A STUDY OF THE RELATIONSHIP BETWEEN PRCEIVED STRESS AND SLEEP DEPRIVATION AMONG YOUNG ADULTS

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submitted in partial fulfillment of the requirements for the award of the Degree of Master of Arts in Psychology (Clinical and Counseling) to MIER College of Education (Autonomous), is an authentic record of my own research work carried out under the supervision of Dr. Neha Jaral, Assistant Professor.

I further declare that the work embodied in the present dissertation:

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b) Has not been submitted by me for the award of any other Degree/Diploma/Certificate of any University or Institution.

c) All sources of information used in this study have been duly acknowledged.

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LIST OF ABBREVIATIONS

The following abbreviations are used throughout this dissertation:

Abbreviation	Full Form
AIS	Athens Insomnia Scale
ANS	Autonomic Nervous System
APA	American Psychological Association
C1–C7	PSQI Component Scores 1–7
CBT-I	Cognitive Behavioral Therapy for Insomnia
CDC	Centers for Disease Control and Prevention
COVID-19	Coronavirus Disease 2019
fMRI	Functional Magnetic Resonance Imaging
FOMO	Fear of Missing Out
HPA	Hypothalamic–Pituitary–Adrenal
MANOVA	Multivariate Analysis of Variance
MBSR	Mindfulness-Based Stress Reduction
NIH	National Institute of Health
NHLBI	National Heart, Lung, and Blood Institute
NSF	National Sleep Foundation
OR	Odds Ratio
PSS	Perceived Stress Scale
PSS-10	Perceived Stress Scale–10 (10-item version)
PSS-14	Perceived Stress Scale–14 (14-item version)
PSQI	Pittsburgh Sleep Quality Index
ROL	Review of Literature
SD	Standard Deviation
SEM	Structural Equation Modeling
SQ	Sleep Quality
SPSS	Statistical Package for the Social Sciences
WHO	World Health Organization

ABSTRACT

This dissertation is an original research work conducted as part of my M.A. in Psychology (Clinical and Counselling) at MIER College of Education (Autonomous), Jammu, under the supervision of Dr. Neha Jaral. The study reflects my sincere effort to explore a concern that I believe is deeply relevant to young adults today — the toll that stress takes on our sleep, and how the two quietly feed into each other. Through this research, I hope to contribute, in a small but meaningful way, to the growing conversation around mental health and well-being among young adults in India.

Sleep deprivation and perceived stress are two of the most significant psychological and public health challenges confronting young adults in contemporary society. The present study examined the relationship between perceived stress and sleep deprivation among young adults aged 18–26 years residing in India. A quantitative, cross-sectional correlational research design was adopted. A total of 196 participants (111 females, 85 males) were recruited through simple random sampling, comprising both college students and working professionals. Data were collected using two standardised self-report instruments: the Perceived Stress Scale–10 (PSS-10; Cohen, Kamarck, & Mermelstein, 1983) and the Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989). Statistical analyses were performed using IBM SPSS Statistics (Version 27), including Pearson's product-moment correlation and descriptive statistics.

The findings revealed that 89.8% of participants reported moderate to high levels of perceived stress (mean PSS-10 = 20.52), and 66.3% were classified as poor sleepers (mean PSQI global score = 7.51). A statistically significant positive correlation was found between perceived stress and overall sleep quality, $r(194) = .405$, $p < .001$, indicating that higher perceived stress was associated with poorer sleep quality. Among the individual PSQI components, Daytime Dysfunction ($r = .607$, $p < .001$) and Subjective Sleep Quality ($r = .401$, $p < .001$) showed the strongest associations with perceived stress. No significant relationships were found between perceived stress and Sleep Duration or Habitual Sleep Efficiency. Gender comparisons indicated that female participants reported marginally higher perceived stress and slightly poorer sleep quality than male participants, though both groups exceeded the clinical threshold for poor sleep.

The findings are discussed in the context of Lazarus and Folkman's (1984) Transactional Model of Stress and Coping and the Hyperarousal Model of Insomnia (Espie, 2002; Perlis et al., 1997). The results underscore the need for targeted psychological interventions addressing both stress management and sleep hygiene among young adults in India.

Keywords:(perceived stress, sleep deprivation, sleep quality, young adults, PSS-10, Pittsburgh Sleep Quality Index, correlational study, India)

CHAPTER - I

Introduction

In recent years, increasing attention has been directed toward the mental health of young adults due to rapid sociocultural, academic, and technological changes. Young adulthood represents a critical developmental phase characterized by increased responsibilities, identity exploration, academic and occupational pressures, and lifestyle transitions, all of which heighten vulnerability to psychological stress (Arnett, 2015). These challenges often disrupt adaptive coping mechanisms and healthy sleep patterns, making young adults particularly susceptible to stress-related health outcomes.

