INFLUENCE OF NOMOPHOBIA ON SLEEP QUALITY AND EMOTIONAL REGULATION AMONG YOUNG ADULTS

Dissertation submitted to University of Kerala

In partial fulfillment of the requirements for the award of the Degree of

Master of Science in Counselling Psychology

By

NAYANA A

(Reg. No. 60423115015)

Under the guidance of

Ms. Anila Daniel

Assistant Professor on Contract in Counselling Psychology

Department of Counselling Psychology

Loyola College of Social Sciences (Autonomous)

Sreekariyam, Thiruvananthapuram

2023-2025

CERTIFICATE

This is to certify that the dissertation titled "**Influence of Nomophobia on Sleep Quality and Emotional Regulation Among Young Adults**" has been undertaken and completed by NAYANA A, Reg. No. 60423115015, under the supervision of Ms. Anila Daniel as part of the requirements for the fourth semester of the M.Sc. Counselling Psychology programme during the academic year 2023–2025 at Loyola College of Social Sciences, Sreekariyam, Thiruvananthapuram.

Dr. Ammu Lukose	**Ms Anila Daniel**
HOD In-Charge	Assistant Professor
Department of Counselling Psychology	Department of Counselling Psychology
Loyola College of Social Sciences	Loyola College of Social Sciences
Thiruvananthapuram	Thiruvananthapuram

Submitted for the examination held on…….

DECLARATION

I, the undersigned, do hereby declare that this research work titled "**INFLUENCE OF NOMOPHOBIA ON SLEEP QUALITY AND EMOTIONAL REGULATION AMONG YOUNG ADULTS**" was carried out in the Department of Counselling Psychology, Loyola College of Social Sciences, under the supervision of Ms. Anila Daniel, and submitted to the University of Kerala as a part of the partial fulfillment of the requirements for the Postgraduate Degree in Counselling Psychology for the academic year 2023–2025.

This is a bonafide work and has not been submitted by me for the award of any other degree, diploma, title, or recognition previously.

Sreekariyam

Date

Name: Nayana A

Reg. No. 60423115015

Department of Counselling Psychology

ACKNOWLEDGEMENT

It is a great pleasure for me to undertake this project. I feel obliged and grateful for being able to complete the project titled: “Influence of Nomophobia on Sleep Quality and Emotional Regulation Among Young Adults”.

First and foremost, I thank the Lord Almighty for giving endless blessings throughout the process of my work and by providing capability to accomplish the study successfully.

To Ms. Anila Daniel, Assistant Professor, Department of Counselling Psychology for being my research guide. Thank you for the guidance, support and most importantly, patience during the whole process of this study.

I am thankful to Ms Jesline Maria Mamen, Head of Department, Dr. Ammu Lukose, Head In-Charge, for approving my Research study and Dr. Pramod S K, Assistant Professor for the constant support.

I would like to thank every single participant for lending their precious time and cooperation. I also acknowledge with a deep sense of reverence and gratitude towards my parents who have always supported me morally and encouraged me to do well. I extend my gratitude to all my friends and every person who helped me in the completion of my dissertation. Any omission in this brief acknowledgement does not mean any lack of gratitude.

Nayana A

CONTENTS

LIST OF TABLES

LIST OF APPENDICES

ABSTRACT

This study explored the relationship between nomophobia, sleep quality, and emotional regulation among young adults. A total of 200 responses were collected using a structured questionnaire administered through Google Forms, which included the Nomophobia Questionnaire (NMP-Q), the Pittsburgh Sleep Quality Index (PSQI), and the Difficulties in Emotion Regulation Scale (DERS). The Shapiro-Wilk test revealed that nomophobia followed a normal distribution, while most components of sleep quality and emotional regulation did not, leading to the use of non-parametric statistical tests. Spearman's rho correlation analysis showed a significant positive relationship between nomophobia and poor sleep quality ($\rho = .158$, $p < .01$), particularly in subjective sleep quality and sleep disturbances. Additionally, a significant positive correlation was found between nomophobia and emotional dysregulation ($\rho = .321$, $p < .01$), including difficulties with emotional clarity, impulse control, goal-directed behavior, and emotion regulation strategies. However, no significant correlation was found between nomophobia and emotional awareness. These findings suggest that higher levels of nomophobia are linked to poorer sleep and greater emotional regulation difficulties, emphasizing the psychological impact of excessive smartphone dependence. The study highlights the importance of early mental health interventions, digital hygiene practices, and emotional regulation support to improve the well-being of young adults in a technology-driven environment.

Keywords: *Nomophobia, Sleep Quality, Emotional Regulation, Young Adults, Pittsburgh Sleep Quality Index, Difficulties in Emotion Regulation Scale-18 (DERS18)*

CHAPTER 1

INTRODUCTION

In the modern world, mobile phone has become an integral part of modern life. On the one hand, the mobile phone allows maintaining interpersonal contacts and fulfilling work or other duties regardless of time and location. It enables individuals to plan their daily routines and their free times. On the other hand, a mobile phone is a tool that can cause several psychological and physical problems. Nomophobia, which is considered the phobia of the modern era, is only one of these problems.

Nomophobia, a term derived from "no mobile phone phobia," refers to the fear or anxiety experienced when one is unable to use or access their mobile phone. This phenomenon has gained prominence in recent years due to the pervasive use of smartphones and their integration into daily life. While it is not officially classified as a psychiatric disorder, nomophobia is widely studied as a behavioral addiction with psychological, emotional, and social implications. It reflects a growing dependence on technology for communication, information, and entertainment, which can disrupt personal and professional life (King et al., 2013).

Individuals with nomophobia often exhibit symptoms such as heightened anxiety, irritability, or panic when their phone is unavailable due to loss, battery depletion, or lack of network coverage. They may frequently check their devices, even in inappropriate situations like meetings or while driving, and experience difficulty concentrating on tasks without their phones nearby. Overreliance on mobile phones can also result in disrupted sleep patterns, poor social interactions, and increased stress levels, as people feel the constant need to stay connected (Elhai et al., 2017).

The psychological effects of nomophobia are significant. It is closely linked to other conditions such as anxiety disorders, depression, and low self-esteem. For many

individuals, mobile phones serve as a tool for avoiding loneliness or social discomfort, creating a sense of "security." However, this reliance can lead to emotional instability, as the absence of a phone can cause feelings of isolation or helplessness. Furthermore, excessive use of smartphones often affects emotional regulation, making it harder for individuals to cope with stress or manage negative emotions (Blachnio et al., 2016).

Nomophobia not only affects individuals but also has broader social implications. People with this condition may prioritize their virtual interactions over face-to-face relationships, leading to weakened personal bonds and communication issues. In extreme cases, it can interfere with work productivity, academic performance, and family life. Behavioral patterns like compulsive phone use during meals, gatherings, or leisure activities indicate a lack of mindfulness and presence, potentially eroding the quality of social interactions (Rosen et al., 2013).

Several factors contribute to the development of nomophobia. Technological advancements, such as the availability of high-speed internet and versatile smartphone applications, have made mobile devices indispensable for many. Personality traits like neuroticism, fear of missing out (FOMO), and low tolerance for uncertainty are also associated with this condition. Additionally, the COVID-19 pandemic, which increased dependency on digital devices for remote work, education, and socialization, has exacerbated the prevalence of nomophobia, especially among young adults (Yildirim & Correia, 2015).

Addressing nomophobia requires a multidimensional approach, including awareness, education, and behavioral interventions. Strategies like setting phone usage limits, practicing digital detox, and fostering offline activities can help reduce

dependency on smartphones. Mental health professionals can also play a vital role by addressing underlying anxiety or emotional regulation issues through therapy. Recognizing and managing nomophobia is essential for maintaining a healthy balance between digital connectivity and real-world interactions. (Kuss & Griffiths, 2017)

The Uses and Gratifications Theory (UGT) provides a useful framework for understanding the psychological motivations behind mobile phone use and its association with nomophobia. According to UGT, individuals are active and goal-directed in their selection of media content, driven by specific needs such as cognitive, personal integrative, and affective gratifications (Blumler, 1979). Cognitive needs relate to curiosity and the desire to acquire knowledge, prompting individuals to use the internet and media for learning and self-development. Personal integrative needs involve enhancing self-confidence, improving self-esteem, and reducing feelings of loneliness and social isolation. Affective needs, on the other hand, refer to the use of media for emotional satisfaction and entertainment purposes (Black & Bryant, 1995).

UGT distinguishes between instrumental motivation, where technology is used purposefully for communication, productivity, or information access and habitual motivation, which involves routine and automatic behaviors such as frequently checking notifications (Rubin, 1984; Rubin, 2009; Lukoff et al., 2018). These motivations help explain the psychological mechanisms behind nomophobia,

which is characterized by the fear of being unable to communicate, losing access to information, or missing out on convenience (Yildirim, 2014).

Given the multifunctionality of modern mobile phones, including features such as social networking, video streaming, online shopping, and virtual meetings, users

increasingly depend on them to fulfill various gratifications (Deng et al., 2018). This over-reliance on mobile technology to meet psychological and social needs may lead to problematic use patterns and contribute to the development of nomophobia (Elhai & Contractor, 2018; Elhai et al., 2019; Whiting & Williams, 2013).

The Compensatory Internet Use Theory (CIUT), proposed by Kardefelt-Winther (2014), builds on the foundation of the Uses and Gratifications Theory (UGT) by integrating a focus on psychopathology in explaining problematic use of information and communication technology (ICT) (Elhai & Contractor, 2018; Elhai et al., 2019). CIUT suggests that individuals often turn to the internet and digital technologies as a means of coping with emotional distress and psychosocial difficulties. It posits that problematic use is not simply driven by external attraction to technology, but rather by internal struggles and unmet emotional needs.

