed mental stimulation and as easy to learn will

be more likely to want to learn how to use digital games. While TAM has been criticized on a number of grounds, it serves as a useful general framework and is consistent with a number of investigations into the factors that influence older adults' intention to use new technology (Braun, 2013).

1.5.2 Flow Theory

In positive psychology a **flow state**, also known colloquially as being **in the zone**, is the mental in which a person performing some activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. In essence, flow is characterized by the complete absorption in what one does, and a resulting transformation in one's sense of time..Named by the psychologist Mihaly Csikszentmihaly in 1975, the concept has been widely referred to across a variety of fields (and is particularly well recognized in occupational therapy, though the concept has been claimed to have existed for thousands of years under other names.The flow state shares many characteristics with hyperfocus. However, hyperfocus is not always described in a positive light. Some examples include spending "too much" time playing video games or becoming pleasurably absorbed by one aspect of an assignment or task to the detriment of the overall assignment.

1.5.3 Attachment Theory: Smartphone as an Attachment Object

Consumers' apparent addiction to the device can be explained by the idea that smartphones have come to serve as an attachment object- a proposition that is referred to as Adult Pacifier Hypothesis (Melumad, 2016). Insight into the psychology of smartphone addiction can be found in the developmental literature on attachment theory. This literature describes how children form strong emotional attachments to certain objects that over time come to represent a source of security and help develop effective emotional regulation and coping strategies (Bowlby 1969, 1982). These attachments can be formed towards social

objects, such as the child's primary caretaker, as well as non-social objects, such as a security blanket or pacifier (Passman 1977; Winnicott 1953).

Notably, the attachment theory literature largely discusses "attachment objects" with respect to the attachments young children form towards objects, such as a pacifier or security blanket, as part of their transition away from their primary caretaker. In contrast, while the research on adult attachment theory acknowledges that adults are capable of feeling attached to non-social objects, this body of work largely focuses on the interpersonal attachments between an individual and an attachment figure, such as a significant other or close relative (e.g, Crowell and Treboux 1995; Hazan and Shaver 1987). The results of this research demonstrates that that, in much the same way that a child becomes attached to a pacifier, people can become emotionally attached to their smartphone in adulthood and thus derive psychological benefits akin to those that a child would obtain from a pacifier. More generally, the findings that smartphones can impart feelings of comfort and relief from stress bear a number of important implications for consumer welfare advocates as well as marketers. For one, although consumers' relationship to the device has mostly been conceptualized in terms of the detrimental consequences of "smartphone addiction," the results of this research suggest that, at least in the short term, the device can also confer psychological benefits such as relief from negative feelings or distress.

1.6 NEED FOR THE STUDY

The growth of technology has reached such heights that the entire world concise within the palm through the use of smartphones. One device has eventually replaced clock, watch, calculator, camera and even a computer. Individuals use smartphones not only for talking or texting but for many other different purposes such as browsing, playing games, activities in social media, study, reading books, watching movies and shows, gathering information through internet. In spite of the convenience and ease the smartphones bring, excessive and uncontrolled use of smartphones in a manner that

conflicts with the roles and responsibilities of users can lead to addiction (Haug, et al.,2015).

Smartphone dependent internet usage has become much more indispensable among youth as there are various applications introduced, which are needed to function in daily life such as educational, commutation and health apps. There are newer avenues of socialization that have been introduced due to this. Majority of the undergraduate students and student teachers like to correspond with their friends through Social Networking Sites (SNS) based apps. No doubt, mobile phone utilization is a preferred means of communication among college students; though this has been commonly being observed that this has taken the form of nuisance when its usage start turning into an impediment in their functional lives. Most of college students get distracted and their studies adversely get affected. They start indulging into tardiness, diversion, report lack of concentration and are found to have poor physical and psychological functioning due to lack of sleep (Massimini & Peterson, 2009).

Individuals developing behavioural addiction to mobile phones, the internet, social media and online gaming, get carried away neglecting other tasks and duties, and some may even stay up and hungry for long periods of time to keep on with the addictive behaviour This has paved way to more screen time, more addiction and eventually problematic smartphone usage where students are likely to experience usage control difficulty while doing their academic assignment (Lee and Lee, 2017). This leads to academic procrastination. Procrastination is a self-regulatory problem characterized with a tendency to refrain from starting to work on or deferring the completion of required and important tasks (Ferrari, 2010). Academic procrastination, on the other hand, is a deliberate deferral of the initiation or completion of tasks required to finish an academic activity. (Schouwenburg, 2004). When the procrastination of academic work increases it leads to many other related issues like disinterest in the course, lack of motivation to learn,

low quality of academic work, lower grades, increase in academic misconduct and increased likelihood of dropping out of the course.

When the use of smartphone exceeds a certain limit, the student gets into addiction. This addiction is like any other substance addiction where the child needs the smartphone to feel normal. The affordability, easy access to internet, economical internet provided by the service providers and the status quo has made smartphones a mandatory asset. When the smartphone addiction is high the child even procrastinates the most essential need of hunger, thirst and sleep. When even the very basic primary needs are not addressed by the child, the procrastination of secondary need like studies and education is questionable. The problem doesn't stop with that. The child might encounter with other related psychological issues like negative emotions, feeling of guilt, shame and depression which can lead to severe mental health issues, stress, physical health issues and eventually affect the overall well being of the child. Considering higher education students, the addiction levels are higher with the usage of social media. The social media platform becomes utmost important for the students and the acceptance by their peer both online and offline plays vital role. The ownership of smartphone by the higher education students is also high. They tend to browse through the internet, chat with friend in group or individual chats, watch movies and videos, share photos, videos, music and so on. Smartphone is an indispensible part of a higher education student's life. The students though grown up still do not show enough maturity and seriousness towards their academic works. Choice of doing their semester exams later or the option of clearing the pending paper later has given them a form a lethargic attitude towards academic works and the smartphone addictions adds fuel to the fire.

Consequently, evidence regarding this relationship remains unclear, and therefore, it is relevant to examine whether there is an association between academic procrastination and smartphone addiction in higher education students because smartphones could be seen as a distraction tool that facilitates procrastination. To the present authors' knowledge, no

empirical study has focused on the relationship between academic procrastination and smartphone addiction. Also, the theoretical model of procrastination proposed by Schraw et al. (2007) did not suggest such an association. Thus, it appears necessary to investigate the relationship between smartphone addiction and academic procrastination.

It has thus, become necessary to address this serious issue of smartphone addiction and the academic procrastination due to the addiction and analyse the impact on the higher education students in particular among student teachers who are responsible to shape future pillars of our nation. . Higher education is the golden period of any individual's life as it is intended to develop an individual to face the realities in the outside world and when one falls in to the unhealthy habit of smartphone addiction and eventually lose the academic life and the quality of education just because of procrastinating academic work during the period of higher education, it becomes nearly impossible to set thing right later in life. Hence, it is utmost important to analyse the level of smartphone addiction and the level of academic procrastination so as to streamline the students and guide them accordingly.

1.7 STATEMENT OF THE PROBLEM

Shaffer (1996) argued that all the extreme behaviors can be called addictions. Smartphone addiction falls into this categorization and is also known as mobile phone dependence, problematic use of mobile phones, mobile phone addiction, problematic mobile phone use, and mobile phone addiction tendency. Following this widely-accepted definition, this study defines smartphone addiction as the psychological or behavioral problems experienced by mobile phone users due to their abuse of smartphones.

Due to insufficient research investigating problematic smartphone use in order to effectively and consistently characterize it, it is currently unclear whether "problematic use" ought to be defined by use quantity, patterns of use, or by the negative consequences of the use. Billieux (2012) conducted a frequently cited literature review of dysfunctional

mobile phone use and defined the problematic use of mobile phones as "an inability to regulate one's use of the mobile phone, which eventually involves negative consequences in daily life". Concern has grown over the potential negative impacts smartphone use might have on users' behavior and cognitive abilities. Research has shown that problematic smartphone use is related to impulsivity (Contractor et al., 2017; De-Sola et al., 2017b; Hadar et al., 2017), impaired attention (Roberts et al., 2015; Hadar et al., 2017), and compromised inhibitory control (Chen et al., 2016). Smartphone use has been shown to negatively correlate with academic progress and success (Alosaimi et al., 2016; Hawi and Samaha, 2016; Samaha and Hawi, 2016).

Students who display problematic smartphone use are likely to experience usage control difficulty while doing their academic assignment (Lee and Lee, 2017). They are likely to spend much time on social media instead of reading their books, use the internet extensively as a result, they may procrastinate doing their related to studies and responsibilities.

Procrastination dominates all areas of behaviour and action but the most general form is academic procrastination which occurs in the academic settings. It is about having the knowledge that a student has to complete one or more tasks or administer any activity, for example solving a term paper, preparing for exams, completing a class project or concluding a reading assignment, but lacking in motivation to do in a specified time period (Ackerman & Gross,2005)

Academic procrastination is the tendency to put off or delay school- related activities and behaviours. Moreover, although it does appear that individuals have a tendency towards procrastinating or not, which in turn affects the likelihood of demonstrating procrastinatory behaviours in these specific outlets, other factors can come into play which weaken this relationship. For example, individuals who do not typically procrastinate in their everyday lives may procrastinate in their academic endeavours because of a lack of understanding of the complexities of meeting numerous deadlines,

inadequate beliefs regarding studying habits or because of a false belief that their high abilities allow them to do so. .

Academic procrastination occurs when students needlessly delay completing activities, projects or assignments. Such procrastination can place undue stress or anxiety upon individuals as they hasten to meet deadlines and complete assignments. Putting things off can not only affect one's psychological well-being, but can also affect one's relationship with others. As individuals fail to meet deadlines and commitments, relationships become strained. However, research is somewhat mixed on the effects of procrastination.

Academic procrastination is a type of delaying explicitly to academic settings. Characterized as superfluously deferring or eluding assignments that should be finished (Schraw, Wadkins, & Olafson, 2007). It includes realizing that one needs to do a scholastic duty or undertake an academic task, however, by one way or other, neglecting to persuade oneself accordingly, as such within the expected period. Accordingly academic procrastination might be responsible for late assignments, academic anxiety, utilization of self-impeding techniques and fear of failure and it regularly results in poorer performance than the individual is capable for achieving (Lee, 2005; Ferrari & Scher, 2000).Research evidences proposes that, academic procrastination is identified with poorer degrees of selfregulated learning, lower academic self-efficacy and related more with elevated degrees of stress and anxiety and negative outcomes in students (Howell & Watson, 2007).It is the particular absence of performance of studies and is prevalent among the students globally (Rabin, Fogel, & Nutter-Upham, 2011).Indeed, it has been demonstrated that learners with enhanced scholastic outcomes utilize more viable time management and proper self-regulation methodologies.