Contemporary research highlights perceived stress as a significant psychological factor influencing overall well-being. Perceived stress reflects individuals' subjective evaluations of stressors rather than objective exposure, emphasizing cognitive appraisal and emotional interpretation (Phillips, 2013). High levels of perceived stress have been associated with emotional dysregulation, impaired decision-making, and reduced psychological resilience, particularly among emerging adults navigating transitional life demands (American Psychological Association [APA], 2022).

Parallel to rising stress levels, sleep deprivation has emerged as a widespread public health concern among young adults. Technological engagement, academic workload, irregular schedules, and lifestyle habits have contributed to chronic sleep insufficiency in this population (Hale & Guan, 2015). Sleep deprivation not only affects physical health but also undermines emotional regulation and cognitive functioning, thereby increasing susceptibility to stress and mental health difficulties (Walker, 2017).

Evidence suggests that stress and sleep disturbances are interrelated through shared psychological and neurobiological mechanisms. Hyperarousal, rumination, and dysregulated stress-response systems are known to interfere with sleep initiation and maintenance, while insufficient sleep further amplifies emotional reactivity and stress sensitivity (McEwen & Karatsoreos, 2015). This reciprocal interaction creates a vicious cycle in which stress and sleep deprivation reinforce one another, particularly in young adult populations.

Recent global health reports emphasize that untreated stress and sleep problems during early adulthood can have long-term consequences, including increased risk for mood disorders, impaired academic and occupational performance, and reduced quality of life (World Health Organization, 2022). Despite growing international literature, there remains a relative scarcity of focused empirical research examining the combined relationship between perceived stress and sleep deprivation among young adults in developing countries, including India.

Understanding the relationship between perceived stress and sleep deprivation among young adults has been an area of growing interest for decades. Historically, researchers have explored how physiological and psychological stress responses interact with sleep patterns and overall well-being. From early theories of stress physiology to recent empirical studies on modern youth populations, the understanding of this interaction has evolved substantially.

Sleep

Pilcher and Huffcutt (1996), through a meta-analysis, showed that sleep deprivation significantly impairs mood, vigilance, and cognitive functioning, with mood being more adversely affected than cognitive performance. These findings established sleep loss as a major contributor to psychological dysfunction. Moreover, negative mood, uneven performance, low productivity, loss of various types of behavioral control, and diminished short-term memory and learning capacity are all linked to excessive sleepiness (National Institute of Health, 1997; National Sleep Foundation, 2000).

Sleep is just as essential to the rhythm of life as being awake. Nature is doing a balancing act. It is distinguished as a state of awareness by a diminished capacity for voluntary muscle contractions, thinking, and response to stimuli. Sleep is an essential and rejuvenating aspect of life. It is frequently devalued and dismissed as only a mental relaxation exercise. Nevertheless, this isn't true. It gives the mind a period of time to construct the neural pathways necessary for memory formation and learning (National Heart, Lung, and Blood Institute, 2005). Humans need adequate sleep in order to function properly and maintain a high quality of life. Sleep improves mood, boosts memory and cognitive performance, and strengthens the immune system.

Consequently, poor moods, impatience, and issues with memory, focus, and judgment are frequently associated with sleep deprivation. Sleep quality is a sign of both mental and physical

health. Modernization and globalization have raised awareness of sleep-related issues. According to laboratory research, getting too little sleep impairs performance (Taylor and McFatter, 2002), but getting enough sleep length improves learning and problem-solving skills (Wagner et al., 2004). Essentially, sleep is the brain's fuel, and getting too little sleep can have negative, even fatal, effects. When the brain is insatiably hungry for sleep, it will stop at nothing to fulfill its urge.

Durmer and Dinges (2005) reported that sleep deprivation disrupts attention, working memory, executive functioning, and emotional regulation. Their review highlighted that even moderate sleep loss can lead to slowed reaction times, reduced alertness, and impaired decision-making, emphasizing the role of sleep in maintaining cognitive efficiency. Banks and Dinges (2007) demonstrated that repeated partial sleep deprivation produces progressive neurobehavioral deficits, even when individuals subjectively believe they have adapted to reduced sleep. This finding is particularly relevant for young adults who often experience chronic sleep restriction due to academic and social demands.