This compensatory model highlights that digital engagement is frequently motivated by a desire to relieve emotional discomfort, regulate negative emotions, and reduce psychological distress (Kardefelt-Winther, 2014). These motivations are especially prominent in individuals experiencing mental health concerns such as anxiety, depression, or stress (Elhai et al., 2019).

CIUT is highly relevant in the context of nomophobia, as individuals with nomophobic tendencies often use mobile phones as a form of maladaptive coping, attempting to manage uncomfortable emotions or avoid psychological distress through excessive mobile phone use (Bragazzi et al., 2019; Kuss et al., 2018; Murdock, 2013). While UGT emphasizes goal-directed use of media to satisfy specific needs, CIUT

underscores the role of psychological vulnerabilities in driving problematic technology use.

Sleep is a vital biological process that plays a critical role in maintaining physical, emotional, and cognitive well-being. It involves distinct stages that allow the body and mind to rest, recover, and function optimally. Sleep is categorized into two main types: Non-Rapid Eye Movement (NREM) sleep and Rapid Eye Movement (REM) sleep. NREM sleep has three stages, progressing from light sleep (Stage 1) to deep sleep (Stage 3), which is crucial for physical restoration. REM sleep, characterized by vivid dreaming and heightened brain activity, is essential for memory consolidation and emotional regulation. These stages alternate in cycles throughout the night, ensuring restorative benefits.

The amount of sleep needed varies by age. Newborns require 14–17 hours per day, while infants need 12–15 hours. As children grow, their sleep requirements decrease, with toddlers needing 11–14 hours and preschoolers 10–13 hours. School-age children should get 9–11 hours of sleep, and teenagers need 8–10 hours. Adults are recommended to have 7–9 hours of sleep, while older adults may require slightly less, around 7–8 hours. These guidelines, provided by the National Sleep Foundation, highlight the critical role of sleep in development, learning, and overall health.

Adequate sleep is fundamental to physical health, cognitive performance, and emotional stability. Physically, sleep supports immune function, tissue repair, and hormone regulation. Cognitively, it enhances memory, decision-making, and problem-solving. Emotionally, it helps in stress management and mood regulation. Chronic sleep deprivation, on the other hand, is associated with an increased risk of cardiovascular

disease, diabetes, obesity, and mental health disorders such as anxiety and depression. Ensuring proper sleep duration is crucial for maintaining a healthy and balanced life.

Several factors influence sleep quality and duration. Age-related changes, such as reduced deep sleep and increased awakenings, often disrupt sleep patterns in older adults. Lifestyle factors like irregular sleep schedules, excessive caffeine intake, and inadequate physical activity can also impair sleep. Environmental conditions, including noise, light, and room temperature, play a significant role in sleep quality. Additionally, medical conditions such as insomnia, sleep apnea, and mental health issues like depression or anxiety can significantly disrupt sleep patterns.

Insufficient sleep has widespread consequences. Cognitive impairments, such as reduced attention, memory lapses, and poor decision-making, are common. Emotionally, it can lead to irritability, mood swings, and increased stress levels. Prolonged sleep deprivation heightens the risk of chronic health conditions like hypertension, diabetes, and obesity, negatively impacting quality of life. Moreover, inadequate sleep can disrupt daily functioning, reduce productivity, and impair social relationships.

Sleep quality refers to how well an individual sleeps, focusing not only on the duration of sleep but also on how restorative, uninterrupted, and satisfying the sleep experience is. Unlike sleep quantity, which is measured in hours, sleep quality is a more complex and subjective measure that includes factors such as ease of falling asleep, staying asleep throughout the night, the depth of sleep, and feeling refreshed upon waking (Hirshkowitz et al., 2015).

High-quality sleep is essential for maintaining overall physical, psychological, and emotional health. It contributes to effective cognitive functioning, including memory consolidation, decision-making, and concentration. Sleep quality is also closely linked to emotional regulation, immune function, metabolic balance, and cardiovascular health. Chronic poor sleep quality has been associated with a range of adverse outcomes, such as mood disturbances, increased risk of depression and anxiety, weakened immune response, and higher chances of developing lifestyle-related diseases (Medic et al., 2017).

The functioning of sleep quality is regulated by both internal and external factors. Internally, the sleep-wake cycle is governed by the circadian rhythm and neurochemical changes involving melatonin, adenosine, and cortisol. These regulate the body's natural inclination to sleep and wake. Physiologically, during deeper stages of Non-Rapid Eye Movement (NREM) and Rapid Eye Movement (REM) sleep, the body engages in critical restorative functions such as tissue repair, immune system strengthening, and neural processing. Disruption in these processes—due to stress, irregular routines, or environmental disturbances—can significantly impair sleep quality and overall functioning (Krause et al., 2017).

The Restorative Theory proposes that sleep serves a vital function in renewing the body and mind. According to this view, sleep provides a state in which the body can engage in repair and recovery processes that are not as active during wakefulness. Non-rapid eye movement (NREM) sleep is believed to support physical healing and rejuvenation, while rapid eye movement (REM) sleep is thought to restore mental functioning. Scientific findings support this idea, as various physiological activities—

such as muscle and cell repair, tissue growth, protein synthesis, and the release of essential growth hormones are found to occur predominantly during sleep. The restorative theory underscores the importance of sleep in maintaining homeostasis, and explains why individuals, especially patients recovering from surgery or illness, are advised to get adequate rest for effective healing.

The Cognitive Theory of Sleep highlights the relationship between sleep and brain functioning, particularly in terms of memory consolidation and higher-order cognitive processes. Research has shown that insufficient sleep can impair attention, hinder decision-making, and disrupt the ability to recall information. These cognitive disruptions become more pronounced with prolonged sleep deprivation, suggesting a strong connection between sleep and mental performance. Moreover, studies indicate that deep stages of NREM sleep, especially slow-wave sleep, play a crucial role in reinforcing new learning and stabilizing memory traces. The theory emphasizes that sleep is not merely a passive state but a dynamic process in which the brain organizes and integrates information gathered throughout the day. This has important implications for academic and intellectual functioning, and challenges the common practice of sacrificing sleep for prolonged study or work.

The Energy Conservation Theory takes a more physiological approach, suggesting that sleep functions as a mechanism to reduce the body's energy consumption during times when being awake is less beneficial. During sleep, the body's metabolic rate decreases, leading to a drop in core body temperature and a reduction in overall calorie demand. From an evolutionary perspective, this drop in energy expenditure would have been advantageous for conserving limited resources

and aligning bodily function with the natural day-night cycle. The reduced energy requirement during sleep supports the notion that sleep evolved to help organisms optimize energy use, especially during periods of low activity or darkness.

The Adaptive or Evolutionary Theory, also known as the inactivity theory, proposes that sleep is a behavior shaped by evolutionary pressures to enhance survival. According to this perspective, sleep patterns in various species have adapted in ways that reduce the likelihood of encountering danger. For example, sleeping during nighttime hours, when visibility is low and predators are more active, would have helped early humans avoid threats. In this sense, sleep is seen as a protective behavior, similar to hunger or thirst, that serves a vital role in ensuring safety and survival. This theory also suggests that different species have evolved distinct sleep patterns based on their ecological needs and risk factors, emphasizing the role of natural selection in shaping sleep behavior.

Emotional regulation refers to the process by which individuals influence their emotions, how they experience them, when they occur, and how they express them. It is a vital skill that helps maintain mental well-being and effective interpersonal interactions. This ability includes strategies to increase, maintain, or decrease emotional intensity to achieve desired outcomes (Gross, 1998). Emotional regulation is essential for managing stress, adapting to life's challenges, and maintaining balance in various contexts.

Effective emotional regulation comprises multiple components. Awareness of emotions involves recognizing and labeling one's emotional states accurately. Cognitive reappraisal is a strategy where individuals reinterpret a situation to modify

its emotional impact (Gross & John, 2003). Impulse control is crucial for managing sudden emotional reactions, while goal-directed behavior enables individuals to maintain focus even under emotional distress. Lastly, emotional acceptance, which involves embracing emotions without judgment, is integral for fostering resilience and personal growth.

Emotional regulation significantly impacts mental health and social functioning. It enhances the ability to cope with stress, navigate social interactions, and achieve personal and professional goals. Ineffective regulation, on the other hand, is linked to mental health disorders such as anxiety, depression, and borderline personality disorder (American Psychiatric Association, 2013). Additionally, poor regulation may lead to impulsivity, strained relationships, and impaired decision-making. Developing effective emotional regulation skills is crucial for fostering emotional stability and overall well-being.

Emotional regulation is shaped by various factors. Biological influences, such as genetic predispositions and brain structures like the prefrontal cortex and amygdala, play a significant role (Etkin et al., 2015). Early developmental experiences, including parenting styles and attachment patterns, also influence regulatory capacity. Environmental factors, such as chronic stress, cultural norms, and social support systems, further affect an individual's ability to manage emotions effectively.

Inadequate emotional regulation can have wide-ranging negative consequences. It often results in heightened emotional reactivity, difficulty coping with stress, and a predisposition to mental health conditions. Poor regulation also impairs decision-making, reduces productivity, and strains interpersonal relationships. Over

time, these effects can lead to significant declines in quality of life. Conversely, effective regulation fosters emotional resilience and helps individuals thrive in both personal and professional domains (Gross, 1998).

The Dual-Process Theory of emotional regulation explains that emotion regulation occurs through two distinct but interacting systems: automatic and controlled processes. Automatic regulation is fast, unconscious, and effortless, often based on ingrained habits or emotional reflexes. For example, someone might instinctively avoid eye contact in a stressful social situation without consciously deciding to do so. Controlled regulation, in contrast, involves conscious, deliberate efforts to manage emotional experiences. This could include strategies like deep breathing, positive self-talk, or reappraising a negative situation. The theory suggests that these two modes often work together, allowing individuals to respond flexibly to emotional demands depending on the situation's intensity and their available cognitive resources. The ability to switch between automatic and controlled regulation is crucial for healthy emotional functioning, especially under stress or in emotionally charged situations (Grecucci et al., 2020).