Studies conducted by Beranuy,(2009) and Xie & Zou, (2018) revealed that procrastination phenomenon was ubiquitous among university students Some previous researches indicated that inappropriate usage for mobile phone can positively predict

academic procrastination (Chu et al., 2010; Qu et al., 2017). Furthermore, studies also demonstrated that overuse of phone lead to mental health problems, for instance, depression, stress, anxiety and poor sleep quality can come into being along with the emergence of addiction behaviours (Lee et al. 2014, Sanchez-Martínez & Otero, 2009), and they also display the relationship of impulsive behaviours with social interaction, such as isolation academic failure and emotion issues. All above factors enhanced students' negative experience so as to cause stronger degree of procrastination. However, in a similar study, no significant associations were found between academic procrastination and problematic Internet use (Odaci 2011). Consequently, evidence regarding this relationship remains unclear, and therefore, it is relevant to examine whether there is an association between academic procrastination and smartphone addiction or problematic smartphone use among students of colleges of education, because smartphones could be seen as a distraction tool that facilitates procrastination. To the present authors' knowledge, no empirical study has focused on the relationship between academic procrastination and PSU. Also, the theoretical model of procrastination proposed by Schraw et al. (2007) did not suggest such an association. Thus, it appears necessary to investigate the relationship between PSU and academic procrastination.

Thus, it appears important to investigate whether problematic smartphone use is particularly prevalent among college students especially future teachers and further to explore relationships between problematic smartphone use and potential correlates that are relevant to student life, such as , academic procrastination. Hence, the problem is entitled as:

"Smartphone Addiction and Academic Procrastination among student-teachers"

1.8 OPERATIONAL DEFINITION OF THE VARIABLES

An operational definition allows the researchers to describe in a specific way what they mean when they use a certain term. Generally, operational definitions are concrete

and measurable. An operational definition is the statement of procedures the researcher is going to use in order to measure a specific.

1.8.1 Academic Procrastination

Academic procrastination implies a delay in the fulfillment of educational assignments and is associated with undeveloped learning skills, lack of organization, forgetfulness, and behavioural rigidity. Academic procrastination refers to delay in educational assignments and all other academic activities till the deadline.

1.8.2 Smartphone Addiction

Addiction is defined as the compulsion to repeat a behavior regardless of its consequences. The term Smartphone Addiction is defined as an excessive usage of mobile phone by ignoring time and all other assignments.

1.8.3 Student-Teachers

Student teacher is a graduate student who, as part of the training, observes classroom instruction, teaches in an elementary or secondary school under the supervision of an experienced teacher and teacher educator in order to qualify for a degree in education. They are expected to master various facets of education such as child and adolescent psychology, philosophy and sociology of education, curriculum transaction strategies, pedagogy of school subjects and evaluation process during their course of study in teacher education programme.

1.9 FORMULATION OF RESEARCH QUESTIONS

In any scientific study, the research problem has focus, direction and an element of planning. Relevant questions focus the researcher's attention on the aspects that should be scientifically described. This will provide a direction factor for the study (McMillan &

Schumachwe, 2001). The aim of the study is to analyse the relationship between Smartphone addiction and academic procrastination of prospective teachers. Based on the aim and objectives, with the review of literature the following research questions are framed.

Research Question 1

Are there any significant difference among the groups classified based on demographic variables such as gender, medium of instruction, locale of the institution, type of management of colleges, father's educational qualification, number of siblings and birth order on the independent variable of Smartphone Addiction and criterion variable Academic Procrastination?

Research Question 2

Is there any significant relationship between independent variable Smartphone Addiction and criterion variable Academic Procrastination of prospective teachers?

1.10 MAJOR OBJECTIVES OF THE STUDY

After considering the theoretical perspectives and review of the related literature, the following objectives were formulated.

- To find out the Smartphone Addiction level of student-teachers.
- To find out the Academic Procrastination behaviour of student-teachers.
- To find out whether there is any significant difference in Smartphone addiction and Academic procrastination of student-teachers with respect to gender.
- To find out whether there is any significant difference in Smartphone addiction and Academic procrastination of student-teachers with respect to their Educational qualification.

- To find out whether there is any significant difference in Smartphone addiction and Academic procrastination of student-teachers with respect to medium of instruction.
- To find out whether there is any significant difference in Smartphone addiction and Academic procrastination of student-teachers with respect to locale of the institution.
- To find out whether there is any significant difference in Smartphone addiction and Academic procrastination of student-teachers with respect to type of management of Colleges.
- To find out whether there is any significant difference in Smartphone addiction and Academic procrastination of student-teachers with respect to father's educational qualification.
- To find out whether there is any significant difference in Smartphone addiction and Academic procrastination of student-teachers with respect to mother's educational qualification.
- To find out whether there is any significant difference in Smartphone addiction and Academic procrastination of student-teachers with respect to number of siblings.
- To find out whether there is any significant difference in Smartphone addiction and Academic procrastination of student-teachers with respect to order of birth.
- To find out whether there is any significant relationship between Smartphone Addiction and Academic Procrastination of student-teachers.

1.11 SCOPE OF THE STUDY

The present study aims to investigate the Smartphone Addiction and Academic Procrastination of student-teachers studying in colleges of education located in urban and semi-urban areas.

1.12 DELIMITATIONS OF THE STUDY

- The present research study is confined to student teachers in Chennai district and semi urban area around Chennai district only.
- The population of the sample is restricted to student teachers pursuing B.Ed programme in Colleges of Education located in Chennai district and semi urban area around Chennai district only.
- The sample is restricted to student teachers studying in government, government-sided and self-finance colleges of education only.

1.13 CONCLUSION

This chapter provided introduction, background of the study, description of the variables, theories related to the variables, need for the study, objectives of the study, statement of the problem, operational definition of the variables, research questions, scope and delimitations of the study. In the following chapter review of related studies on smartphone addiction and academic procrastination have been presented.

CHAPTER - II

REVIEW OF RELATED LITERATURE

Literature review refers to the aggregation or accumulation of research work by "building on other's research results". Weber and Watson suggested that literature review helps to create "firm foundation for advanced knowledge" An attempt has been made to present a brief review of the available studies in the present field of investigation. It is well a known fact that new vistas of knowledge cannot be explored unless the investigator look into the past. Hence, it is very important to scan the work carried out previously and accordingly address the areas which has not been explored

The present chapter deals with the review of related literature of the select variables and the review is grouped as follows:

➢ Studies related to Smartphone addiction

➢ Studies related to Academic Procrastination

➢ Studies related to Smartphone addiction and Academic Procrastination

2.1. STUDIES RELATED TO SMARTPHONE ADDICTION

The American Psychiatric Association (APA) broadly defines addiction as "a complex condition, a brain disease that is manifested by compulsive substance use despite harmful consequences" (American Psychiatric Association, 2017). In the literature mobile phone addiction has been given various different names such as 'problematic mobile phone usage', 'habitual mobile phone usage', and 'compulsive mobile phone usage' (Kim & Byrne, 2011). However, as a result of the addition of computational features to mobile phones and their enrichment through various applications, which have led to the transformation of mobile phones into today's smartphones, the expression 'smartphone addiction' is now used more commonly than 'mobile phone addiction'. While these

concepts are sometimes used interchangeably (Kim & Byrne, 2011), this study is based on and uses the concept ‘smartphone addiction’. Smartphone addiction is the excessive use of smartphones in a way that is difficult to control and its influence extends to other areas of life in a negative way (Park & Lee, 2012).

Nevertheless, with a wide rate of usage, smartphones are now more than just means of communication and affect human life in many different ways, especially as they are the devices which are in closest daily physical contact with individuals (Lee, Chang, Lin, & Cheng, 2014). Along with providing access to information through the internet, smartphones also enable the sharing and production of new material, and provide opportunities for communication, social interaction, game-playing, application use, and the creation of media files. Although they are beneficial devices which facilitate countless social and individual activities, the use of mobile phones brings with it various problems in the domestic, academic, occupational, and social spheres (Choliz, 2012). As a type of problematic usage, smartphone addiction (Salehan & Negahban, 2013) has been described as ‘an addiction-like behaviour leading individuals to use the cell phone compulsively’ (Takao, Takahashi, & Kitamura, 2009). It has been argued that although smartphone addiction resembles other technological addictions it can be much more dangerous because smartphones offer unique features such as portability and ease-of-connectivity (Demirci, Orhan, Demirdas, Akpınar, & Sert, 2014).

Smartphone addiction is different from drug-based physiological addictions such as addiction to alcohol or heroin and is behaviour-based (Griffiths, 1998; Kim & Kim, 2002; van Deursen, Bolle, Hegner, & Kommers, 2015). The pleasure and excitement that initially arise from the use of smartphones may turn into a condition that is disruptive for both the individual and society in the long term. Overuse of smartphones and habitual checking may eventually push the users into compulsive usage or even to mobile phone addiction (Lee et al., 2014). While overuse causes sleeping problems and various health disorders, it also results in stress (Thomee, Harenstam, & Hagberg, 2011), and physical

and mental development problems (Hadlington, 2015; Park & Park, 2014). When individuals cannot access their smartphones, they may fall into nomophobic behaviour such as: '(1) not being able to communicate, (2) losing connectedness with others, (3) not being able to access information, and (4) giving up convenience' (Yildirim, Sumuer, Adnan, & Yildirim, 2015).

Though research on problematic use of mobile phone is still evolving in the Information Science field, a significant number of studies on smartphone-related addiction have been conducted in the psychology and clinical psychology literature (Billieux, 2012; Sarwar, & Soomro, 2013) . For instance, Kwon et al. (2013) proposed a series of scales to identify the addiction symptoms of smartphone use, measuring as daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse, and tolerance. Similarly, Casey (2012) defined smartphone addiction as a set of symptoms such as disregard of harmful consequences, preoccupation, inability to control craving, productivity loss, and feeling anxious and lost. However, scholars have been limited by a lack of deep understanding in this area. Our review of prior studies found that previous studies mainly focused on demographics and psychosocial characteristics of mobile phone users (Billieux, 2012; Park & Lee, 2011), dimensions and measurement instruments (Casey, 2012 & Leung, 2007), as well as diagnoses, symptom management, and treatment strategies for problematic mobile phone use (Beranuy, et al. 2009 & Yen, et al. 2009).

Based on the critical review mentioned above, research in the field of "problematic use of smartphone" is still explorative and evolving. There has been no consensus on the causes and consequences, and even no consensus has been reached on the nomenclature used to describe the phenomenon. In the previous literature concerning about the smartphone use, this type of irrational behavior has been referred as addiction (Casey (2012; Koo, 2009; Kwon et al. 2013; Leung, 2007; Roberts & Pirog, 2013; Salehan, & Negahban, 2013 & Wu et al. 2013), compulsive usage (Hoetjes, 2013; Park & Lee, 2011), and problematic use (Billieux, 2012). Whereas Chaung et al (2015) prefer the term

addiction because they felt it represents a behavioral pattern that causes compulsive use despite harmful consequences (Association, 2000). The term also refers to respective behaviours driven by an irresistible urge and ultimately harmful to the person (Billieux, 2012). A review of prior literature found that addiction behaviors occur in various domains, such as gambling, alcoholism, gaming, and drinking, and they share a number of common features. These include physical and/or psychological dependence on the substance or activity, loss of control regarding the behavior, and negative consequences related to everyday life (Goodman, 1990). Other commonalities include denial of harmful consequences, and repeated failure in controlling the behaviour (Russell, 1979).