According to a 2013 Centers for Disease Control and Prevention research, 70% of teenagers don't get enough sleep. Additionally, it has been shown that over 70% of youths experience chronic sleep deprivation, which causes serious public health problems because of the potential harm to their general health (Owens et al., 2014). The World Health Organization recommends that people between the ages of 18 and 35 get 7-8 hours of sleep every night. The overall SQ and amount of sleep, which are critical for both short-term and long-term physical and mental health, are influenced by an individual's sleep patterns, hygiene, attitude, and behavior. Young adults who don't get enough sleep may experience a number of negative effects, such as poor performance, increased stress sensitivity, a lower quality of life, physical discomfort, emotional distress, and mood disorders (Zhang et al., 2020).

According to the World Population Review (2021), 65% of Indians are under 35 years old. 47.1% of people, according to a recent study by Tanwar et al. (2021) , students at universities and other younger age groups have poorer sleep quality (SQ). Nevertheless, statistical information regarding the sleep health of Indian youth is scarce. As a result, psychological well-being, academic and professional success, and involvement in dangerous behaviors all decline. Sleep disturbance is influenced by a number of biological, psychological, and environmental factors. According to Hershner and Chervin (2014), in YAs. Even in the absence of illnesses that negatively

impact sleep, healthy people who don't get enough sleep function less well than they should. This emphasizes that in order to achieve optimal health, sleep of an appropriate length and quality is necessary (Waters & Bucks, 2011). Medic et al. (2017) reviewed short- and long-term health outcomes of sleep disruption and found strong links between sleep deprivation and increased stress reactivity, mood disturbances, and impaired emotional control. Similarly, Lowe et al. (2017) demonstrated that insufficient sleep heightens vulnerability to stress by impairing prefrontal regulation of emotional responses. The National Sleep Foundation (2020) and the World Health Organization (2023) emphasize that chronic insufficient sleep is linked to mental health problems, reduced quality of life, and impaired daily functioning. These reports reinforce the importance of adequate sleep for psychological resilience and stress regulation.

Perceived Stress

An actual or perceived threat to homeostasis can trigger stress, which is described as "a complex physiological state that embodies a range of integrative physiological and behavioral processes" (Selye, 1956). The concept of stress has been seen by many individuals. Therefore, the degree to which an observer perceives and evaluates an occurrence is related to the stress level.

Stress is a typical occurrence in people's lives and can be caused by a variety of physical, social, and environmental factors. Examples of common stressors include pressure, change, disagreement, and frustration. "Stress is the salt of life," as Hans Selye once said, meaning that while stress is a necessary component of existence, it can be harmful if it is allowed to get out of control. An individual's response to stress can affect its result. Stress can have an impact on people's psychological and physical health.

Ivancevich and Matteson (1980) distinguished four types of work stressors: individual level (a combination of role and career development variables), group level (mostly relationship-based), as well as at the organizational level (a combination of the physical environment, job design, climate, and work characteristics). Organizational Structure, Job Qualities, Physical Qualities, Relationships, Change and Role in the Organization, and Career Development are the seven kinds of work stressors in organizations that Schuler (1982) identified. Additionally, Quick and Quick (1984) defined three types of stressors: interpersonal, task, and physical demands.

Cooper (1985) found that there are six main factors that lead to job stress. Workplace connections, such as a lack of social support or disagreements with supervisors and coworkers; job-related problems, such as exposure to heat, noise, shift work, and chemical odors; and an individual's role within the business, including concerns like role ambiguity, are some examples. Other variables that affect career development include employment insecurity, a lack of a clear career path, limited prospects for progression, and lack of status. Stress can also be exacerbated by organizational culture and structure when workers feel they have little control over their work schedule, limited autonomy, or little say in how decisions are made.

According to Lazarus (1991), stress is a dynamic process and transaction that is always evolving based on the function of stress moderators and the shifting external financial and economic environment in many societies. The body of knowledge regarding stress and its impacts is growing in all directions. There are numerous theories regarding stress. The widely accepted definition of stress describes how people respond to demands and pressures from their surroundings, which might operate as stressors. "A condition or feeling that a person experiences when s/he perceives that the demands exceed the personal and social resources the individual is able to mobilize" is how Lazarus (1994) defined stress. Stress is an organizational function that has negative effects on the individual. Most people have a poor experience with stress. "Stress is a physical, chemical, or emotional factor that causes bodily or mental tension and may cause disease," according to Merriam Webster (1998). Threat is recognized by the brain as a typical response. When a threat is sensed, the human body releases chemicals that trigger the fight-or-flight response.

According to Michi (2002), stress is a physical and mental state that arises when an individual's resources are inadequate to meet the demands and pressures of the circumstance. As a result, stress may affect some people and circumstances more than others. It can be summed up as a state in which there is a discrepancy between the desired and actual states. An individual's thoughts or feelings regarding the level of stress they are experiencing at a certain moment or over a specific time period are known as perceived stress.