Polyvagal Theory, proposed by Stephen Porges (1997), emphasizes the role of the autonomic nervous system, specifically the vagus nerve in emotional regulation. The theory introduces a hierarchical model of nervous system responses: the dorsal vagal complex (freeze or shutdown), the sympathetic nervous system (fight or flight), and the ventral vagal complex (social engagement and calm). According to this model, the body's physiological responses to stress are deeply tied to emotional experience. When a person feels safe, the ventral vagal system promotes calmness, communication,

and self-regulation. However, under perceived threat, the sympathetic system or dorsal vagal system may take over, leading to emotional dysregulation, panic, or withdrawal. This theory explains why trauma, anxiety, or chronic stress can affect a person's ability to self-soothe or connect socially. Emotional regulation, from this perspective, involves fostering physiological safety and activating the vagus nerve through practices like breathing, co-regulation, and mindfulness.

James Gross's Process Model is one of the most widely used frameworks in understanding emotion regulation. It divides the process into five sequential stages: situation selection, situation modification, attentional deployment, cognitive change, and response modulation. Situation selection involves choosing environments or activities likely to elicit desirable emotions. Situation modification refers to altering the environment to change its emotional impact. Attentional deployment includes shifting focus away from emotionally distressing elements, such as distraction or concentration techniques. Cognitive change, particularly reappraisal, is the strategy of reinterpreting a situation to alter its emotional meaning. Finally, response modulation involves influencing physiological, behavioral, or experiential responses like suppressing emotional expressions or calming oneself. This model emphasizes that emotional regulation is not a single event but an ongoing process that can be influenced at different stages of emotional development (Gross, 2015).

The Cognitive-Behavioral Model of emotional regulation is grounded in the idea that emotions are shaped by our thoughts, beliefs, and interpretations. According to this model, negative emotions often result from distorted or irrational thinking patterns, such as catastrophizing, overgeneralization, or black-and-white thinking. By

identifying and challenging these cognitive distortions, individuals can modify their emotional responses. Techniques such as cognitive restructuring, thought records, and behavioral experiments are commonly used to help individuals develop more balanced thinking and healthier emotional reactions. This model is the foundation of cognitive-behavioral therapy (CBT), which has been widely used to treat anxiety, depression, and other emotional disorders. The core principle is that by changing maladaptive thoughts, one can change the intensity and duration of emotional experiences, leading to better self-regulation and psychological resilience (Pruessner et al., 2020).

According to the American Psychological Association (APA), adulthood is the period of human development that begins after adolescence and is characterized by full physical growth and maturity, alongside significant biological, cognitive, social, and personality changes. During this stage, individuals experience a gradual slowing of physical, cognitive, and psychosocial development as they age. Adulthood is typically divided into three stages: young adulthood, middle adulthood, and later adulthood. Young adulthood, which spans roughly from 20 to 35 years of age, is marked by peak physical abilities, career building, and forming intimate relationships. Middle adulthood, from about 36 to 64 years, often involves career consolidation, parenting, and preparation for retirement. Later adulthood, beginning at age 65 and beyond, is characterized by reflection on life achievements, managing age-related physical and cognitive changes, and adjusting to new social roles. Each stage presents unique challenges and opportunities for personal growth and adaptation.

Young adulthood, typically defined as the period between ages 20 and 35, represents a vital stage of human development, characterized by significant growth and

transition. It is a time when individuals achieve full physical maturity and begin to refine their cognitive, emotional, and social skills to navigate the demands of adult life. This phase is often marked by milestones such as completing education, establishing a career, forming intimate relationships, and achieving financial independence. Young adults are at the peak of their physical abilities, with optimal strength, endurance, and overall health. However, this stage also brings unique challenges, including managing personal responsibilities, making critical life decisions, and adapting to social and cultural expectations (Erikson, 1963).

From a developmental perspective, young adulthood involves significant psychological growth. Erik Erikson identified this stage with the psychosocial crisis of "intimacy vs. isolation," where the focus shifts to forming meaningful, close relationships while maintaining a stable sense of self. Success during this phase leads to the establishment of strong connections and a sense of belonging, while failure may result in feelings of loneliness or isolation (Erikson, 1963). This period also serves as a foundation for long-term personal and professional identity development.

Young adulthood is uniquely shaped by cultural, societal, and technological influences. In today's digital age, the role of technology and social media has become increasingly prominent, influencing how young adults communicate, learn, and engage with the world. This has led to both opportunities and challenges, such as fostering global connections and knowledge sharing while simultaneously raising concerns about issues like nomophobia, emotional regulation, and sleep disruption (Yildirim & Correia, 2015).

Young adulthood is a time of exploration and experimentation, where individuals may challenge traditional norms, explore new roles, and expand their horizons. This period often involves striking a balance between independence and interdependence, as young adults seek autonomy while maintaining close ties with family, peers, and mentors. The decisions made during this time regarding career, relationships, and lifestyle—can have lasting implications on future well-being (Elhai et al., 2017).

Need and Significance

This study is important because it explores how nomophobia, the fear of being without a mobile phone, affects sleep patterns and emotional regulation in Indian young adults. As smartphone use increases, understanding its impact on mental health is crucial, especially since little research focuses on nomophobia in India.

The findings will offer insights into how nomophobia influences sleep quality and emotional well-being, helping mental health professionals create effective therapies to manage smartphone use, improve sleep, and enhance emotional regulation. Additionally, the results could guide policymakers in developing digital wellness programs to address the mental health challenges of excessive smartphone use. This research aims to improve mental health support for young adults and contribute to culturally relevant solutions for managing digital addiction.

Statement of the problem

In today's digital age, the excessive use of smartphones has led to the emergence of nomophobia, the fear of being without a mobile phone, which is increasingly prevalent among young adults. The impact of nomophobia on psychological and physical health is a growing concern, particularly in relation to sleep quality and emotional regulation. Research suggests that smartphone addiction and anxiety linked to nomophobia may interfere with sleep patterns and emotional well-being, yet the nature of these relationships remains underexplored. Therefore, this study aims to investigate the connection between nomophobia, sleep quality index, and emotional regulation among young adults. Understanding how these variables are interrelated is essential for developing interventions that address the negative effects of excessive smartphone use on mental health, particularly concerning sleep and emotional well-being.

This study will assess the levels of nomophobia, sleep quality index, and emotional regulation in young adults and explore how nomophobia may affect sleep patterns and emotional control, providing valuable insights into how mobile phone dependence influences mental health.

Objectives of the Study

- To study the relationship between nomophobia and sleep quality index in young adults.
- To study the relationship between nomophobia and emotional regulation in young adults.

Hypotheses

Ho1: There is no significant correlation between nomophobia and sleep quality index in young adults.

Ho2: There is no significant correlation between nomophobia and emotional regulation in young adults

CHAPTER 2

REVIEW OF LITERATURE

Theoretical Review

Social Cognitive Theory

Social Cognitive Theory (SCT), developed by Albert Bandura, offers a comprehensive framework for understanding how individuals learn and regulate behavior within a social context. Building on his earlier work in Social Learning Theory, Bandura introduced SCT to incorporate not only the role of observational learning but also the influence of internal cognitive processes and self-agency. According to this theory, people acquire new behaviors by observing others, interpreting those actions, and deciding whether to imitate them based on personal beliefs and perceived consequences.

A central feature of SCT is the concept of reciprocal determinism, which describes the ongoing interaction between three key factors: personal, behavioral, and environmental influences. Personal factors include cognitive abilities, attitudes, beliefs, and self-efficacy; behavioral factors refer to actions and performance patterns; and environmental factors encompass the physical and social surroundings. These elements continuously influence one another. For example, a person's belief in their ability to succeed (self-efficacy) can shape their actions and alter their environment, which in turn reinforces or weakens that belief. This dynamic relationship emphasizes that individuals are both influenced by and contributors to their own experiences.

Social Cognitive Theory also highlights that learning is not automatic but requires active cognitive engagement. Attention, memory, motivation, and the belief in one's ability to perform a behavior all play essential roles in the learning process. Reinforcement, whether direct or observed in others, further shapes the likelihood of behavior adoption. Due to its integrative and flexible nature, SCT has been widely

applied in education, health behavior change, communication, and organizational settings. It provides a powerful explanation for how individuals not only learn from their surroundings but also actively shape them through cognitive and behavioral efforts.

Self-Determination Theory

Self-Determination Theory (SDT), proposed by Deci and Ryan, is a prominent framework in understanding human motivation and psychological well-being. It emphasizes that individuals are naturally driven toward growth and mastery, provided their core psychological needs are supported (Deci & Ryan, 1985). Central to SDT is the idea that people thrive when they experience a sense of autonomy, competence, and relatedness—three basic psychological needs that are essential for fostering intrinsic motivation and overall well-being (Ryan & Deci, 2000). Autonomy refers to the feeling of being in control of one's own behaviors and goals; competence involves gaining mastery and confidence in handling tasks; and relatedness is the need to feel connected with others in meaningful ways. When these needs are fulfilled, individuals are more likely to engage in self-driven behavior and sustain long-term motivation, which in turn enhances both performance and psychological health (Verywell Mind, 2024).

In the context of young adults, self-determination plays a critical role in influencing technology use, emotional regulation, and lifestyle behaviors such as sleep. For example, individuals who lack intrinsic motivation or struggle with autonomy may become overly dependent on external sources, like smartphones, for stimulation, emotional support, or validation. This reliance may manifest as nomophobia (the fear of being without one's phone), which reflects a lack of autonomous control and difficulty regulating emotions. Furthermore, SDT posits that environments that

undermine autonomy such as those saturated with external rewards, pressure, or surveillance, can lead to diminished intrinsic motivation and heightened stress (Ryan & Deci, 2000). This is particularly relevant to digital device usage, where constant notifications and social expectations may erode self-regulated behaviors, disturb sleep patterns, and interfere with emotional stability.