When the research on smartphone addiction is studied, it can be observed that numerous variables have been taken into consideration. These include: user characteristics (Park & Lee, 2011); life stress (Chiu, 2014); academic success (Kibona & Mgaya, 2015; Mok et al., 2014; Olufadi, 2015; van Deursen et al., 2015); learning (Lee, Cho, Kim, & Noh, 2015); habits (Chen, Zhang, & Zhao, 2015); age (Kibona & Mgaya, 2015); self-regulation (Jeong, Kim, Yum, & Hwang, 2016; van Deursen et al., 2015; Ko et al., 2015); and duration of mobile phone usage (Hong et al., 2012; Kwon et al., 2013; Lin et al., 2015). Some research has suggested that smartphones might have an effect on the academic success of students (Junco & Cotten, 2012; Lepp, Barkley, & Karpinski, 2014; Kibona, & Mgaya, 2015). In this respect, smartphone addiction may cause individuals to disengage from class activities, to cheat in exams or break off their studies, and it may affect academic performance (Roberts, Yaya, & Manolis, 2014). Moreover, research has shown that students think smartphone addiction will have negative effect on academic success (Olufadi, 2015), but that they are not aware of their own smartphone addictions (Roberts et al., 2014).

While various features of smartphones have been pointed to as causes of addiction (Roberts et al., 2014), the major factors affecting smartphone addiction have yet to be revealed (Pi, 2013). Researchers have stressed the significance of research regarding

smartphone usage and argued that it is necessary to conduct many more studies. Furthermore, it has been stated that self-regulation and the duration of smartphone usage are important variables affecting smartphone addiction (Jeong et al., 2016; Kwon et al., 2013; Lin et al., 2015).

The problematic use of smartphones has extensively drawn social attention because of the harmful and disturbing outcomes. However, there has been little comprehensive research concerning the mechanism of problematic behavior in the use of smartphone, particularly for behavioral addiction. Given the specific characteristics of smartphones (e.g., high mobility, instant connection, and ubiquitous access), it is highlighted that smartphone addiction is a behavior that differentiates from traditional addiction behavior. However, in the previous research, there is a lack of comprehensive understanding of the characteristics and the underlying mechanism of smartphone addiction. Motivated to systematically theorize this issue, Wang et al. (2015) primarily define addiction in the smartphone context and comprehend the characteristics of smartphone addiction, followed by developing the measures for smartphone addiction.

2.2. STUDIES RELATED TO PREDICTORS OF SMARTPHONE ADDICTION

The daily duration of calling and the number of messages sent are related to problematic phone usage (Augner & Hacker, 2012). In other words, excessive usage of smartphones causes addiction (Augner & Hacker, 2012; Kwon et al., 2013; Lin et al., 2015). According to the 'optimal follow theory', the frequent and repeated use of mobile phones may lead to addiction. Smartphone applications lead people to check their phones more frequently (Salehan & Negahban, 2013; van Deursen, Bolle, Hegner, &Kommers (2015). This habit of checking in turn causes people to use their phones much more (Oulasvirta, Rattenbury, Ma, & Raita, 2012). According to van Deursen et al. (2015), this process of checking is repeated since new messages, notifications and news feeds function as 'rewards' and, as a consequence, addiction may develop and control of behaviour be lost. According to the results of the study, habitual use of smartphones is included among

the significant variables contributing to the smartphone addiction (van Deursen et al., 2015). It has been stated in all these studies that the duration of smartphone usage is a significant variable in terms of addiction. In line with these studies, the hypothesis can be suggested.

Smartphone addiction is detrimental, especially in young adults, in so many aspects of life, including health (Acharya et al., 2013), academics (Bjorsen &Archer, 2015), and driving (Bradish et al., 2019). Despite a growing awareness that problematic usage of smartphones is becoming a significant public health issue, there is limited research on how problematic smartphone usage relates to the humanistic concepts of well-being, particularly those captured in Ryff's six psychological well-being dimensions: positive relations, autonomy, environmental mastery, personal growth, purpose in life, selfacceptance. The study by Horwood & Anglim (2019) aimed to provide a comprehensive assessment of the relationship between general and problematic smartphone usage and subjective wellbeing and psychological well-being using long-form, theoretically grounded measures. Australian adults (*n* = 539, 79% female; age in years M = 25.1, SD = 7.8) completed Diener's Satisfaction with Life Scale, the PANAS, and Ryff's 84-item measure of psychological well-being. Results showed that problematic smartphone usage was correlated with lower well-being on almost all scales. In particular, negative affect, autonomy, and environmental mastery had the largest negative correlations with problematic smartphone usage. Given the stable and dispositional nature of well-being, it seems likely that much of the relationship is driven by a common underlying tendency to experience anxiety, negative emotions, and a lack of control, combined with a tendency to engage in maladaptive coping and compulsive behavior

2.3. STUDIES RELATED TO ACADEMIC PROCRASTINATION

Steel (2007) defined procrastination as‘voluntarily delay[ing] an intended course of action despite expecting to be worse off for the delay’ . In academic situations, procrastination is a widespread phenomenon and it has been found that students often

procrastinate when approaching academic tasks (e.g. Klassen et al. 2009; Lay and Silverman 1996).

Academic procrastination is described as unnecessarily postponing carrying out or completing an academic task by students. This implies that academic procrastination occurs when students give their attention to other activities at the expense of their academic responsibilities. For instance, academic procrastination results when students are caught in the web of many addictive behaviours and became distracted from paying due attention to carrying out their academic tasks when necessary and when students spend more time on social communication which distracts them from actively engaging in their academic activities.

The study conducted by Saplavska and Jerkunkova (2018) aimed to reveal the links between academic procrastination and anxiety among students. The participants in this study were 60 second year students of the Latvia University of Life Sciences and Technologies, Faculty of Engineering, aged 20-27. The results of the current study made it possible to identify the following tendencies: in this sample, students with a high level of procrastination (48 %) and the average levels of personality (53 %) and situational anxiety (55 %) prevail. It can be assumed that students with a high level of procrastination are more likely to experience anxiety, are more uncertain regarding the positive resolution of the situation, constantly delay the implementation of plans, start accomplishing tasks at the very last moment, when the deadline is approaching and it is nearly useless to try to catch up to the wasted time. Perhaps anxiety is aggravated by the high expectations of others as well as the excessively high standards regarding own work results on behalf of the student. As a result it is observed that, procrastination is especially manifested in situations, which imply any assessment and measurement of a person's abilities. It can also be assumed that for students with a low level of procrastination the postponement of educational activities is not typical, thus, the problems arising from the untimely accomplishment of tasks are extremely rare.

With an aim to develop Educational Programme for students to remove Academic Procrastination and Examination Anxiety, **Kamble & Bhoslay (2016)** conducted a study on Effect of educational programme on students academic procrastination and examination anxiety. Experimental method has selected for present study. The sample has been selected in Greater Mumbai secondary school students in Maharashtra state. Those school students who were having high level Academic Procrastination and Examination Anxiety had been selected for the study. The present research used statistical techniques such as't' test and Cohen's 'd' formula.To compare the pre-test scores and post-test scores groups for dependent variable, 't' test was used. Cohen's formula was used to measure the Effect of Educational Programme. It is concluded that the mean scores of pre-test scores and post-test scores of Academic Procrastination do differ significantly.

Yap Li San et al., (2016) aim to investigate the relationship between the components of motivation in self-regulated learning as well as the components of learning strategies in self-regulated learning and academic procrastination. The findings suggested that in order to cope with academic procrastination, an academic procrastinator might consider being a self-regulated learner as most of the components of self-regulated learning indicated a strong relationship with academic procrastination that can be encouraged in order to improve those lacking components of self-regulated learning. Also, to help undergraduates to improve on the components of self-regulated learning that they lack, strategies can be planned by educators to deal with academic procrastination and to increase academic performance.

An Investigation of Academic Procrastination prevalence and its relationship with Academic Self-Regulation and Achievement Motivation among high-School Students in Tehran City was conducted by **Ebadi & Shakoorzadeh (2015)**. The sample included 624 high school students (312 Boys & 312 Girls) from different areas and regions that selected using random cluster-multistage sampling method. Data were analyzed in two parts, descriptive and inferential statistics. Results of this study with an aim to examine the

prevalence of academic negligence among students, implying that more than half of the students in relation to academic tasks is frequently, often, or always, are negligence. The results also indicate that there wasn't a significant relationship between gender and educational neglect. Also, results showed that boys and girls procrastinate with the same rate, in general. And boys more than girls procrastinate only on preparing for academic tasks. The result of regression analysis also showed that academic self-regulation and achievement motivation predict academic procrastination significantly.

Janssen (2015) conducted a research on Academic Procrastination prevalence among high School and undergraduate students and its relationship to Academic Achievement considering the population for this study as 98 high school students and 133 undergraduate college students from a large metropolitan research university. A casual-comparative design was used to determine the answers to research questions. In this current study, the relationship between academic procrastination and academic achievement, as measured by overall grade point average, was found to be -0.09 and which is not significant for either high school or undergraduate college students.

Another important finding of the research is the fact that Internet addiction positively affects academic motivation and further predicts academic procrastination. "Academic motivation" was found to be the most important predictor of academic procrastination. In other words, as addiction levels increases, procrastination also increases.

The relationship between procrastination and academic achievement of high school learners in North West province, South Africa was examined by **Joubert (2015)** .The current study had (by means of stratified sampling) a sample size of 349 high school learners, ranging from Grades 8 to 12, from three different private high schools in the North West province, South Africa.

A t-test was performed between gender and scores on Tuckman Procrastination Scale (TPS) to determine whether a significant difference exists between male and female academic procrastination. Research findings with respect to Procrastination and gender was not significant ($t = -1.42$; $df = 290$; $p = 0.1567$) or said differently, the difference between male academic procrastination and female academic procrastination is not significant. Research findings with respect to Procrastination and area showed no significant differnce ($t = 2.02$; $df = 283$; $p = 0.0443$), meaning there was no significant difference between the academic procrastination scores of learners living in rural as opposed to urban areas.

Furthermore, a one-way ANOVA was done between number of siblings and TPS score to determine whether family size (number of siblings) has a significant influence on academic procrastination. Research findings with respect to Procrastination and number of siblings showed the difference was not significant ($F = 1.822$; $p = 0.144$). There is thus no significant relationship between a learner's academic procrastination and the number of siblings the learner has.

A study by **Kandemir (2014)**. aims to examine the extent to which coping with stress, Internet addiction and academic motivation among university students explain their academic procrastination behaviours. The sample group consisted of 407 students enrolled in the Faculty of Education and the Faculty of Sciences and Letters at Kirikkale University using a relational survey model indicated that the academic procrastination behaviours of students are significantly predictable through coping with stress, Internet addiction and academic motivation within a framework of a mode

Khan, et al., (2014) conducted a study on Academic Procrastination among Male and Female University and College Students. The sample consists of 200 students taken purposively from different colleges and universities of Islamabad. The Tuckman Procrastination Scale (Tuckman, 1991) with 16 items measure concerning academic behaviour was administered to collect data. The t-test analysis was used to investigate the

gender, age and education differences in Academic Procrastination among university and college students. Results show that male students procrastinate more than female students

Cakır et al., (2013) examined Academic Procrastionation of high school students with in terms of School Burn-Out and Learning Styles. The research group consists of 241 high school students, 119 of which are female and 112 of which are male from Turkey. Research was a descriptive study in survey model. The data obtained from the research were uploaded to electronic environment and analyzed using SPSS software. It shows that there is a difference in academic procrastination based on gender ($t=3.85, p<.05$). In addition findings show that the level of the academic procrastination tendency is higher in female students compared to male students and it is believed that the difference between them is significant.