Schneiderman, Ironson, and Siegel (2005) provided strong evidence that perceived stress plays a central role in the development of stress-related health outcomes. Their review demonstrated that chronic perceived stress is associated with dysregulation of emotional, immune, and cardiovascular systems, suggesting that subjective stress appraisal has long-term consequences for

mental and physical health. A person is under pressure from all of the stressors until stress sets in. Stress, according to Hanson et al. (2006), is the body's general reaction to any demands placed upon it. We can conclude that stress is an adaptive reaction to an external circumstance that causes an individual or organization to exhibit psychological, physical, and behavioral abnormalities.

Nielsen et al. (2008) found that individuals with higher perceived stress levels were more likely to experience psychological distress, fatigue, and reduced well-being. The authors emphasized that perceived stress is a more reliable predictor of health outcomes than objective stress exposure.

Perceived stress includes sentiments about how unpredictable and uncontrollable life is, how frequently one must cope with bothersome inconveniences, how much change is happening in one's life, and confidence in one's capacity to handle challenges. A person's feelings about the overall stress of their life and their capacity to cope with it are measured, not the kinds or frequency of stressful events that have occurred to them (Cohen, 1983, as cited in The International Journal of Indian Psychology, 2021).

Bayram and Bilgel (2008) examined university students and reported that high perceived stress was strongly associated with depression, anxiety, and reduced life satisfaction. Their findings highlighted perceived stress as a key vulnerability factor during emerging adulthood. Abdulghani et al. (2011) investigated medical students and found that perceived stress significantly predicted psychological morbidity, including emotional exhaustion and depressive symptoms. The study underscored the importance of stress appraisal in academically demanding environments. Lee et al. (2013) demonstrated that perceived stress significantly impaired emotional regulation and coping effectiveness in young adults. Individuals with high stress perceptions were less likely to use adaptive coping strategies, increasing their vulnerability to psychological distress.

Slavich and Irwin (2014) proposed that perceived stress activates inflammatory responses through prolonged psychological threat appraisal. Their stress-disease framework highlighted how chronic perceived stress contributes to mental health disorders through biological pathways.

Chronic stress has been linked to a number of detrimental health outcomes, such as anxiety, melancholy, exhaustion, and cardiovascular problems, as well as family conflicts, decreased employee motivation and satisfaction (Bhui et al., 2012), as well as impair memory, learning capacity, judgment, and attentional control (Yaribeygi et al., 2017). Additionally, research shows

that software engineers have a range of problems, including psychological challenges, fatigue, exhaustion, and a lack of enthusiasm; these emotional concerns frequently affect how well a person's cognitive domain functions (Kozar & Vovk, 2020), which will have a negative effect on their performance. Mertens et al. (2020) reported that perceived stress significantly predicted anxiety, worry, and emotional instability during the COVID-19 pandemic. Their findings demonstrated the sensitivity of perceived stress to environmental unpredictability.

Relationship between Perceived Stress and Sleep Deprivation

Veeramachaneni et al. (2019) used week-long actigraphy and sleep diaries in U.S. college students. They found that students with greater night-to-night variability in objective sleep duration reported higher perceived stress, independent of insomnia diagnosis. Those with clinically diagnosed insomnia also reported more stress. Notably, consistency in sleep duration appeared protective: students without insomnia who had stable sleep lengths tended to have lower stress. In short, irregular sleep patterns (especially inconsistent total sleep time) were linked with higher stress in young adults.

Tan et al. (2022) investigated stress, sleep, and academic performance among international university students and found that perceived stress was negatively associated with sleep duration and sleep quality. Their findings suggested that heightened stress not only impairs sleep but also indirectly affects academic functioning, emphasizing the functional consequences of sleep deprivation in young adults.

Busa et al. (2023) examined health science undergraduates and found insomnia severity strongly correlated with perceived stress. Using the Athens Insomnia Scale, they observed that students with no insomnia had the lowest average Perceived Stress Scale scores (≈23.4), while those with severe insomnia had the highest stress (~39.8). ANOVA confirmed this gradient ($F=34.31$, $p=0.001$). Thus, students reporting more sleep disturbance also had significantly higher stress.

Huang et al. (2024) surveyed 8,178 Chinese college students and found that higher perceived stress was directly linked to poorer sleep quality. The study showed this link was mediated by a chain of reduced meaning in life and increased depression. Notably, students actively searching for meaning in life showed a buffering effect: higher stress had less negative impact on sleep quality

among those seeking purpose. In sum, stressed college students slept worse, but having a stronger sense of meaning mitigated this effect.