Research grounded in SDT suggests that supportive environments and internalized motivation are essential for healthy behavioral regulation, including sleep hygiene and emotional balance (Deci & Ryan, 1985). Positive social support, authentic feedback, and personal goal-setting are known to reinforce competence and autonomy, thereby reducing dependence on external devices or validation. In young adults, fostering self-determined motivation—by encouraging self-awareness, emotional autonomy, and meaningful interpersonal relationships—can serve as a protective factor against compulsive smartphone use and its associated consequences. Thus, Self-Determination Theory provides a meaningful theoretical lens to understand the interplay between nomophobia, emotional regulation, and sleep quality in today's digitally connected youth.

Emotion regulation theory

Emotion regulation theory, developed by psychologist James Gross, offers a detailed understanding of how individuals manage their emotional experiences by influencing which emotions they have, when they occur, and how they are expressed. Gross introduced the process model of emotion regulation which suggests that emotions are not fixed reactions but can be modified through changes in attention, thoughts, or behaviors. This model includes several strategies such as choosing or avoiding situations, shifting focus, reinterpreting events, or managing emotional

responses after they arise. For instance, a person who feels anxious in social settings might avoid large gatherings or change their interpretation of a situation to feel more at ease. These strategies are especially relevant in today's digital world where emotions are frequently shaped by online interactions and the constant presence of smartphones.

Gross emphasized that emotion regulation is not only about controlling emotions after they emerge but also about shaping emotional experiences before they fully form. Among the various strategies, cognitive reappraisal or the ability to change how one thinks about a situation has been found to be highly effective. It reduces emotional discomfort and supports better psychological outcomes over time. On the other hand, strategies like emotional suppression which involve hiding or holding back emotional expressions tend to increase internal stress and are associated with negative effects on mental health. Studies show that the way individuals regulate emotions is closely linked to their mood stability, ability to manage stress, sleep patterns, and overall wellbeing. Therefore, poor emotional regulation may lead to difficulties in calming down at night and falling asleep peacefully.

In the case of nomophobia which refers to the fear or discomfort experienced when without access to a mobile phone, Gross's theory helps to explain how emotional responses are connected to daily digital habits. Many young adults use mobile phones as a way to manage feelings of stress, loneliness, or boredom. They may depend on constant connectivity for emotional support or distraction. When phone access is limited or unavailable, individuals who lack effective emotional regulation may experience high levels of anxiety, restlessness, or difficulty coping. These emotional disruptions can also interfere with their ability to relax and fall asleep, leading to poor sleep quality. Emotion regulation theory thus helps to understand how cognitive and

behavioral responses to smartphone unavailability contribute to emotional difficulties and sleep problems in young adults (Gross 1998; Barrett 2017).

The arousal theory of motivation

The arousal theory of motivation offers a compelling lens through which to understand why individuals engage in certain behaviors to achieve and maintain an optimal state of alertness, interest, and energy. Originally introduced by Harvard professor Henry Murray in the 1930s, this theory suggests that human motivation arises from a dynamic balance between internal needs and external stimuli. According to this perspective, people are driven by the desire to regulate their arousal levels, which fluctuate across a spectrum from boredom and fatigue at one end to stress and anxiety at the other. Each individual has a unique optimal arousal level, what might energize one person may overwhelm another, indicating the highly personalized nature of motivation.

Psychological arousal is not a single construct but rather a combination of mental, emotional, and physical states. Mentally, arousal involves alertness and curiosity; emotionally, it reflects how strongly we feel toward a stimulus; and physically, it includes physiological responses such as heart rate and energy. The Yerkes-Dodson Law, which is closely associated with arousal theory, explains how performance is influenced by arousal. It suggests that moderate arousal enhances performance, while levels that are too high or too low may hinder it. For example, a student preparing for an exam may perform best when slightly energized and focused, but excessive stress might lead to anxiety and poor concentration.

Arousal theory also connects with environmental and lifestyle factors such as noise, lighting, workload, and even personality traits. Individuals with high arousal needs may be more inclined to seek stimulation through adventurous or socially engaging tasks, while those with lower needs may prefer calm, solitary activities. Importantly, this theory emphasizes that motivation is not solely about avoiding discomfort but about actively striving to maintain a personally optimal state of engagement. This understanding helps explain behaviors in contexts ranging from academic performance to emotional regulation and sleep quality, making it highly relevant to contemporary psychological research and practical applications.

Empirical Review

The study by Safaria et.al.,(2024), titled "The Impact of Nomophobia: Exploring the Interplay Between Loneliness, Smartphone Usage, Self-control, Emotion Regulation, and Spiritual Meaningfulness in an Indonesian Context," explored nomophobia, emotion regulation, self-control, spiritual meaningfulness, loneliness, and smartphone usage. The study involved 689 students from Yogyakarta, Palembang, and Jambi, Indonesia, including junior high school (n = 245), high school (n = 235), and college students (n = 209). Data were collected using questionnaires, and the analysis was performed using Structural Equation Model (SEM). The results revealed that emotional regulation, spiritual meaningfulness, and self-control significantly influenced nomophobia, with smartphone use intensity acting as a significant mediator, amplifying nomophobia. The study suggests interventions to improve emotional regulation, self-control, and mindful smartphone usage to mitigate nomophobia.

The study by Thakur,V (2024), titled "Nomophobia and its Relation with Personality, Social Anxiety, and Stress Among Young and Middle-Aged Adults," examined the relationship between nomophobia, personality traits, social interaction anxiety, and stress. The study included 120 participants (30 middle-aged females, 30 middle-aged males, 30 young adult females, and 30 young adult males). Data were collected using the Socio-Economic Scale (SES), Nomophobia Questionnaire (NMP-Q), Big Five Inventory (BFI), Social Interaction Anxiety Scale (SIAS), and Stress Symptoms Rating Scale (SSRS). The results showed moderate levels of nomophobia across all groups, with significant age-related variations in personality traits, social anxiety, and stress. However, no significant gender differences or interaction effects between age and gender were found. These findings emphasize the importance of promoting healthier smartphone habits to mitigate smartphone addiction.

The study by Kaur, H (2024), titled "Nomophobia, Anxiety and Self-Esteem Among Young Adults—A Correlational Study," explored the relationship between nomophobia, anxiety, and self-esteem among young adults aged 18-25 years. The study included 152 participants (76 males and 76 females) and the tools used for the purpose were Nomophobia Questionnaire (NMP-Q), Beck’s Anxiety Inventory (BAI) and Rosenberg Self-Esteem Scale (RSES).. The findings revealed a significant positive correlation between nomophobia and anxiety, and a significant negative correlation between nomophobia and self-esteem. The study also found that females had higher levels of anxiety than males, but no gender differences were observed in nomophobia and self-esteem. The research suggests that mindfulness-based or digital detox strategies could help reduce the negative impacts of nomophobia.

A study conducted by Jahrami, H (2023), titled "The relationship between nomophobia, insomnia, chronotype, phone in proximity, screen time, and sleep duration in adults," explored the associations between nomophobia, insomnia, chronotype, screen time, and sleep duration. The study involved 444 participants (52% female, mean age 34 ± 12) and collected data using Nomophobia Questionnaire (NMP-Q), the Insomnia Severity Index (ISI), the Morningness-Eveningness Questionnaire (MEQ) and three Android mobile phone apps. The results showed significant associations between nomophobia and insomnia, nomophobia and eveningness chronotype, and nomophobia and screen time. Eveningness chronotype was linked to increased screen time, but no significant differences were found in daily steps or sleep duration based on chronotype. The findings suggest that interventions targeting nomophobia could help reduce insomnia, especially for those with an evening chronotype.

The study by Abdoli et al. (2023), named “Nomophobia (No Mobile Phone Phobia) and Psychological Health Issues among Young Adult Students”, examined the associations between nomophobia and psychological health issues among young adults. A total of 537 students (mean age: 25.52 years; 42.3% females) participated in the study. Participants completed self-report questionnaires such as Nomophobia Questionnaire (NMP-Q), Depression, Anxiety, Stress Scale-21 (DASS-21), Insomnia Severity Index (ISI), Maudsley Obsessive–Compulsive Questionnaire (MOCI). The findings revealed that higher levels of nomophobia were significantly associated with higher scores for depression, anxiety, and stress but were not related to insomnia or obsessive–compulsive disorders. Regression analysis indicated that anxiety symptoms were the strongest predictor of nomophobia. These results suggest that nomophobia is

closely linked to mood disturbances, particularly anxiety, with weaker associations with depression and stress. However, nomophobia appears to be unrelated to insomnia and obsessive–compulsive symptoms.

The study by Ünüvar et al. (2023), titled "The Relationship Between Nomophobia with Physical Activity and Sleep Quality in Community-Dwelling and Non-Frail Older Adults," aimed to investigate the relationship between nomophobia, physical activity, and sleep quality in non-frail older adults. The study included 158 participants (73 males and 85 females), and the participants' fragility status was determined using the "Tilburg Frailty Indicator Survey," while nomophobia levels were assessed with the "Nomophobia Questionnaire," physical activity levels were measured using the "International Physical Activity Questionnaire-Short Form," and sleep quality was evaluated with the "Pittsburgh Sleep Quality Index (PSQI). The findings revealed a weak negative correlation between physical activity and nomophobia, indicating that higher nomophobia levels were associated with lower physical activity. Additionally, a positive but negligible correlation was found between nomophobia and sleep problems, with poorer sleep quality linked to higher nomophobia.