Musthafa & Sunitha (2013) analysed the relationship between Academic Procrastination and Mathematics Anxiety among secondary school students in Kerala. The present study was carried out on a representative sample of 352 secondary school students of Kerala. The sample was drawn by simple random sampling method. Instruments such as The Scale of Academic Procrastination for secondary school students (Musthafa & Fouzia,2010) was adapted to collect data on Academic Procrastination. The result of the analysis based on gender was subjected to test of significance clearly indicates a statistically significant difference in the Academic Procrastination mean scores of Girls and Boys. i.e., Gender difference is found in Academic Procrastination of secondary school students.

Motiea & Sadeghi (2012) conducted a study on, predicting Academic Procrastination during Self-Regulated Learning in Iranian first Grade high school students. The population of the study includes all senior high school students of Tehran city. A sampleof 250 subjects have been selected through cluster sampling. The procedure is that from 19 areas of Tehran 5 areas have been selected randomly, from each area one girl and one boy school and from each school one class have been selected randomly.

Academic Procrastination Scale constructed by Solomon and Rothblum was used. The evaluation scale for Persian version of academic procrastination contains 27 items which investigate three elements such as preparation for examinations, preparation for doing assignments, preparation for final papers. The results showed that, there was no meaningful difference between two genders in terms of academic procrastination using t-test statistical method for independent groups. It was further concluded that girls make use of Rehearsal strategy more than boys and they had more effort regulation.

2.4. STUDIES RELATED TO SMARTPHONE ADDICTION AND ACADEMIC PROCRASTINATION

Several studies have focused on the relationship between academic procrastination and Internet use. For example, high levels of Face book use were found to correlate with higher levels of academic procrastination in a student sample (**Sahin 2014**).

In another study, **Yang et al (2018)** explored the prevalence and correlates of Problematic Smartphone Use (PSU) among Chinese university students. This investigation proposed and tested a hypothetical model of relationships between PSU and the factors such as academic anxiety, academic procrastination, self-regulation, and subjective wellbeing. A total of 475 Chinese university students completed a paper-based survey during class breaks. The survey comprised a battery of psychometric scales translated into Chinese translations examining the study variables (i.e., academic anxiety, academic procrastination, self-regulation, life satisfaction, and PSU). Path analysis was applied to test the hypothetical model. A good model fit was found in which PSU predicted academic procrastination and academic anxiety. Also, self-regulation predicted PSU academic anxiety, academic procrastination and life satisfaction. PSU mediated the relationships between self-regulation, and both academic anxiety and academic procrastination. The present study enhances our understanding of the role of problematic smartphone use in relation to academic behaviour, mental health and wellbeing of college students. It appears that the students in this study were more likely to procrastinate when

they could not or did not control their smartphone use, or when they felt anxious (possibly associated to their PSU). Again, they may benefit from training on time-management skills or personal effectiveness, especially for procrastination associated with smartphone use.

Liu et al., (2018) aimed to estimate the mediating role of future time perspective whether the mediator explored the relation of mobile phone addiction on delaying. At the same time, this paper tried to test the moderate effect of gender Six hundred students from medical college in Weifang located in Shandong Province completed multiple scales, namely Mobile Phone Addiction Tendency Scale (MPATS). Future, Time Perspective Scale (FTPS), Arouse Procrastination Scale and Avoidant Procrastination Scale, respectively. The study concluded that (1) future time perspective partially mediated the relationship between mobile phone addiction and procrastination. The proportions of explanation for indirect effects were 20.32% and 24.70%, respectively. (2) Gender played a moderated role in the influence of independent variable on dependent variables. The regulated mediator model was fit and receivable, the mediated model is more suited to male, the addictive behavior profoundly related with procrastination in male groups than that of in female groups.

Qaisar, et al. (2017) carried out a study on "problematic mobile phone (PMP) use, academic procrastination and academic performance of college students". It was found that the excessive Mobile phone usage is linked with lesser performance of learners and male students were found to have better academic performance as compared to female college students. It was further revealed that academic procrastination and PMP was significantly high among college students studying in annual system and academic performance was significantly high studying in semester system. Moreover, PMP use and academic procrastination in their combined effects did not emerge as significant predictors of academic performance among college students.

2.5 OVERVIEW

The overview of the studies related to Smartphone addiction and academic procrastination reveals that there are few studies conducted in this area of research in India. Smartphone addiction or problematic usage of smartphone literature review has been published from psychology, psychiatric or mental health discipline; such reviews were mainly skewed towards consequences such as stress, anxiety, depression severity, extraversion, self-identity, neuroticism, self image, etc. Hence, it is observed that in future to study technology addiction and by implication, Smartphone Addiction, scholars should understand the antecedents and outcomes or consequences. Therefore, it would be useful to review literature from antecedents to consequences of Smartphone Addiction by considering papers mainly but not limited to Information System discipline or domain. The purpose of this review is to provide a solid foundation for future research and to assist in mitigating or preventing Smartphone Addiction.

CHAPTER-III

METHODOLOGY

3.1 INTRODUCTION

Methodology is a process, which reveals that all those methods and techniques used by the researcher during the course of studying his research problem. The role of methodology is to carry out the research work in a scientific and valid manner. Adaptation of a suitable methodology can raise the efficiency and dignity of the research work the success of any research mainly depends on the tools and techniques and the proper methods adopted in the research process.

This chapter gives details about the formulation of hypothesis and a description of method which includes sample characteristics, selection of tools and procedure adopted for investigation.

3.2 STATEMENT OF THE PROBLEM

The present study has been specially intended to study the ***"Smartphone Addiction and Academic Procrastination among Student-teachers".***

3.3 HYPOTHESES

1. There will be no significant difference between male and female Student-teachers with respect to

a. Smartphone Addiction
b. Academic procrastination

2. There will be no significant difference between Graduate and Post Graduate Student-teachers with respect to

a. Smartphone Addiction
b. Academic procrastination

3. There will be no significant difference between Student-teachers of English and Tamil medium with respect to

a. Smartphone Addiction
b. Academic procrastination

4. There will be no significant difference between Student-teachers studying in Colleges of Education located in urban and semi urban areas with respect to

a. Smartphone Addiction
b. Academic procrastination

5. There will be no significant difference among student-teachers of government, government-aided and self-finance Colleges of Education with respect to

a. Smartphone Addiction
b. Academic procrastination

6. There will be no significant difference among Student-teachers whose fathers vary in educational qualification such as illiterate, X, XII, Graduate and Professional with respect to

a. Smartphone Addiction
b. Academic procrastination

7. There will be no significant difference among higher secondary students whose mothers vary in educational qualification such as illiterate, X, XII, Graduate and Professional with respect to

a. Smartphone Addiction
b. Academic procrastination

8. There will be no significant difference among Student-teachers who vary in number of siblings with respect to

a. Smartphone Addiction
b. Academic procrastination

9. There will be no significant difference among higher secondary students who vary in order of birth with respect to

a. Smartphone Addiction
b. Academic procrastination

10. There will be a significant relationship between Smartphone Addiction and Academic procrastination of higher secondary students.

3.4 VARIABLES

The investigation necessitated a crystal clear classification of the dependent and independent variables followed by a detailed description of sample to be studied.

RESEARCH VARIABLES

In the present study Smartphone addiction is the independent variable and academic procrastination is conceived to be the dependent variable as excessive usage of

smartphone is associated with the act of needlessly delaying academic tasks and poorer performance of students in academics.

3.4.1 Independent Variable

Smartphone Addiction - An excessive usage of mobile phone by ignoring time and all other assignments

3.4.2 Dependent Variable

Academic Procrastination – It is the tendency of delaying or postponing different academic tasks.

3.4.3 Demographic Variables

- Gender - In order to examine the gender differences in smartphone addiction and academic procrastination of student-teachers both genders, namely male and female student-teachers were included in this study.
- Medium of Instruction - English and Tamil medium student-teachers were included in this study.
- Locale of the institution – Student-teachers studying in colleges of education situated in urban and semi urban areas of Chennai districts were included for the study.
- Type of management of colleges - In the present study type of management of colleges includes government, government aided and self finance colleges of education.
- Father's Educational Qualification – Illiterate, up to X, up to XII, Graduate, Professional qualified father's of student-teachers were included in the study.
- Mother's Educational Qualification – Illiterate, up to X, up to XII, Graduate, Professional qualified mother's of student-teachers were included in the study.

- Number of Siblings –Student-teachers with one, two, three and no siblings were included in this study.
- Birth Order – First, second, third and fourth born student-teachers were included for this study.

3.5 METHOD OF INVESTIGATION

The investigator took care to establish a sound research methodology, designing the psychometric and executing the same to the sample. The present section has provided with detailed description of the variables studied and controlled, the sample selected, tools chosen and description of the main study with the briefing of the analysis proposed. Normative Survey method is employed in the present research to collect, analyze and interpret the data. Data collected from the sample was scored and subjected to statistical analysis for verification of formulated hypotheses.

3.5.1 Variables

The variables chosen for investigation in the present study are smartphone addiction and academic procrastination of student-teachers. The demographic variables included in the study are gender, Medium of Instruction, Locale of the institution, Type of management of colleges, Father's Educational Qualification, Mother's Educational Qualification, Number of Siblings and Birth Order.

3.5.2 Population and Sample Characteristics And Selection

The target population of this study includes all the student-teachers pursuing B.Ed programme in colleges of education of Tamil Nadu. The data for the present study were collected from the population of student-teachers studying in Colleges of Education located in Chennai and suburban area of Chennai districts.

Keeping in view the aim of the study 234 student-teachers was randomly selected. Samples were collected from student-teachers belonging to government, government aided and self finance colleges of education.

3.5.2.1 Sample Design

For the purpose of the present study a representative sample of 234 student-teachers belonging to government, government aided, self finance colleges of education were selected using stratified random sampling technique.

3.5.2.2 Sample Distribution

Keeping in view, the aim of the study, 234 students studying B.Ed programme in colleges of education situated in Chennai District were randomly selected. The sample were selected on the basis of gender namely boys (121) and girls (113). Student-teachers were selected from the semi urban (115) and urban (119) locality. Further the sample was drawn from various government (86), government-aided (81) and self-financing (67) Colleges of Education situated in semi urban and urban areas of Chennai district.

THE DISTRIBUTION OF THE SAMPLE

Table -3.1

Number of Students for all Selected Demographic Variables

S. No	Demographic Variables	Category	No. of student-teachers
1	Gender	Boys	121
		Girls	113
2	Medium of Instruction	English	135
		Tamil	99
3	Locale	Rural	115
		Urban	119
4	Type of College	Government	86
		Government-Aided	81
		Self-Financing	67

3.5.3 Tools used for the Study

The data necessary for carrying our research investigation must be collected with the special instrument or devices. The successful outcome research is mainly depends upon the proper selection of the research tool. So the investigator used the following tools:

- Smartphone Addiction Scale (SAS) constructed and validated

  by Kwon et al.,(2013)

- Tuckman Procrastination Scale (TPS) constructed and validated

  by Tuckman (1991)

3.5.3.1 Description, Administration and Scoring of the Tools

The term research instrument refers to any tool that the researcher use to collect or obtain data, measure data and analyse data that is relevant to the subject of his/her research. The data that is collected is only as good as the instrument that collects the data. Developing or identifying a good instrument is the most important part of conducting a high quality research study. Appropriate tools were selected in order to assess the independent and dependent variables of the study.