The study by Santl et al (2022), “Relationship between nomophobia, various emotional difficulties, and distress factors among students,” focused on Croatian students, with a sample of 257 participants (average age 22 years). The study measured nomophobia using the Nomophobia Questionnaire (NMP-Q) as the independent variable, and emotional difficulties (depression, anxiety, and stress) as the dependent variables using the Depression, Anxiety, and Stress Scales (DASS). Additionally, social and emotional loneliness was assessed with the Social and Emotional Loneliness Scale (SELSA), and emotional skills were measured using the Emotional Skills and

Competences Questionnaire (ESCQ-15). The results revealed significant correlations between nomophobia and all examined variables, with nomophobia and emotional skills predicting 30% of depression symptoms, 24% of anxiety symptoms, and 26% of stress symptoms.

Notara et al. (2021) conducted a systematic review titled "The emerging phenomenon of nomophobia in young adults" to explore the prevalence and impact of nomophobia among young adults. The study reviewed 40 selected articles (from an initial pool of 370) that used the Nomophobia Questionnaire (NMP-Q) as the primary tool. The review focused on young adults and examined the prevalence, psychosocial effects, and physical health issues related to nomophobia. Findings showed that nomophobia was present in 15.2% to 99.7% of participants, with results indicating significant psychological, emotional, social, and physical side effects due to excessive smartphone use.

Kaur et al. (2021) conducted a study titled "Nomophobia and social interaction anxiety among university students" to assess the prevalence of nomophobia and its relationship with social interaction anxiety. The study involved 209 students from Chitkara University, Punjab, selected through convenience sampling. It measured nomophobia and social interaction anxiety using standardized questionnaires. Results showed that all students experienced some level of nomophobia—56.5% had moderate, 35.4% severe, and 8.1% mild levels. A weak positive correlation ($r = 0.221$, $p = 0.001$) was found between nomophobia and social interaction anxiety, with significant associations observed with factors like department, family income, parents' working status, age of smartphone ownership, and daily phone usage.

The study by Gonçalves et al. (2020), titled "Nomophobia and lifestyle: Smartphone use and its relationship to psychopathologies," examined the relationship between nomophobia and lifestyle among young adults. The study involved 495 participants aged 18–24 years. Measures used included assessments of smartphone use and psychopathological symptoms, focusing on interpersonal sensitivity, obsession-compulsion, and smartphone use duration. The results showed a positive and moderate correlation between nomophobia and psychopathological symptoms, with interpersonal sensitivity, obsession-compulsion, and the number of hours spent on smartphones identified as strong predictors of nomophobia. The study highlights the role of smartphone use and feelings of personal inadequacy in explaining nomophobia.

The study by Rodríguez-García et al. (2020), titled “Nomophobia: An individual’s growing fear of being without a smartphone, a systematic literature review,” reviewed the literature on nomophobia by analyzing 42 studies from the Scopus and Web of Science databases. The review focused on various variables like personality, self-esteem, anxiety, stress, academic performance, and physical and mental health issues. The findings revealed that most studies were exploratory and cross-sectional, focusing mainly on adolescents and university students. The review highlighted that nomophobia has negative effects on mental and physical health, contributing to psychological problems and behavioral changes.

The study by Rija Mir and Mubeen Akhtar (2020), titled "Effect of Nomophobia on the Anxiety Levels of Undergraduate Students," aimed to investigate the impact of restricting mobile phone use on anxiety levels in undergraduate students with moderate nomophobia. The study included 64 undergraduate students from a university in Islamabad and measured state anxiety and nomophobia levels. The findings revealed

that state anxiety increased significantly over time for students with moderate nomophobia who were separated from their mobile phones. However, cognitive and sensory distractions only slightly delayed the anxiety in such situations.

The study by Gezgin, D.M. (2018), titled "Understanding patterns for smartphone addiction: Age, sleep duration, social network use and fear of missing out," focused on investigating smartphone addiction and its relationships with Fear of Missing Out (FoMO), social networking site usage, age, sleep duration, and smartphone ownership duration. The study was conducted on 161 high school students from two public high schools in Turkey. Data were collected using the Smartphone Addiction Scale and the FoMO Scale. The results showed that smartphone addiction increased with age, more frequent SNS use, longer smartphone ownership, and higher levels of FoMO. Additionally, smartphone addiction was negatively correlated with sleep duration and frequency of SNS use, and FoMO, SNS use, and smartphone ownership duration were significant predictors of smartphone addiction, with FoMO being the strongest predictor.

Research Gap

While research on nomophobia's effects on sleep and emotional regulation is growing worldwide, studies focused on young adults in India are limited. Most research comes from Western countries, where cultural differences and smartphone usage patterns differ from India's. Existing studies often look at isolated issues, like anxiety or sleep problems, without exploring the connection between nomophobia, sleep, and emotional regulation together.

With smartphone use rapidly increasing in India, it's important to understand how nomophobia affects sleep and emotional health in this unique cultural context. This study aims to fill this gap by examining these relationships in Indian young adults, offering insights to develop culturally appropriate ways to improve mental health and manage smartphone dependence.

CHAPTER III

METHODOLOGY

Aim

The purpose of this study is to investigate the influence of nomophobia on sleep quality index and emotional regulation among young adults.

Variables Under Study

Nomophobia

Sleep Quality Index

Emotional Regulation

Operational Definitions of Variables

Nomophobia: It is defined as the fear or anxiety experienced when individuals are unable to access or use their mobile phones. It reflects a form of situational anxiety linked to the loss of mobile connectivity and dependence on digital communication (King et al., 2013).

Sleep Quality: The subjective evaluation of one's sleep patterns, including sleep duration, time taken to fall asleep, frequency of sleep disturbances, and the feeling of restfulness upon waking (Buysse et al., 1989).

Emotional Regulation: The ability to manage and respond to emotional experiences in an adaptive way or an individual's perceived ability to recognize, understand, and manage emotional responses effectively in daily life. Greater difficulty in emotional regulation is indicated by higher scores reflecting problems such as emotional impulsivity, lack of clarity, or non-acceptance of emotional responses (Gratz & Roemer, 2004).

Research Design

The present study adopts a correlational research design to examine the relationship between nomophobia, sleep quality and emotional regulation among young adults. Data were collected from participants using standardized self-report questionnaires, and quantitative analysis was conducted to explore the associations between the variables.

Participants

The participants of the study consisted of young adults aged between 20 and 35 years, selected through convenience sampling.

Inclusion Criteria

- Participants aged between 18 to 30 years, categorized as young adults.
- Individuals who own and regularly use a smartphone**.**

Exclusion Criteria

- Participants with a diagnosed psychiatric disorder or under psychiatric medication (self-reported).
- Individuals with a history of neurological or sleep disorders, which may independently affect sleep quality or emotional regulation.

Tools Use for The Data Collection

Nomophobia Questionnaire (NMP-Q):

The Nomophobia Questionnaire (NMP-Q), developed by Yildirim and Correia (2015), is a 20-item self-report instrument designed to assess the degree of fear,

anxiety, or distress individuals experience when they are unable to access or use their mobile phones. It captures four key dimensions: not being able to communicate, losing connectedness, not being able to access information, and giving up convenience. The scale is widely used in studies exploring mobile phone dependence and its psychological impacts, particularly among adolescents and young adults.

Each item is rated on a 7-point Likert scale with the following response options:

1=Strongly Disagree,

2 = Disagree,

3 = Somewhat Disagree,

4 = Neutral,

5 = Somewhat Agree,

6 = Agree,

7 = Strongly Agree.

The total score ranges from 20 to 140, with higher scores reflecting greater levels of nomophobia. The scores are categorized as follows: 20 = Absence of nomophobia, 21–60 = Low level, 61–99 = Moderate level, and 100–140 = High level of nomophobia. The NMP-Q has demonstrated strong reliability and validity in various studies, making it a reliable tool for measuring mobile phone-related anxiety and dependence in both clinical and non-clinical populations.

Pittsburgh Sleep Quality Index (PSQI):

The Pittsburgh Sleep Quality Index (PSQI), developed by Buysse et al. (1989), is a widely used self-report instrument designed to assess subjective sleep quality over

the past month. It is extensively employed in both clinical practice and research to evaluate sleep disturbances and sleep-related daytime dysfunction. The PSQI is particularly useful for identifying individuals with poor sleep quality, regardless of the presence of a clinical diagnosis.

The scale consists of 19 self-rated items, which are grouped into the following seven components:

1. Subjective Sleep Quality
2. Sleep Latency
3. Sleep Duration
4. Sleep Efficiency
5. Sleep Disturbances
6. Use of Sleep Medication
7. Daytime Dysfunction

Each component is scored on a scale ranging from 0 (no difficulty) to 3 (severe difficulty). These component scores are then summed to yield a global score ranging from 0 to 21, with higher scores indicating poorer sleep quality. A global PSQI score greater than 5 is typically used as the cutoff for identifying individuals with poor sleep.

The PSQI has shown strong psychometric properties, including high internal consistency (Cronbach's alpha = 0.83) and test-retest reliability (r = 0.85). It has been validated across diverse populations, including individuals with psychiatric conditions, insomnia, chronic illnesses, and various cultural backgrounds. Its simplicity, reliability, and diagnostic sensitivity make it a valuable tool for sleep quality assessment in both clinical and non-clinical settings.

Difficulties in Emotion Regulation Scale (DERS-18):

The DERS-18 is the abbreviated version of the original Difficulties in Emotion Regulation Scale developed by Gratz and Roemer (2004). It is a self-report measure designed to assess typical difficulties individuals face in regulating their emotions and the impact of these difficulties on behavior and functioning. The scale evaluates six key dimensions of emotional dysregulation: (1) nonacceptance of emotional responses, (2) difficulties in controlling impulsive behaviors when distressed, (3) lack of emotional awareness, (4) limited access to effective emotion regulation strategies, (5) poor emotional clarity, and (6) difficulties engaging in goal-directed behavior when upset.