(i) Description of the Tool - I- Smartphone Addiction Scale- Kwon et al., (2013)

The Smartphone Addiction Scale (SAS), originally developed in Korean but published in English, is a contemporary scale developed to assess Problematic Smartphone use (PSU; Kwon, Lee, et al., 2013). Smartphone addiction scale (SAS) developed and standardized by Kwon, Lee, et al., (2013) consisted 33 items distributed under 6 factors and with a six-point Likert scale (1: ‘‘strongly disagree’’ and 6: ‘‘strongly agree’’) based on self-reporting. The six factors were daily-life disturbance, positive anticipation, withdrawal, cyberspace- oriented relationship, overuse, and tolerance

Alternative measures of PSU include Smartphone Addiction Inventory (Lin et al., 2014), Smartphone Addiction Proneness Scale (Kim, Lee, Lee, Nam, & Chung, 2014), Problematic Mobile Phone Use Questionnaire – Revised (Kuss, Harkin, Kanjo, & Billieux,2018), and Implicit Association Test measures for Smartphone and Internet Addiction (Roh et al., 2018). The Short-Version of SAS (SAS-SV; Kwon, Kim, Cho, & Yang, 2013) is among the most widely used instruments with validated translations in Turkish (Noyan, Darçın, Nurmedov, Yılmaz, & Dilbaz, 2015), Italian (De Pasquale, Sciacca, & Hichy, 2017), Spanish and French (Lopez- Fernandez, 2017), and Arabic (Sfendla et al., 2018), making it a useful instrument for cross-cultural comparisons and further research. The Short-Version Smartphone Addiction Scale (SAS-SV) attempts to evaluate the degree of addiction in teenagers as well as major concept of addiction for evaluation reference and characteristics of smartphone usage. The Short-Version Smartphone Addiction Scale (SAS-SV) developed is expected to evaluate smartphone addiction in a simple and easy way, which will be less expensive and time consuming.The Short-Version Smartphone Addiction Scale (SAS-SV) consists of 10 items. The students were asked to give responses based on the options *"Strongly Disagree", "Disagree", "Weakly Disagree", "Weakly Agree", "Agree" and "Strongly Agree"*. The response format on the SAS-SV is a 6-point Likert-type scale from "Strongly Disagree" to "Strongly Agree". The Short-Version Smartphone Addiction Scale (SAS-SV) is presented in Appendix I.

ADMINISTRATION OF THE TOOL

The investigator after obtaining prior permission from the Heads of the Institution personally administered the Short-Version Smartphone Addiction Scale (SAS-SV) to the sample. The investigator made the students to be seated with proper seating arrangements. They were informed about the purpose of the test clearly and were asked to do all the entries of the response in the booklet one by one. They were instructed to read each item carefully and respond to all the items in the scale by marking a tick (✓) on any

one of the six responses. There was a good rapport between the investigator and the respondents and also with the investigator and the teacher educator. The time taken to complete the questionnaire given by the investigator was approximately ten minutes.

SCORING

In Short-Version Smartphone Addiction Scale (SAS-SV) the scoring was made on a 6- point likert- type scale.

The scoring of the item was as,

SD - Strongly Disagree	- 1
D - Disagree	- 2
WD -Weakly Disagree	- 3
WA - Weakly Agree	- 4
A - Agree	- 5
SA - Strongly Agree	- 6

The possible range of scores is 10 to 60. Higher scores indicate higher addiction to Smartphone usage.

(ii) Description of the Tool - II- Tuckman Procrastination Scale- Tuckman (1991)

The Tuckman Procrastination Scale (TPS) developed and validated by Tuckman (1991) which purportedly measures procrastination tendencies was administered. This scale provides a general index of academic procrastination resulting from a student's ability to self-regulate or control task schedules. The scale is a self-report scale of procrastination. This selection criterion was chosen to increase the probability that

procrastination was assessed in a valid way. However, the items themselves tend to be geared towards an academic participant pool and have been widely used to measure academic procrastination (Klassen & Kuzucu, 2009). The Academic procrastination Scale consists of 16-items. The students were asked to give responses based on the options – "*that's me for sure"," that's my tendency"," that's not my tendency"," that's not me for sure"*. The students were asked to give their opinion on each of the sixteen statements on a four-point likert-type scale ranging from "that's me for sure" to "that's not me for sure" respectively.

The Tuckman Procrastination Scale is presented in Appendix II.**Table-3.3**

Positive and negative items for Tuckman Procrastination Scale

S.No	Type of Items	Items	No.of Items
1.	Positive	1,2,3,4,5,6,8,9,10,11,13,15	12
2.	Negative	7,12,14,16	4
Total			16

ADMINISTRATION OF THE TOOL

The instructions were clearly given to the students before administering the tool. Students were encouraged to clarify their doubts before recording their responses. They were informed about the purpose of the test clearly and were asked to do all the entries of the response in the booklet one by one. Students were instructed to indicate their opinions about each of the statements by placing a tick mark (✓) in one of four boxes. The time taken to complete the questionnaire given by the investigator was approximately half an hour.

SCORING

In Tuckman Procrastination Scale, the scoring was made on a 4-point likert-type scale. The scoring of the positive item was as,

That's me for sure	-	1
That's my tendency	-	2
That's not my tendency	-	3
That's not me for sure	-	4

The scoring of the negative item was as,

That's me for sure	-	4
That's my tendency	-	3
That's not my tendency	-	2
That's not me for sure	-	1

In Tuckman Procrastination Scale, scores in the 57-64 range are considered high, 50-56 range moderate, and 35-49 range low.

3.6 PILOT STUDY

A pilot study was conducted to ascertain the time limit and also to establish the reliability and validity of the tools. A sample of 40 student teachers was chosen for pilot study. The investigator personally administered Short-Version Smartphone Addiction Scale (SAS-SV) and Tuckman Procrastination Scale to the sample by giving necessary instructions.

The design of the sample for the pilot study is presented in the following table.

Table -3.4 Sample Distribution—Pilot study

Nature of investigation	Sample	No. of male student-teachers	No. of female student-teachers	Total
Pilot Study	Student-teachers	20	20	40

3.6.1 Reliability and Validity of the Tool

Reliability is the degree of consistency that the instrument or procedure demonstrates: whatever it is measuring, it does so consistently. Validity is that quality of data-gathering instrument or procedure that enables it to measure what it is supposed to measure.

Tool – I : Short-Version Smartphone Addiction Scale (SAS-SV)

RELIABILITY

The reliability of the Short-Version Smartphone Addiction Scale (SAS-SV) was established by computing Cronbach's Alpha Coefficient which is a measure of the inter consistency reliability of the test. The Alpha Coefficient which is found to be 0.579 significant at 0.01 level.

VALIDITY

The content validity was established by carefully examining each item of the test against the purpose by the panel of educationists, educational psychologists, psychologists and teacher educators. Their suggestions have been taken into account to enhance the

contents and quality of the statement. The intrinsic validity of the tool was established by taking the square root of the corresponding reliability coefficient. Thus, obtained intrinsic validity for Cognitive Test Anxiety Scale is 0.76.

Tool – II : Tuckman Procrastination Scale

RELIABILITY

The reliability of the Tuckman Procrastination Scale was established by computing Cronbach's Alpha Coefficient which is a measure of the inter consistency reliability of the test. The Alpha Coefficient which is found to be 0.540 significant at 0.01 level.

VALIDITY

The content validity was established by carefully examining each item of the test against the purpose by the panel of educationists, educational psychologists, psychologists and teacher educators. Their suggestions have been taken into account to enhance the contents and quality of the statement. The intrinsic validity of the tool was established by taking the square root of the corresponding reliability coefficient. Thus, obtained intrinsic validity for Tuckman Procrastination Scale is 0.73.

3.7 MAIN STUDY

After establishing the reliability and validity for the tools, the main study was conducted. Since the results of pilot study confirm test reliability and meet the criteria of validity the same tests were replicated for the main study. The male and female student-teachers were selected from three different types of management such as government, government aided and self-financing Colleges of Education by using the method of stratified random sampling technique. The sample was then subjected to tests with good rapport and confidence.

The investigator after obtaining prior permission from the Head of the Institution personally administered the tool to the sample. They were informed about the purpose of the test clearly and were asked to enter their responses to all the items of the questionnaires one by one. The respondents were assured of the confidentiality of their responses and reminded that their responses would be used only for the purposes of research. A general questionnaire to elicit background information (gender, type of management and socio-economic status) of the students was distributed to all students. Both the tools such as Short-Version Smartphone Addiction Scale (SAS-SV) and Tuckman Procrastination Scale were distributed and student-teachers were instructed on how to respond to the items of the tools. It took the student-teachers about forty minutes to complete responding the tools. The data were scored and finally subjected to statistical analysis.

3.8 ANALYSIS OF DATA

Data related to the variables were collected by using standard tools. For the meaningful interpretation of the study, the collected data are processed and analyzed using appropriate statistical analysis. The statistical measures employed in processing and analyzing data and to test the hypotheses were measure of central tendency, t-test, Correlation Analysis, One – way Analysis of Variance.

3.9 CONCLUSION

This chapter outlined the design of the present study, the procedure followed and the native of the sample. It described the hypotheses to be tested, the tool used, description of the tool, the method of administration and scoring procedure. The statistical measures employed in processing and analyzing the data to test the hypotheses, were stated clearly. The result and discussion of results are all presented in the following chapter IV.

CHAPTER IV

ANALYSIS, INTERPRETATION AND DISCUSSION

4.1. ANALYSIS OF DATA

Analysis and interpretation are central steps in the research process. The goal of analysis is to summarise the collected data in such a way that provide answers to the questions that trigger the research. The data collected from the students was processed and analyzed using appropriate statistical techniques.

4.1.1 Statistical Analysis of Data

As stated above the data collected were analyzed employing mean, standard deviation, correlation analysis, one way ANOVA and t-test.

Table-4.1

Mean and Standard Deviation of Smartphone Addiction and Academic Procrastination of student-teachers

Variables	N	Maximum Score	Mean	Standard Deviation	Percentage of Mean
Smartphone Addiction	234	60	36.12	4.91	60.2%
Academic Procrastination	234	64	35.41	5.49	55.3%

The mean and standard deviation of Smartphone addiction and Academic Procrastination of student-teachers is presented in the table. The maximum possible score in the smartphone addiction is 60 and academic procrastination is 64. The mean score of smartphone addiction is 36.12 and its percentage is 60.2%. The mean the mean score of

academic procrastination is 35.41 and its percentage is 55.32%. Hence, from the mean values it is clear that the student-teachers have moderate smartphone addiction and academic procrastination behaviour.

Table-4.2

Significance of mean difference between Male and Female student-teachers with respect to Smartphone Addiction and Academic Procrastination

Variables	Gender				t value	p value
	Male (N=121)		Female (N=113)			
	Mean	SD	Mean	SD		
Smartphone Addiction	36.87	4.89	35.31	4.83	2.447	0.015*
Academic Procrastination	35.90	5.34	34.88	5.61	1.430	0.154

It could be inferred from the above table that the variable academic procrastination does not differ significantly with respect to gender. It is therefore concluded that the male and female student-teachers are similar in their academic procrastination. The variable smart phone addiction has presented a different picture. It is noted that the variable smart phone addiction differed significantly with respect to gender. Further, it was also observed that the smart phone addiction of male student-teachers is found to be higher than the female student-teachers. The mean value of smartphone addiction with respect to gender reveals that male student-teachers are more addicted to use smartphones when compared with female student-teachers.

Hence, the formulated hypothesis there will be no significant difference between male and female student-teachers in academic procrastination is accepted. Further, the formulated hypothesis that there will be no significant difference between male and female student-teachers in smartphone addiction is not accepted.

Table-4.3

Significance of mean difference between Graduate and Post graduate student-teachers with respect to Smartphone Addiction and Academic Procrastination

Variables	Educational Qualification of Student-Teachers				t value	P value
	UG (N=138)		PG (N=96)			
	Mean	SD	Mean	SD		
Smartphone Addiction	36.07	4.91	36.18	4.95	0.160	0.873
Academic Procrastination	35.14	5.52	35.79	5.45	0.896	0.371

The above table results indicate that the student teachers do not differ significantly with respect to their educational qualifications. Thus, both UG and PG qualified student teachers are similar in smartphone addiction and academic procrastination. Hence, the formulated hypothesis there will be no significant difference between UG and PG qualified student teachers with respect to smart phone addiction and academic procrastination is accepted.

Table-4.4

Significance of mean difference between English medium and Tamil medium student-teachers with respect to Smartphone Addiction and Academic Procrastination

Variables	Medium of Instruction				t value	P value
	Tamil(N=99)		English (N=135)			
	Mean	SD	Mean	SD		
Smartphone Addiction	36.09	5.19	36.13	4.73	0.065	0.948
Academic Procrastination	34.81	5.73	35.84	5.28	1.430	0.154

It is evident from the above results the variable smart phone addiction and academic procrastination do not differ significantly with respect to medium of instruction. This showed that Tamil and English medium student-teachers are found to be similar in their smart phone addiction and academic procrastination.

Further, the formulated hypothesis there will be no significant difference between Tamil and English medium student-teachers with respect to smart phone addiction and academic procrastination is accepted.

Table-4.5

Significant of mean difference between student-teachers studying in Colleges of Education located in Urban and Semi Urban areas with respect to Smartphone Addiction and Academic Procrastination

Variables	Locale				t value	P value
	Urban (N=115)		Semi Urban (N=119)			
	Mean	SD	Mean	SD		
Smartphone Addiction	36.97	5.21	35.29	4.48	2.659	0.008**
Academic Procrastination	36.06	5.66	34.77	5.26	1.802	0.073

The results presented in the above table shows that the student- teachers from urban and semi urban areas differ significantly in smartphone addiction. It is also inferred that student-teachers from urban area exhibited higher smart phone addiction than the semi urban area student-teachers. It is also interesting to note that the student teachers from urban and semi urban areas did not differ significantly in academic procrastination. This shows that student-teachers from different locale are similar in academic procrastination.

Hence, in the formulated hypothesis there will be no significant difference between the student-teachers from urban and semi urban areas in smartphone addiction is not accepted. Further, in the formulated hypothesis there will be no significant difference between the student-teachers from urban and semi urban areas in academic procrastination is accepted.

Table-4.6

Significance of mean difference among government, government aided and self-financing college student-teachers with respect to Smartphone Addiction and Academic Procrastination

Variables	Type of Management of Institutions						F Ratio	P value
	Government (N=86)		Government Aided (N=81)		Self-financing (N=67)			
	Mean	SD	Mean	SD	Mean	SD		
Smartphone Addiction	36.43	4.69	36.75	4.90	34.94	5.08	2.812	0.062
Academic Procrastination	34.63	5.05	36.40	5.60	35.21	5.78	2.245	0.108

It is observed that the student-teachers did not differ significantly with respect to the type of management of institutions in their smartphone addiction and academic procrastination. It is therefore concluded that student-teachers studying in government, government aided and self financing colleges of education are similar in smartphone addiction and academic procrastination. Hence, the formulated hypothesis that there will be no significant difference among student-teachers of government, government aided and self-financing colleges of education with respect to smartphone addiction and academic procrastination is accepted.

Table 4.7

Significance of mean difference among student-teachers whose father possess different educational qualification with respect to Smartphone Addiction and Academic Procrastination

Variables	Father's Educational Qualification										F value	P value
	Illiterate (N=119)		Upto X standard (N=62) (2)		HSc (N=17)		Graduate (N=25)		Professional (N=8)			
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Smartphone Addiction	36.14	5.32	35.65	4.35	35.18	4.85	25	37.64	35.25	5.82	1.082	0.371
Academic Procrastination	35.49	6.08	35.19	4.92	34.71	5.27	35.84	4.12	34.50	4.98	0.455	0.809

It is noted from the above table that father's educational qualification did not manifest any significant difference with respect to smart phone addiction and academic procrastination of student- teachers. Hence, it is inferred that the student-teachers exhibited similar smart phone addiction and academic procrastination based on their father's educational qualification. Hence, the formulated hypothesis there will be no significant difference among student-teachers whose fathers possess different educational qualification with respect to smartphone addiction and academic procrastination is accepted.

Table4.8

Significance of mean difference among student-teachers whose mother possess different educational qualification with respect to Smartphone Addiction and Academic Procrastination

Variables	Mother's Educational Qualification										F value	P value
	Illiterate (N=128) (1)		Upto X standard (N=48) (2)		HSc (N=21) (3)		Graduate (N=30) (4)		Professional (N=7) (5)			
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Smartphone Addiction	35.56	5.15	36.33	4.28	36.44	4.01	38.03	4.31	34.14	7.29	1.841	0.106
Academic Procrastination	34.64	5.61	36.21	5.13	36.28	4.92	36.87	5.17	33.71	6.62	1.682	0.140

It is observed from the table that the smart phone addiction and academic procrastination of student-teachers did not manifest any significant difference with respect to their mother's educational qualification. Further, it was inferred that the student-teachers exhibited similar smart phone addiction and academic procrastination with respect to their mother's educational qualification. Hence, the formulated hypothesis there will be no significant difference among student-teachers whose mothers possess different educational qualification with respect to smartphone addiction and academic procrastination is accepted.

Table 4.9

Significance of mean difference among student-teachers who vary in number of siblings they possess with respect to Smartphone Addiction and Academic Procrastination

Variables	Number of Siblings								F value	P value
	One (N=141) (1)		Two (N=55) (2)		Three (N=14) (3)		No sibling (N=24) (4)			
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Smartphone Addiction	36.09	4.94	36.38	4.86	36.29	6.15	35.58	4.33	0.153	0.928
Academic Procrastination	35.45	5.57	35.44	5.40	35.36	6.18	35.08	5.08	0.032	0.992

The F-ratio calculated for smartphone addiction and academic procrastination with respect to number of siblings, revealed that the student-teachers did not differ significantly in smartphone addiction and academic procrastination with respect to number of siblings they posses. It is further noted that the student-teachers are similar in smartphone addiction and academic procrastination with respect to number of siblings.

Hence, the formulated hypothesis there will be no significant difference among student-teachers who vary in number of siblings they posses with respect to smartphone addiction and academic procrastination is accepted.

Table 4.10

Significance of mean difference among student-teachers who vary in birth order with respect to Smartphone Addiction and Academic Procrastination

Variables	First (N=126) (1)		Second (N=83) (2)		Third (N=22) (3)		Four & above (N=3) (4)		F value	P value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Smartphone Addiction	35.75	5.20	36.08	4.65	38.00	4.02	38.33	4.04	1.518	0.211
Academic Procrastination	35.19	5.945	35.35	4.97	36.68	4.81	36.67	4.50	0.513	0.674

It could be interpreted from the above table that birth order of the student-teachers did not manifest any significant difference in smartphone addiction and academic procrastination. Thus, the student-teachers with first, second, third, fourth and above birth order are similar in smartphone addiction and academic procrastination. Hence, the formulated hypothesis that there will be no significant difference among student-teachers who vary in birth order with respect to smartphone addiction and academic procrastination is accepted.

Table 4.11

Correlation matrix showing inter correlation between Smartphone Addiction and Academic Procrastination of student-teachers

Variables	Academic Procrastination	Smartphone Addiction
Academic Procrastination	1	0.948**
Smartphone Addiction		1

The inter correlation between smartphone addiction and academic procrastination shows a significant high positive correlation. It was revealed from the simple correlation table presented above that smartphone addiction and academic procrastination are significantly and positively related. Hence, the formulated hypothesis there will be a significant relationship between smartphone addiction and academic procrastination of student-teachers is accepted.

4.2 DISCUSSION

In the present investigation it was observed that the smart phone addiction of male student-teachers is found to be higher than the female student-teachers. Male are more exposed to various apps and other features like social media usage through smartphone compared to that of female and more over female have responsibilities and duties towards family as a result of which they get lesser time to use smartphone compared to male. This may be the reason that male student-teachers are addicted to smartphone than the female student-teachers. The finding of this study is in line with the reviews of the literature analysed by De-Sola Gutiérrez et al. (2016) who indicated that problematic behavior in

using smartphone is observed more among males with respect to internet usage. The result of the present investigation is in contrary to the findings of Qaisar et al. (2017) and Yang et al. (2018) who reported that Females had exhibited significantly higher levels of problematic Smartphone use than their counterparts.

In the present investigation it was found that boys and girls are similar in their academic procrastination behaviour, which indicates that there was no significant difference when the students' academic procrastination behavior was examined according to gender variable. This is consistent with the finding of previous studies Charine Petronella Joubert (2015) who concluded that the difference between male and female academic procrastination is not significant. Moreover, there are also findings showing no significant difference between male and female procrastination prevalence (Demeter & Davis, 2013; Effert & Ferrari, 1989; Ferrari, Johnson & McCown, 1995; Konovalova, 2007; Rothblum, et al., 1986; Solomon & Rothblum, 1984; Yang et al., 2018). Gafni and Geri's (2010) study showed no gender differences in the procrastination tendency of 120 students from the Open University of Israel. There are also some studies which have found similar results (Akinsola, Tella & Tella, 2007; Çavdar & Mutlu, 2011; Kızılkaya-Cumaoğlu & Diker-Coşkun, 2012; Şirin, 2011; Yigit & Dilmaç, 2011). In some studies is seen that men shows more academic procrastination behaviour (Aydogan, 2008; Cetin, 2009)

One of the strongest reason for male student-teachers to procrastinate their academic work may be the smart phone addiction they possess but when it comes to female student-teachers, even if their addiction to smart phone is less than that of male, they still have other distracters like family responsibilities and because of which they might not have time for academic works or they may procrastinate the academic work. This may be the reason that male and female have similar academic procrastination. This finding is contrary to the finding of Senecal et al. (1995), Steel (2007), Steel and Ferrari (2013) and Van Eerde (2003), all found that men procrastinate more than women.

There is no significant difference found between student teachers in smart phone addiction and academic procrastination owing to their educational qualification. UG and PG students use smart phone equally for academic purpose, communication and entertainment purpose. Both the groups will be active on the social media. The usage of smart phone and usage of internet through smart phone is equal for both the groups thus they have similar smart phone addictions. This addiction affects their academic work as they tend to procrastinate the work and enjoy more screen time. Thus they are similar in academic procrastination.

The findings of the present study with respect to medium of instruction showed that Tamil and English medium student teachers are similar in their smart phone addiction and academic procrastination. In recent days every one possess a smart phone and it has served to be an easy medium of communication, entertainment and the hand held device keeps everyone connected at all times. The students from Tamil medium and English medium have smart phone and thus they exhibit similar level of smart phone addiction.