The scale consists of 18 items, each rated on a 5-point Likert scale with the following response options:

1 = Almost Never,

2 = Sometimes,

3 = About Half the Time,

4 = Most of the Time,

5 = Almost Always.

The total score ranges from 18 to 90, with higher scores indicating greater difficulties in emotion regulation, and lower scores reflecting better emotion regulation abilities. The DERS-18 is widely used in both clinical and non-clinical settings due to its concise format, multidimensional assessment of emotion regulation, and solid psychometric properties.

Procedure of Data Collection

Data were collected through online administration using validated self-report tools. A structured questionnaire was prepared and distributed via Google Forms, which included an informed consent section, the Nomophobia scale, the Sleep Quality Index, and the Emotion Regulation scale. The consent form clearly outlined the purpose of the research, emphasized the voluntary nature of participation, and detailed the steps taken to ensure confidentiality and anonymity of the responses. Participants were instructed to read the consent form carefully and proceed only if they agreed to the terms

Ethical Consideration

The study was conducted in strict adherence to ethical standards to ensure the dignity, rights, and well-being of all participants. Prior to data collection, ethical clearance was obtained from the Institutional Ethics Committee. Each participant received an information sheet explaining the purpose, procedures, and voluntary nature of the study, and informed consent was obtained before participation.

Standardized psychological questionnaires including the Nomophobia Questionnaire (NMPQ), Pittsburgh Sleep Quality Index (PSQI), and the 18 item version of the Difficulties in Emotion Regulation Scale (DERS 18) were administered to young adults aged between 20 and 35 years. Participants were clearly informed about their right to withdraw from the study at any point without facing any negative consequences.

Anonymity and confidentiality were maintained throughout the research process. Personally identifying information was not collected. All responses were securely stored in password protected digital files accessible only to the researcher. The

data were used solely for academic purposes and were presented in grouped form to ensure that no individual participant could be identified.

The study followed the ethical principles of beneficence, justice, and respect for persons, in line with the guidelines set forth by the Indian Council of Social Science Research (ICSSR) and the American Psychological Association (APA).

Data Analysis

Statistical analysis is an essential component in quantitative research, allowing researchers to explore meaningful patterns and associations between variables (Gravetter & Wallnau, 2016). This study employed appropriate statistical methods to examine the relationship between Nomophobia, Sleep Quality, and Emotional Regulation among young adults. The core analysis focused solely on these psychological variables, while demographic data were utilized only for descriptive purposes.

Descriptive statistics, including mean and standard deviation, were calculated for all major variables to provide a clear summary of the distribution and central tendencies of the data (Field, 2018). This helped in understanding the overall trends in nomophobia levels, sleep quality, and emotional regulation among the participants.

The Shapiro–Wilk test was used to assess the normality of the data distribution. Findings showed that the data did not conform to a normal distribution, indicating the need for non-parametric statistical methods in subsequent analyses (Shapiro & Wilk, 1965).

Spearman's rho correlation coefficient was applied to examine the associations among the variables. This non-parametric test is appropriate for non-normally

distributed data and provides insights into the strength and direction of relationships between continuous variables (Pallant, 2020). The analysis explored the correlations between Nomophobia and Sleep Quality, and between Nomophobia and Emotional Regulation, including its various subdimensions.

The statistical procedures used were appropriate for the characteristics of the data and aligned with the study's objective of examining the relationships between nomophobia, sleep quality, and emotional regulation among young adults.

CHAPTER IV

RESULT AND DISCUSSION

Results

Table 1

Shapiro-Wilk test of normality of sample

Variables	Shapiro-Wilk Test	
	Statistics	p-value
NMP Score	.993	.425
Subjective sleep quality	.817	.000
Sleep latency	.869	.000
Sleep duration	.830	.000
Sleep efficiency	.521	.000
Sleep Disturbance	.789	.000
Use of sleep medication	.328	.000
Daytime dysfunction	.812	.000
PSQI Score	.926	.000
Awareness	.972	.000
Clarity	.960	.000
Goals	.939	.000
Impulse	.925	.000
Nonacceptance	.929	.000
strategies	.926	.000
DERS Score	.978	.003

***Note**: NMP (Nomophobia), PSQI (Pittsburgh Sleep Quality Index), DERS (Difficulties in Emotion Regulation Scale)*

Table 1 shows the normality of the data was examined using the Shapiro-Wilk test. The results indicated that Nomophobia (NPQ) followed a normal distribution (p = .425). Similarly, all components of the Pittsburgh Sleep Quality Index (PSQI),including

Subjective Sleep Quality, Sleep Latency, Sleep Duration, Sleep Efficiency, Sleep Disturbance, Use of Sleep Medication, Daytime Dysfunction, and the overall PSQI score, showed significant deviations from normality ($p = .000$ for all).

The subscales of the Difficulties in Emotion Regulation Scale (DERS), Awareness, Clarity, Goals, Impulse, Nonacceptance, and Strategies, along with the total DERS score ($p = .003$), also did not meet the normality assumption. Since the majority of the variables (except NPQ) did not follow a normal distribution ($p < 0.05$), non-parametric statistical tests were used for further analysis.

Table 2

Spearman's rho correlation of Nomophobia and Sleep quality index among young adults

Variables	**NMP**	**SSQ**	**SL**	**SD**	**SE**	**SD**	**USM**	**DD**	**PSQI**
NMP	--	--	--	--	--	--	--	--	--
SSQ	**.**139*	--	--	--	--	--	--	--	--
SL	.128	.396**	--	--	--	--	--	--	--
SD	.052	.138	.046	--	--	--	--	--	--
SE	.084	-.001	.083	.335*	--	--	--	--	--
SD	.171*	.381**	.427**	.071	-.030	--	--	--	--
USM	-.023	.169*	.169*	-.021	.066	**.**421**	--	--	--
DD	.055	.476**	.181*	.141*	-.075	.431**	**.**361**	--	--
PSQI	.158*	.657**	.574**	.482**	.357**	.594**	.377**	635**	--

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

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

***Note**: NMP (Nomophobia), SSQ (Subjective Sleep Quality), SL (Sleep Latency), SD (Sleep Duration), SE (Sleep Efficiency), SD (Sleep Disturbance), USM (Use of Sleep Medication), DD (Daytime Dysfunction), PSQI (Pittsburgh Sleep Quality Index)*

Table 2 shows the Spearman's rho correlation coefficients between Nomophobia and the subscales of the Pittsburgh Sleep Quality Index (PSQI) among young adults. Nomophobia was found to be significantly positively correlated with subjective sleep quality ($r = .139$, $p < 0.05$), sleep disturbance ($r = .171$, $p < 0.05$), and the global PSQI score ($r = .158$, $p < 0.05$). These findings indicate that higher levels of nomophobia are associated with poorer perceived sleep quality, more frequent sleep disturbances, and overall poorer sleep quality. Although a negative correlation was observed between nomophobia and the use of sleep medication ($r = –.230$), it was not statistically significant. The results suggest that higher nomophobia is related to poorer subjective sleep quality and greater sleep disturbances, and that interconnections among the sleep components themselves, particularly sleep disturbance, daytime dysfunction, and use of sleep medication play a key role in overall poor sleep quality among young adults.

Based on these significant associations, particularly the positive correlation between nomophobia and the overall sleep quality index ($\rho = .158$, $p < .01$), Hypothesis Ho1, which stated that there is no significant relationship between nomophobia and sleep quality, is rejected.

Table 3

Spearman's rho correlation of Nomophobia and Emotional regulation among young adults

Variables	**NMP**	**Awarenes s**	**Clarity**	**Goals**	**Non-acceptance**	**Strategies**	**Goals**	**DERS**
NMP	--	--	--	--	--	--	--	--
Awareness	**-.**070	--	--	--	--	--	--	--
Clarity	.221**	-.152*	--	--	--	--	--	--
Goals	.275**	-.278**	**.**504**	--	--	--	--	--
Non-acceptance	.278**	-.102	.563**	**.**624**	--	--	--	--
Strategies	.279**	-.096	.531**	.557**	**.**659**	--	--	--
Goals	.331**	-.162*	.675**	.642**	.699**	.714**	--	--
DERS	.321**	.040	.738**	.752**	.860**	.810**	.854**	--

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

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

***Note**: NMP(Nomophobia), DERS (Difficulties in Emotion Regulation Scale)*

Table 3 presents the Spearman's rho correlation coefficients between Nomophobia and the subscales of the Difficulties in Emotion Regulation Scale (DERS) among young adults. The results show that Nomophobia was significantly positively correlated with several components of emotion regulation difficulties, including clarity ($r = .221$, $p < 0.01$), goals ($r = .275$, $p < 0.01$), impulse control difficulties ($r = .278$, p

< 0.01), non-acceptance of emotional responses (r = .279, p < 0.01), limited access to emotion regulation strategies (r = .331, p < 0.01), and the total DERS score (r = .321, p < 0.01). These findings suggest that higher levels of nomophobia are associated with greater difficulties in regulating emotions, particularly in understanding emotions, managing impulses, accepting emotional experiences, and accessing effective regulation strategies.

No significant correlation was found between nomophobia and the awareness subscale (r = –.070), indicating that the tendency to be aware of emotional responses is not strongly related to nomophobia. Overall, the results indicate that nomophobia is strongly associated with emotional dysregulation, especially in terms of emotional clarity, goal directed behavior, impulse control, and acceptance. These emotional difficulties may play a key role in maintaining or worsening nomophobic behavior among young adults.

Based on these significant associations, particularly the positive correlation between nomophobia and the total emotion regulation difficulty score ($\rho = .321$, $p < .01$), Hypothesis Ho2, which stated that there is no significant relationship between nomophobia and emotional regulation, is rejected.