It was observed that the respondents from urban and semi-urban areas differ in smartphone addiction. The affordability and easy access to internet through smartphone is better in urban area. Free Wi-Fi connections are provided in malls and restaurants in urban area compared to that of semi-urban. The bandwidth and connectivity is also better in urban area. An uninterrupted access to internet through the smart phone may be the reason that student teachers from urban area have higher smart phone addiction than student teachers from semi-urban area.

Further, the student teachers from urban and semi-urban areas did not differ in their academic procrastination. This is in line with the findings of Joubert (2015) on area of residence (rural / urban) showed there was no significant difference between the academic procrastination scores of learners living in rural as opposed to urban areas. Though the students from semi urban area have less addiction compared to urban

students, they might have other factors as a result of which they might procrastinate their academic work, like the might have to travel a lot back and forth to their colleges, this might make them tired by the time they reach home and so they might not be able to do their academic work on time. There might be other household responsibilities which might demand their time and this can be another reason for their academic procrastination.

With regard to type of management of schools no significant difference was observed among student-teachers studying in government, government aided and self financing colleges of education in smart phone addiction and academic procrastination. The availability of smart phone and the availability of internet in smart phone are tremendous. Most of the individual have smart phones. The basic phone that was used only for communication is not to be found in market these days. As everyone uses smart phone, they tend to get addicted to the various features available through the smart phone. Thus, the students from different type of management of colleges have similar smart phone addiction. Due to the excess usage, they tend to get distracted from their works and thus exhibit similar academic procrastination.

There is no significant difference among student teachers whose fathers vary in educational qualification such as illiterate, upto X Standard, Higher Secondary, Graduate, and Professional with respect to smartphone addiction and academic procrastination . The similar finding was reported with respect to mother's educational qualification.

Further, no significant difference in smartphone addiction and academic procrastination was found in accordance to number of siblings. This finding is in contradiction with Joubert (2015) who stated that procrastination based on number of siblings showed no significant relationship between a learner's academic procrastination. Joubert (2015) also in agreement with Rosário et al. (2009) who analysed the impact of family and educational variables on academic procrastination and found the more siblings a learner has, procrastination increases in relation thereto. Birth order does not manifest

any significant difference in smartphone addiction and academic procrastination of student teachers.

It is noted that there is positive and significant correlation between smartphone addiction and academic procrastination of student-teachers. This result confirms that smartphone addiction has a significant positive influence on academic procrastination. This is in corroboration with the findings that there is a positive correlation between procrastination and problematic smartphone usage (Çağan et al., 2014; Chan & Jung ,2014; Erdoğan,2013; Liu, 2018; Qaisar,2017; Rozgonjuk et al., 2018; Sahin et al., 2013; Subba et al., 2013; Yang, 2018). Smart phone addiction is nothing but the excessive use of smart phone. When there is an excessive use of smart phone, the individual tend to ignore all the other activities including eating in proper time and even having a good sleep. This is because they are unable to put off the phone even for a minute. They need the constant virtual connection, if not they develop the fear of missing out information on the internet. When the individual goes to the extent of ignoring the basic biological needs for the sake of using smart phone, the procrastination of their academic work is understandable. As a result of the addiction, the individual are unable to stay away from their smartphone and a constant check with the latest notifications and updates steal away their time which they would otherwise use for their academics. As a result of the addiction, they tend to procrastinate their academic work and thus, the finding holds good.

It was recommended among others, that students should be channeled into the proper use of social media for academic purposes irrespective of their gender with counseling services to help those with chronic or addictive use. Procrastination was regarded as a evasive behavior that person put off the planned tasks, though, the detrimental results could be expected (Wang et al., 2015), few authors study the link between mobile phone addiction and procrastination, nevertheless, mobile phone addiction also involved elusive problems (Toda et al., 2006),], so it is anticipated the

mobile phone addiction as the predictor of procrastination, because of, person who focused more attention on smartphone had poor sleep quality and got out of control of their emotion, which resulted in people spending less time on other things, especially the failure academic achievement, the correlation analysis revealed a prominently positive relationship between mobile phone addiction and procrastination, which was consistent with previous findings (Chan & Jung,2014; Sahin et al., 2013; Subba et al., 2013). This finding also supplemented the previous theories and crevices of the link between mobile phone addiction and procrastination. Summing up, student teachers should decrease concentrating time on phone so as to relieve procrastination even root out the harmful behavior, the educational institutions and students should make joint efforts to control the phenomenon.

4.3 CONCLUSION

The data collected through the tools are analyzed and interpreted using inferential and correlation analysis. The details of analysis and interpretation of data are presented in this chapter. Results are summarized in the following chapter along with implications of the present study.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 INTRODUCTION

We are living in a fast growing technological age and education in this era has become not preparation for future life but life itself as for being successful in life one has to update knowledge and has to acquire new skills keeping in pace with growth of technology. To discharge their duties as a dedicated, sincere and successful teachers in the future students-teachers need to develop an in depth understanding of various art of teaching school subjects. For this to accomplish up to date learning and continuous hard work from the part of students is necessary and one cannot afford to procrastinate especially in the case of academics.

One of the behaviours that put people in trouble most of the time is procrastination. Solomon and Rothblum (1984) defined procrastination as "the act of needlesslyelaying tasks to the point of experiencing subjective discomfort". Senécal, Koestner, and Vallerand (1995) conceived procrastination is a motivational problem that involves more than poor time management skills or trait laziness. According to (Solomon and Rothblum, 1984) procrastination is not solely deficit in study habits or time management, but involves acomplex interaction of behavioral, cognitive, and affective components. The academic domain stands as one of the very common domains where procrastination behavior is most commonly observed. Students procrastinate doing their homework, class work, finishing their projects, as well as preparing for examinations, or many other things in the academic sense. Such procrastination turns out to be 'academic procrastination' in the literature. Binder (2000) defined academic procrastination as any academic task that is delayed or avoided as a result of the discrepancy between intention and actual behavior to the extent that it produces negative affect in the procrastinator. When literature is analyzed, it is found that academic procrastination behavior is examined in terms of various variables such as depression

(Saddler, & Sacks, 1993), stress (Rahardjo, Juneman, & Setiani, 2013), subjective well-being (Binder,2000), perfectionism (Çakıcı, 2003; Eraslan-Çapan, 2010; Kağan, Çakır, İlhan, & Kandemir, 2010; Saddler, & Sacks, 1993; Sarıoğlu, 2011), big five personality traits (Çam, 2013; Kağan, Çakır, İlhan, & Kandemir, 2010), self-esteem (Aydoğan, 2008; Çakıcı, 2003; Klassen, Krawchuk, & Rajani, 2008), self-handicapping (Akça, 2012), self-regulation (Klassen, Krawchuk, & Rajani, 2008; Senécal, Koestner, & Vallerand,1995), life satisfaction (Eraslan-Çapan, 2010), hope (Uzun-Özer, 2009), academic motivation (Akbay, 2009; Senécal, Julien,& Guay, 2003), academic achievement (Balkıs & Duru, 2010; Çakıcı, 2003), obsessive-compulsive (Kağan, Çakır, İlhan, & Kandemir, 2010), general procrastination (Çakıcı, 2003; Çam, 2013; Ekşi, & Dilmaç, 2010), problematic internet usage (Odacı, 2011; Odacı, & Berber-Çelik, 2011). Another variable thought to be the less investigated in relation to academic procrastination is problematic smartphone addiction.

5.2 MAJOR FINDINGS OF THE STUDY

1. Smartphone addiction and academic procrastination of higher secondary students were found to be moderate.

2. (a) Male student-teachers were found to have high smartphone addiction than female student-teachers.

(b) It was found that male and female student-teachers did not differ in academic procrastination.

3. It was found that Under Graduate and Post Graduate student-teachers are similar in smartphone addiction and academic procrastination.

4. It was found that English and Tamil medium student-teachers did not differ in smartphone addiction and academic procrastination.

5. (a) Student-teachers studying in Colleges of Education situated in urban area were found to possess higher smartphone addiction than student-teachers studying in Colleges of Education situated in semi-urban area .

(b) It was found that student-teachers studying in Colleges of Education situated in urban area and semi-urban area did not differ in academic procrastination.

6. It was found that student-teachers of government, government aided and self-finance Colleges of Education did not differ in smartphone addiction and academic procrastination.

7. It was found that student-teachers whose fathers vary in their educational qualification such as Illiterate, upto X Standard, upto Higher Secondary, Graduate and Professional did not differ in smartphone addiction and academic procrastination..

8. It was found that student-teachers whose mothers vary in their educational qualification such as Illiterate, upto X Standard, upto Higher Secondary, Graduate and Professional did not differ in smartphone addiction and academic procrastination.

9. It was found that student-teachers who vary in number of siblings they posses did not differ in smartphone addiction and academic procrastination.

10. It was found that student-teachers who vary in birth order did not differ in smartphone addiction and academic procrastination.

11. It was found that there is a significant and positive correlation among smartphone addiction and academic procrastination of student-teachers.

5.3 EDUCATIONAL IMPLICATIONS

It is a noticeable fact that mobile phones, smart mobile phones recently emerged in particular, provide convenience for the users. For the users, mobile phones have virtuallay become a portable computer. According to Tan, Pamuk, and Dönder (2013)

individuals can interact with mobile phones almost everywhere (at home, at educational institutions, on the bus, in the street, at the cafe, in the canteen, in bed, or even in the toilet). However, the facts that mobile phones are very easy to carry and provide such convenience for the users may sometimes turn out to be disadvantages rather that advantages for the individuals. For majority of young people in the higher education sector, one of the largest user groups in which student-teachers are not an exception, smartphone represents an incredible tool for information update, instant communication, social connection, self-education and entertainment and this extensive use of smartphone for various functions of their life may lead to academic procrastination behaviour instead of studying because of the increase in the duration of daily use of mobile phones. If they only think of their mobile phones, students may have concentration problems even if they are in class, or doing something academic. Paul, Baker and Cochran (2012) found that the time spent on online social networks (OSN) was found to be heavily influenced by the attention span of the students.

Overall, the present study suggests that higher self-reported smartphone addiction predicted high levels of academic procrastination. It appears that destructive academic emotions and behaviours like procrastination student teachers, might partly be a consequence of poor self-control concerning their smartphone use. Although the relationships cannot be said to be causal (because no experimental interventions were used in the present study), the results indicate that the training of youth in resilience skills to control their use of smartphones might be one approach to reduce procrastination among the student-teachers in this context. College administration and higher education authorities should develop policies regarding mobile phone use among students during classes, laboratories and other places where learning occurs.

This study revealed that the problems of mobile phone addiction and academic procrastination are prevalent among student-teachers, and these negatively influence their academic achievement. Based on these results, educational institutions should offer

guidance for reducing the negative effects of mobile phone addiction and academic procrastination on academic performance. Future studies are required to identify the factors associated with smartphone addiction and academic procrastination.

Procrastination is a negative defense mechanism that is characterized by escaping or postponing learning tasks (Hoare, 1986). During the process of studying, procrastination may lead to academic failure, and chronic procrastination can cause negative emotions such as tiredness, anxiety, guilt, among others (Ferrari, 2010). Therefore, once student-teachers show signs of smartphone addiction, it may directly, passively impact their learning and teaching performance and their dedication towards their profession. However, procrastinators suffer from persistent anxiety about completing tasks, which can lead to other negative emotional reactions; thus, relationship facilitation is affected to some extent (Ferrari et al., 2009). Consequently, educators and psychologist should focus on the negative effects of student-teachers' academic procrastination.

Colleges of Education has to arrange awareness programmes to help the student teachers enhance their self regulation skills and to overcome academic procrastination. The college administration having a scheduled and systematized teaching- learning programs will shoulder the students to have control over smartphone usage. Wise and innovative usage of mobile phones like organizing online quiz programs, live interactive sessions and active communication like group discussion will lower the adverce effect of smart phone addiction and foster positive and developmental activities that in turn reduce the procrastination behavior in academic pursuit. The moderate attention and controlled dedication to one's smartphone can weed out one from procrastinating their academic activities. Orientation programmes has to be organised to cultivate temporal awareness among student teachers and make them conscious about adverse effects of smartphone usage.

5.4 FUTURE RESEARCH

It is clear that future studies to explore new research methods for investigating smartphone addiction rigorously and ethically. Smartphone applications (i.e. 'apps') designed for time management (e.g. QualityTime) can be used in future studies. However, participants might change their behaviours on smartphones when they know their behaviour is being recorded via an app. Furthermore, the Smartphone Addiction Scale – Short Version (SAS-SV) investigated few aspects of problematic smartphone use. Several empirical studies have investigated single, specific functions of smartphone use (e.g. Facebook use). It would also be useful to investigate individual aspects of smartphone use, together with the other variables in the present study, rather than focusing solely on more general smartphone use. It is obvious that the student teacher participants in the present study reported relatively high levels of smartphone addiction. Further, research shall focus on understanding of individual traits and characteristics that may play a role in the development of smartphone addiction.

Research that focus on a more comprehensive understanding of the psychological basis of smartphone addiction, identifying the associated cognitions and behaviours shall be carried out. It appears important that in-depth qualitative studies could be particularly useful in shedding greater insight in extending the findings presented as outcome of this investigation.

Extreme problematic use (e.g. heavy gaming) that severely disrupts people's lives is a form of digital addiction is excluded from this study. Smartphone use can be problematic for some people due to the availability of constant connection, the addictiveness of applications (apps) combined with personal psychological factors. This is facilitated by characteristics of the technology, including easy access, the possibility of escaping daily life, being able to remain anonymous online, and the frequency of alerts

and messages. While various non-technical interventions, such as digital detoxes, and digital interventions, including apps to limit use, have been developed to help people control their smartphone use, none of these has proven to work yet. Further work is needed on various aspects of problematic or extensive smartphone use, including the understanding of how smartphone use impacts on people's lives, strengthening the definition of problematic smartphone use, and validation of its measurement, and more rigorous development and assessment of tools. It is believed that these efforts will help people to use their smartphones in a healthy and effective way.

It should also be noted that the present study only investigated student teachers pursuing B.Ed programme, and the findings cannot be generalised to all teacher education students. It is possible, for example, that student teachers at different ages and different stages of their education may respond differently. It is therefore important for future studies to replicate these findings among other groups of higher education students It would also be empirically valuable to explore these issues in a cross-cultural context.

5.5 CONCLUSION

The current study contributes to the overall understanding of the relationship between smartphone addiction and academic procrastination. By obtaining a large sample and using comprehensive measures of Smartphone Addiction Acale and academic Procrastination Scale, it provides a comprehensive mapping between these two constructs. The results of the present study showed a significant positive relationship between smartphone addiction and academic procrastination of the student-teachers. The findings of the study highlight the adverse effects of mobile phone use among students as it is related to academic procrastination which might lower their grades due to poor utilization of their quality time. So, it recommends the college administration and higher education authorities to make policies regarding mobile phone use among student-

teachers during classes, laboratories and other places where learning occurs. It will encourage the teachers, college administrators and the students too, to find out the ways in which mobile phones can be used to enhance the academic performance rather than worsening it. Findings of the study support for developing interventions for reducing academic procrastination among college students to help them enhance their academic performance. The present study also recommends students to put some limitations on frequent use of smart phone and quit such activities which cause a decline in their academic performance.

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SMARTPHONE ADDICTION SCALE

Some Statements are given pertaining to your use of Smartphone. For every Statement, express your views by putting a tick (✓) on any one cell of the Six alternatives. There is no right or wrong answer. So, please give you response to all statements.

S. No.	Statement	Strongly Disagree	Disagree	Weakly Disagree	Weakly Agree	Agree	Strongly Agree
1.	Missing planned work due to smartphone use **ஸ்மார்ட் போன் உபயோகத்தால் திட்டமிடப்பட்ட வேலை தவறிவிட்டது.**						
2.	Having a hard time concentrating in class, while doing assignments, or while working due to smartphone use வகுப்பில் கவனம் செலுத்துவது, பணிகளைச் செய்யும் போது அல்லது ஸ்மார்ட்போன் உபயோகம் காரணமாக வேலை செய்யும் போது சிரமப்படுதல்.						
3.	Feeling pain in the wrists or at the back of the neck while using a smartphone ஸ்மார்ட் போனைப் பயன்படுத்தும்போது மணிக்கட்டு அல்லது கழுத்தின் பின் பகுதியில் வலியை உணர்கிறேன்.						
4.	Won't be able to stand not having a smartphone ஸ்மார்ட் போன் இல்லாத நிலையில் நிற்க முடியாது.						
5.	Feeling impatient and fretful when I am not using it நான் அதைப் பயன்படுத்தாதப்போது பொறுமையின்மை மற்றும் பதட்டமாக உணர்கிறேன்.						
6.	Having my smartphone in my mind even when I am not using it நான் பயன்படுத்தாதப் போதும் எனது ஸ்மார்ட் மனதில் வைத்திருக்கிறேன்.						
7.	I will never give up using my smartphone even my daily life is already greatly affected by it. எனது அன்றாட வாழ்க்கை ஏற்கனவே பெரிதும் பாதிக்கப்பட்டிருந்தாலும் எனது ஸ்மார்ட் போனைப் பயன்படுத்துவதை நான் ஒரு போதும் கைவிடமாட்டேன்.						

S. No.	Statement	Strongly Disagree	Disagree	Weakly Disagree	Weakly Agree	Agree	Strongly Agree
8.	Constantly checking my smartphone so as not to miss conversations between other people on Whats App, Facebook, or WeChat Whats App, Facebook அல்லது WeChat இல் மற்றவர்களின் உரையாடல்களைத் தவறவிடாமல் இருக்க எனது ஸ்மார்ட்போனை தொடர்ந்து சரிபார்க்கிறேன்.						
9.	Using my smartphone longer than I had intended நான் எண்ணியதைவிட அதிக நேரம் ஸ்மார்ட்போனை பயன்படுத்துகிறேன்.						
10.	The people around me tell me that I use my smartphone too much நான் ஸ்மார்ட்போனை அதிக நேரம் பயன்படுத்துகிறேன் என்று என்னைச் சுற்றி இருப்பவர்கள் கூறுகிறார்கள்.						

Name :

Gender : Male /Female

Educational of Qualification :

Medium of Instruction : English / Tamil

Name of the Institution :

Locality of the Institution : Urban / Semi-Urban

Type of the Institution : Government / Government Aided / Self Financed

Parent's Qualification :

	Illiterate	Up To X	Up To XII	Graduate	Professional Degree
Father					
Mother					

No. of Siblings : One/Two/Three/No Siblings

Birth order : First/Second/Third/Four & Above

AVADEMIC PROCRASTINATION SCALE

This scale consists of statement and it provides four cells bearing the headings '*That's me for sure'*, *'That's my tendency'*, *'That's not my tendency'*, *'That's not me for sure'* against the statements. Read each statement carefully and place a tick (✓) mark against it in the appropriate cell. You are requested to give response to all the statements. There is no time limit. I assure you that this information will be used for research purpose only.

S.NO	Statement	That's me for sure	That's my tendency	That's not my tendency	That's not me for sure
1.	I needlessly delay finishing jobs,even When they're important. நான் செய்யப்பட வேண்டிய வேலை மிகுந்த முக்கியத்துவம் வாய்ந்ததாக இருந்ததாலும், அவசியமில்லாமல் அதனை காலதாமதம் செய்வேன்.				
2.	I postpone starting in on things I don't like to do. நான் செய்யக்கூடாதென விரும்புகின்ற செயலை தொடங்குவதற்கு காலம் தாழ்த்துவேன்				
3.	When I have a deadline, I wait until the last minute. எனக்கு எப்பொழுது ஒரு வேலையை முடிப்பதற்காக கால கெடு அளிக்கப்படுகிறதோ, கடைசி நிமிடம் வரை காத்திருப்பேன்.				
4.	I delay making tough decisions. நான் மிக கடினமான முடிவு எடுப்பதில் கால நீட்டிப்பு செய்வேன்				
5.	I keep putting off improving my work habits. நான் என் வேலை பழக்கத்தை மேம்படுத்த தொடர்ந்து தள்ளி போடுவேன்				

S.NO	Statement	That's me for sure	That's my tendency	That's not my tendency	That's not me for sure
6.	I manage to find an excuse for doing something. நான் சில விஷயங்கள் செய்யாமல் தவிர்க்க சாக்கு தேடி சமாளிப்பேன்.				
7.	I put the necessary time into even boring tasks, like studying. நான் படிப்பது போன்ற சலிப்பான பணிகளை செய்ய கூட தேவையான நேரம் ஒதுக்குவேன்				
8.	I am an incurable time waster. என்னால் நேரம் வீணாகும் குணத்தை மாற்றிக் கொள்ள இயலாது				
9.	I'm a time waster now but I can't seem to do anything about it. நான் நேரம் கடத்துபவன் ஆனால் அதற்காக தற்பொழுது எதுவும் என்னால் செய்ய இயலாது				
10.	When something's too tough to tackle, I believe in postponing it. ஏதேனும் செயலை சமாளிக்க மிக கடினமாக இருந்தல் நான் அதனை காலம் கடத்த விரும்புவேன்.				
11.	I promise myself I'll do something and then drag my feet. நான் ஒரு செயலை செய்ய சபதம் எடுத்துக்கொள்வேன் அதன் பிறகு பின் வாங்குவேன்				
12.	Even though I hate myself if I don't get started, it doesn't get me going. நான் ஒரு செயல் திட்டத்தை தீட்டினால் அதனை பின்பற்றுவேன்				
13.	Even though I hate myself if I don't get started, it doesn't get me going. ஒரு செயலை செய்ய துவங்காமல் இருப்பதற்காக என்னை நானே வெறுக்கிறேன் ஆனாலும் அதற்காக நான் ஒன்றும் செய்வதற்காக முயற்சிக்கவில்லை				

S.NO	Statement	That's me for sure	That's my tendency	That's not my tendency	That's not me for sure
14.	I always finish important jobs with time to spare. நான் எப்பொழுதும் முக்கியமான காரியங்களை கால வரையறைக்குள் முடிப்பேன்				
15.	I get stuck in neutral even though I know how important it is to get started. ஒரு செயலை துவங்குவது எவ்வளவு அவசியம் என்று நான் உணர்ந்தாலும் அதனை செய்ய இயலாமல் தவிர்ப்பேன்.				
16.	Putting something off until tomorrow is not the way I do it. ஏந்த ஒரு செயலையும் நாளை செய்து கொள்ளலாம் என்று நான் ஒரு போதும் நினைக்க மாட்டேன்				