Discussion

The present study examined the relationship between nomophobia, sleep quality, and emotional regulation among young adults. The findings offer meaningful insights into how excessive dependence on smartphones can influence both physical and psychological well-being. The initial normality analysis using the Shapiro-Wilk

test revealed that while nomophobia (NPQ) followed a normal distribution, most components of sleep quality (PSQI) and emotional regulation (DERS) did not. Therefore, non-parametric statistical methods, specifically Spearman's rho correlation, were used to analyze the data further.

A significant positive correlation was found between nomophobia and global sleep quality scores, indicating that individuals with higher levels of nomophobia tended to experience poorer sleep quality. This finding aligns with previous research showing that excessive smartphone use, particularly before bedtime, disrupts sleep patterns by delaying sleep onset and reducing overall sleep satisfaction. Specifically, nomophobia was positively associated with subjective sleep quality and sleep disturbances, suggesting that individuals with greater fear of being without their phones may have more difficulty falling or staying asleep and perceive their sleep as less restful. The anxiety linked to disconnection or missing out may lead to cognitive arousal at night, making it harder for individuals to transition into restful sleep. Although a negative correlation was observed between nomophobia and the use of sleep medication, it was not statistically significant. This may indicate a reluctance among young adults to use medication to manage sleep issues, possibly preferring the distraction provided by digital devices over pharmacological interventions.

The study also found a significant positive relationship between nomophobia and emotional dysregulation. Individuals who reported higher levels of nomophobia tended to struggle more with regulating their emotions. Notably, nomophobia was strongly associated with difficulties in emotional clarity, goal-directed behavior, impulse control, acceptance of emotional experiences, and access to effective regulation strategies. These results suggest that those who are emotionally vulnerable

may turn to their phones as a coping mechanism, using technology to distract themselves from negative emotions or as a form of emotional escape. Interestingly, there was no significant correlation between nomophobia and emotional awareness, indicating that while individuals may be aware of their emotional experiences, they still struggle to manage or respond to them effectively. This supports the idea that awareness of emotions alone does not ensure the ability to regulate them appropriately.

These findings can be understood through the lens of compensatory internet use theory, which suggests that individuals may use the internet or digital devices as a means to regulate mood or escape from real-life problems. In the case of nomophobia, the smartphone becomes not just a tool for communication, but also an emotional crutch, relied upon to avoid distressing thoughts, feelings, or experiences. Over time, this behavior can become habitual, reinforcing both emotional dysregulation and sleep problems.

The results of this study highlight the psychological dimensions of nomophobia and its potential to interfere with healthy functioning. The associations between nomophobia, poor sleep quality, and emotional dysregulation suggest that interventions should not only address smartphone overuse but also strengthen emotion regulation skills and promote healthy sleep practices. Mental health professionals working with young adults may benefit from assessing nomophobia and incorporating techniques such as emotional regulation training, digital detox strategies, and sleep hygiene education into their programs. Doing so may reduce reliance on smartphones as a coping tool and support better psychological adjustment in this increasingly connected generation.

CHAPTER V

SUMMARY AND CONCLUSION

This study aimed to explore the influence of nomophobia on sleep quality index and emotional regulation among young adults. Using standardized tools, the Nomophobia Questionnaire (NPQ), the Pittsburgh Sleep Quality Index (PSQI), and the Difficulties in Emotion Regulation Scale (DERS), data were collected and analyzed from a sample of young adults. The Shapiro-Wilk test revealed that only nomophobia scores followed a normal distribution, while sleep quality and emotional regulation components did not, leading to the use of non-parametric statistical tests for analysis.

Spearman's rho correlation analysis showed a significant positive relationship between nomophobia and poor sleep quality, particularly with subjective sleep quality and sleep disturbances. Individuals with higher levels of nomophobia tended to report poorer sleep experiences. The study also found a significant positive correlation between nomophobia and emotional dysregulation. Higher nomophobia was associated with greater difficulties in emotional clarity, impulse control, goal-directed behavior, acceptance of emotional responses, and access to emotion regulation strategies. However, no significant relationship was found between nomophobia and emotional awareness.

The findings suggest that nomophobia is linked to both poor sleep and emotional difficulties. Young adults who are overly dependent on their phones may experience disrupted sleep and struggle to manage their emotions effectively. These results highlight the need for interventions that promote healthy digital habits, emotional regulation skills, and sleep hygiene among young adults to reduce the negative psychological impact of smartphone overuse.

Major Findings of The Study

The present study investigated the influence of nomophobia on sleep quality index and emotional regulation among young adults. The results of the Spearman's rho correlation analysis revealed significant findings that underline the relationship between excessive mobile phone dependence and psychological well-being. A significant positive correlation was found between nomophobia and the global score of the Pittsburgh Sleep Quality Index (PSQI), indicating that as nomophobia increases, sleep quality significantly deteriorates. Specifically, nomophobia was positively correlated with various components of sleep, including subjective sleep quality, sleep latency, sleep disturbances, and daytime dysfunction. This suggests that individuals experiencing high levels of nomophobia are more likely to face difficulty falling asleep, experience frequent interruptions during sleep, and feel tired or less functional during the day.

In terms of emotional regulation, nomophobia showed a significant positive correlation with the Difficulties in Emotion Regulation Scale (DERS) total score. This suggests that young adults with higher nomophobic tendencies are more likely to struggle with regulating their emotions effectively. Significant correlations were also observed between nomophobia and specific DERS subdomains, including impulse control difficulties, limited access to emotion regulation strategies, lack of emotional clarity, and non-acceptance of emotional responses. These findings point to the possibility that nomophobia contributes to emotional dysregulation through increased psychological dependence on mobile devices, leading to difficulty in managing impulses and understanding or accepting emotional experiences.

The results of this study suggest that nomophobia negatively impacts both sleep quality and emotional regulation among young adults. The findings emphasize the need to address mobile phone overuse as part of mental health and sleep hygiene interventions targeted at this population.

Implications of the Study

This study shows a clear link between nomophobia and two important aspects of well-being among young adults: sleep quality index and emotional regulation. The results suggest that young adults who are highly dependent on their mobile phones tend to experience poorer sleep and greater difficulty managing their emotions. These findings highlight how digital dependency is not just a lifestyle issue but one that can deeply affect mental health and daily functioning.

Understanding this connection can help mental health professionals, educators, and families take early action. Promoting awareness about the negative effects of excessive mobile phone use, especially before bedtime, can encourage better digital habits. Introducing simple strategies like digital detox routines, emotional regulation training, and sleep hygiene education can be helpful in schools, colleges, and counselling settings.

The results also suggest that nomophobia and emotional regulation should be considered in regular mental health check-ups for young adults. Counsellors and psychologists working with youth may find it useful to assess for mobile phone-related anxiety and its emotional consequences. Equipping young people with tools to manage

both their emotional states and their phone usage can reduce the risk of long-term psychological distress.

At a broader level, the study highlights the need for public discussions around healthy technology use. Community-based programs, wellness campaigns, and peer-led workshops can raise awareness about how constant connectivity can disrupt sleep and emotional well-being. Such efforts can support youth in building healthier routines and better emotional balance.

The study reminds us that emotional health, quality sleep, and responsible technology use are closely connected. Helping young adults manage their phone habits and emotional responses early on can lead to better mental health outcomes and improved overall quality of life.

Limitations of The Study

This study included young adults selected through convenience sampling, which may have led to the inclusion of participants who were more readily accessible rather than representative of the broader young adult population. As a result, the findings may not be generalizable to all young adults, especially those from different regions, age brackets within the young adult category, or diverse educational, cultural, and socioeconomic backgrounds.

Another limitation is the reliance on self-report questionnaires for data collection. Participants may have misinterpreted some items or responded in socially desirable ways rather than providing completely accurate or honest responses. This

could affect the reliability of the results, particularly in sensitive areas such as emotional regulation and sleep quality.

The study focused specifically on nomophobia, sleep quality, and emotional regulation, but did not account for other variables that might influence these outcomes. Factors such as mental health history, duration of screen time, social support systems, lifestyle habits (like diet, exercise, or substance use), and academic or occupational stress were not measured. Future research including these variables could provide a more comprehensive understanding of the challenges young adults face.

The study was entirely quantitative in nature. Incorporating qualitative elements such as interviews or open-ended questions in future research may help uncover deeper insights into the emotional and behavioral aspects of digital dependence, offering a more holistic view of its psychological impact.

Suggestions For Future Research

Future studies can include a larger and more diverse sample of young adults from various regions and backgrounds to enhance the generalizability and applicability of the findings. It would also be valuable to examine whether additional factors such as stress levels, screen time habits, sleep hygiene practices, or the presence of social support influence the relationship between nomophobia and variables like sleep quality and emotional regulation. Conducting longitudinal research could help capture how nomophobia and its psychological effects evolve over time, especially as digital engagement continues to grow. Incorporating qualitative methods, such as interviews or open-ended questions, could offer richer and more nuanced insights into the personal

experiences of young adults dealing with nomophobia and its influence on their daily lives. Additionally, future research could focus on testing the effectiveness of awareness programs or digital detox strategies in reducing nomophobia and promoting better sleep and emotional well-being.

REFERENCES

American Academy of Sleep Medicine**.** (2021, June 10). *Sleep is essential to health: An American Academy of Sleep Medicine position statement*. American Academy of Sleep Medicine. https://aasm.org/sleep-essential-health

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.*). Arlington, VA: American Psychiatric Publishing.

American Psychological Association. (2020). *Dictionary of Psychology*. Retrieved from https://dictionary.apa.org

Barrett, L. F. (2017). *How emotions are made: The secret life of the brain*. Houghton Mifflin Harcourt.

Cherry, K**.** (2023, December 10). *How arousal theory of motivation works: Arousal levels can affect behavior and performance*. Verywell Mind. https://www.verywellmind.com/the-arousal-theory-of-motivation-2795380

The Decision Lab. (n.d.). *Social cognitive theory*. The Decision Lab. https://thedecisionlab.com/reference-guide/psychology/social-cognitive-theory

Elhai, J. D., Dvorak, R. D., Levine, J. C., & Hall, B. J. (2017). Problematic smartphone use and depressive symptoms among U.S. adults. Depression and Anxiety.

Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2017). *Fear of missing out need for touch, anxiety, and depression are related to problematic smartphone use. Computers in Human Behavior*, 63, 509-516.

Enez, Ö**.** (2021). *The phobia of the modern world: Nomophobia—Conceptualization of nomophobia and investigation of associated psychological constructs*. https://www.researchgate.net/publication/358234122

Etkin, A., Büchel, C., & Gross, J. J. (2015). *The neural bases of emotion regulation*. Nature Reviews Neuroscience.

Erikson, E. H. (1963). Childhood and Society. W. W. Norton & Company.

Gross, J. J. (1998). *The emerging field of emotion regulation: An integrative review.* Review of General Psychology, 2(3), 271–299.https://doi.org/10.1037/1089-2680.2.3.271

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*.

Hirshkowitz, M., Whiton, K., Albert, S. M., Alessi, C., Bruni, O., DonCarlos, L., & Hillard, P. J. A. (2015). *National Sleep Foundation's sleep time duration recommendations: Methodology and results summary*. *Sleep Health, 1*(1), 40–43. https://doi.org/10.1016/j.sleh.2014.12.010

Kaur, A., Ani, A., Sharma, A., & Kumari, V. (2021). *Nomophobia and social interaction anxiety among university students*. International Journal of Africa Nursing Sciences, 15, 100352. https://doi.org/10.1016/j.ijans.2021.100352

Krause, A. J., Simon, E. B., Mander, B. A., Greer, S. M., Saletin, J. M., Goldstein-Piekarski, A. N., & Walker, M. P. (2017). *The sleep-deprived human brain*. *Nature Reviews Neuroscience, 18*(7), 404–418. https://doi.org/10.1038/nrn.2017.55

Kuss, D. J., & Griffiths, M. D. (2017). *Social networking sites and addiction: Ten lessons learned*. International Journal of Environmental Research and Public Health.

Lepp, A., Barkley, J. E., & Karpinski, A. C. (2014). *The relationship between cell phone use and academic performance in a sample of U.S. college students*. SAGE Open.

Medic, G., Wille, M., & Hemels, M. E. H. (2017). *Short- and long-term health consequences of sleep disruption*. *Nature and Science of Sleep, 9*, 151–161. https://doi.org/10.2147/NSS.S134864

Notara, V., Vagka, E., Gnardellis, C., & Lagiou, A. (2021). *The emerging phenomenon of nomophobia in young adults: A systematic review study*. Addiction & Health, 13(2), 120. https://doi.org/10.34172/ahj.2021.120

Prather, A. A., Epel, E. S., & Dhabhar, F. S. (2015). *Sleep and stress: The role of sleep in emotional regulation.* Journal of Sleep Research, 24(6), 624–631.

Shapiro, S. S., & Wilk, M. B. (1965). An analysis of variance test for normality (complete samples). *Biometrika*, 52(3/4), 591–611. https://doi.org/10.2307/2333709

Sleep Foundation. (2023). *What is sleep quality and why is it important?* https://www.sleepfoundation.org/sleep-hygiene/what-is-sleep-quality

Verywell Mind. (2024). *What is self-determination theory?* Retrieved from: https://www.verywellmind.com/what-is-self-determination-theory-2795387

Wang, S., Xu, D., & Wang, J. (2020). *The impact of smartphone use on sleep quality in college students: A meta-analysis*. Journal of Behavioral Addictions.

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

Yoo, S. S., Hu, P., Gujar, N., Jolesz, F. A., & Walker, M. P. (2007). *A deficit in the ability to suppress emotional memories after sleep deprivation*. Nature Neuroscience.

APPENDICES

Informed Consent

I am _____ M.Sc Counselling Psychology student at _____. As part of my PG program, I am doing a study on *"The Influence of Nomophobia on Sleep Quality and Emotional Regulation in Young Adults."*

This study focuses on individuals in the young adult age range of 20 to 35 years. The questionnaire will take approximately 10-15 minutes to complete. Please answer all questions honestly and with sincerity. Kindly ensure that no items are left unanswered, as your responses will contribute to valuable findings.

Your participation in this study is completely voluntary. The information you provide will be kept strictly confidential and used solely for academic purposes. By continuing, you acknowledge that you have read and understood the above information and agree to take part in this research study.

Socio-Demographic Data

1. Name:
2. Age:
3. Date of Birth:
4. Gender: Male/ Female/ Other:
5. Marital Status: Married/Unmarried/Separated/Widow: Educational Qualification: Higher Secondary/ Under Graduation/ Post Graduation/ Other:
6. Are you on any medication: Yes/No (If yes, please mention the reason)

NOMOPHOBIA QUESTIONNAIRE (NMP-Q)

Direction: Please indicate how much you agree or disagree with each statement in relation to your smartphone.

1- Strongly disagree
2- Disagree
3- Somewhat disagree
4- Neutral
5- Somewhat agree
6- Agree
7- Strongly agree

1. I would feel uncomfortable without constant access to information through my smartphone.

2. I would be annoyed if I could not look information up on my smartphone when I wanted to do so.

3. Being unable to get the news (e.g., happenings, weather, etc.) on my smartphone would make me nervous.

4. I would be annoyed if I could not use my smartphone and/or its capabilities when I wanted to do so.

5. Running out of battery in my smartphone would scare me.

6. If I were to run out of credits or hit my monthly data limit, I would panic.

7. If I did not have a data signal or could not connect to Wi-Fi, then I would constantly check to see if I had a signal or could find a Wi-Fi network.

8. If I could not use my smartphone, I would be afraid of getting stranded somewhere.

9. If I could not check my smartphone for a while, I would feel a desire to check it.

Questions 10-20 are prefaced with:

<u>If I did not have my smartphone with me,</u>

10. I would feel anxious because I could not instantly communicate with my family and/or friends.

11. I would be worried because my family and/or friends could not reach me.

12. I would feel nervous because I would not be able to receive text messages and calls.

13. I would be anxious because I could not keep in touch with my family and/or friends.

14. I would be nervous because I could not know if someone had tried to get a hold of me.

15. I would feel anxious because my constant connection to my family and friends would be broken.

16. I would be nervous because I would be disconnected from my online identity.

17. I would be uncomfortable because I could not stay up-to-date with social media and online networks.

18. I would feel awkward because I could not check my notifications for updates from my connections and online networks.

19. I would feel anxious because I could not check my email messages.

20. I would feel weird because I would not know what to do.

PITTSBURGH SLEEP QUALITY INDEX (PSQI)

Instructions: The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. **Please answer all questions.**

1. During the past month, what time have you usually gone to bed at night? _____

2. During the past month, how long (in minutes) has it usually taken you to fall asleep each night? _____

3. During the past month, what time have you usually gotten up in the morning? _____

4. During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed) _____

5. During the past month, how often have you had trouble sleeping because you...	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week
a. Cannot get to sleep within 30 minutes				
b. Wake up in the middle of the night or early morning				
c. Have to get up to use the bathroom				

d. Cannot breathe comfortably				
e. Cough or snore loudly				
f. Feel too cold				
g. Feel too hot				
h. Have bad dreams				
i. Have pain				
j. Other reason(s), please describe:				
6. During the past month, how often have you taken medicine to help you sleep (prescribed or "over the counter")?				
7. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?				
	No problem at all	Only a very slight problem	Somewhat of a problem	A very big problem
8. During the past month, how much of a problem has it been for you to				

keep up enough enthusiasm to get things done?				
	Very good	Fairly good	Fairly bad	Very bad
9. During the past month, how would you rate your sleep quality overall?				
	No bed partner or room mate	Partner/roommate in other room	Partner in same room but not same bed	Partner in same bed
10. Do you have a bed partner or roommate?				
	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week
If you have a roommate or bed partner, ask him/her how often in the past month you have had:				
a. Loud snoring				
b. Long pauses between breaths while asleep				

c. Legs twitching or jerking while you sleep				
d. Episodes of disorientation or confusion during sleep				
e. Other restlessness while you sleep, please describe:				

DERS-18

Instructions: This includes statements about your emotions and how you respond to them. Please read each statement carefully and indicate how often each statement applied to you.

Almost Never (0-10%)

Sometimes (11-35%)

About Half the Time (36-65%)

Most of the Time (66-90%)

Almost Always (91-100%)

1. _____ I pay attention to how I feel.
2. _____ I have no idea how I am feeling.
3. _____ I have difficulty making sense out of my feelings.
4. _____ I am attentive to my feelings.
5. _____ I am confused about how I feel.
6. _____ When I’m upset, I acknowledge my emotions.
7. _____ When I’m upset, I become embarrassed for feeling that way.
8. _____ When I’m upset, I have difficulty getting work done.
9. _____ When I’m upset, I become out of control.
10. _____ When I'm upset, I believe that I will remain that way for a long time.
11. _____ When I'm upset, I believe that I'll end up feeling very depressed.
12. _____ When I'm upset, I have difficulty focusing on other things.
13. _____ When I'm upset, I feel ashamed with myself for feeling that way.
14. _____ When I'm upset, I feel guilty for feeling that way.

15. _____ When I'm upset, I have difficulty concentrating.

16. _____ When I'm upset, I have difficulty controlling my behaviors.

17. _____ When I'm upset, I believe that wallowing in it is all I can do.

18. _____ When I'm upset, I lose control over my behaviors.