Benasi et al. (2024) performed two crossover trials in healthy adults (mean age ~36) to mimic mild chronic sleep deprivation. When participants reduced sleep by ~1.2 hours nightly (from 7.4h to 6.2h) for six weeks, their perceived stress increased significantly (mean stress 3.6 vs baseline, $p=0.0007$). Subjective anxiety also rose under sleep restriction ($p=0.039$). This shows that even modest sleep loss (common in young adults) can raise stress levels. The authors conclude that "mildly insufficient sleep… can lead to increased perceived stress" in healthy adults.

Zhang et al. (2024) surveyed 426 Chinese university students longitudinally and found stress had both direct and indirect effects on sleep quality. Higher stress scores predicted worse sleep directly, and also indirectly through mediators like rumination, social anxiety, and emotion-focused coping. For example, stress was linked to more rumination and smartphone dependence, each of which independently reduced sleep quality. Thus, stressful life events led to poorer sleep quality via several psychological pathways in young adults.

Lu et al. (2024) used a Chinese sample of college students and showed that perceived stress positively predicted insomnia symptoms. The effect of stress on insomnia was partially mediated by "Fear of Missing Out" (FOMO) and mobile phone dependence. That is, stressed students tended to have higher FOMO and smartphone overuse, which in turn contributed to worse insomnia symptoms. Environmental sensitivity also moderated these links. Overall, higher stress was linked with more insomnia, and this relationship involved FOMO and device use.

El Madani et al. (2024) surveyed Moroccan medical students and found a significant positive correlation between stress and poor sleep (PSQI) scores. Stressed students (higher PSS-10 scores) had higher PSQI (worse sleep): the correlation was $r=0.41$ ($p=0.01$). The authors noted that high stress "is a major contributor to poor sleep quality" in this group. In other words, students with higher perceived stress tended to report significantly poorer sleep.

Zakiei and Khazaie (2025) examined Iranian university students and found poorer sleep quality correlated with higher perceived stress. They reported a significant positive correlation between the total Pittsburgh Sleep Quality Index (PSQI) score (worse sleep) and Perceived Stress Scale score ($r\approx0.40$, $p<.001$). In regression models, lower subjective sleep quality predicted higher stress.

The authors conclude that sleep problems and stress reinforce each other in students. Thus, college students with more sleep disturbance tended to report higher stress.

Dong et al. (2025) demonstrated that perceived stress significantly mediated the association between loneliness and poor sleep quality among college students. Their findings indicated that psychological stress serves as a key pathway through which social and emotional factors disrupt sleep in young adults.

Garg and Singh (2025) examined first-year college students in India and found that higher perceived stress was moderately correlated with poorer sleep quality. The transition to college life emerged as a critical stress period during which sleep disturbances become more pronounced, highlighting developmental vulnerability in early adulthood.

A study published in the International Journal of Indian Psychology (2025) examining sleep deprivation among youth found that inadequate sleep significantly predicted higher perceived stress and reduced psychological adjustment. The findings supported the notion that sleep deprivation itself can act as a stress-amplifying factor.

Mudita (2025) conducted a correlational study among young adults and reported a significant positive relationship between perceived stress and sleep problems. Individuals with higher stress levels experienced shorter sleep duration and poorer sleep quality, further confirming the consistency of this association across non-clinical young adult populations.

Theoretical Framework: Lazarus and Folkman's Transactional Model of Stress and Coping

The present study is grounded in Lazarus and Folkman's Transactional Model of Stress and Coping, proposed by Richard S. Lazarus and Susan Folkman (1984). This model is one of the most influential psychological frameworks for understanding stress, as it conceptualizes stress not as a direct outcome of external events, but as a dynamic transaction between the individual and the environment.

Core Assumptions of the Theory

According to Lazarus and Folkman, stress arises from how individuals perceive, interpret, and respond to environmental demands. The theory emphasizes that:

- Stress is subjective, not objective.
- The same situation may be experienced as stressful by one person and not by another.
- Cognitive appraisal and coping processes determine whether stress will occur and how intense it will be.

Thus, stress is not inherent in the event itself but emerges from the individual's evaluation of the event and their perceived coping capacity.

Cognitive Appraisal Process in the Model

The model explains stress through two interrelated appraisal processes:

1. Primary Appraisal

Primary appraisal involves the individual's initial evaluation of a situation. During this stage, the person asks:

- *Is this situation harmful, threatening, challenging, or irrelevant to my well-being?*

Events may be appraised as:

- Harm/Loss (damage has already occurred),
- Threat (potential future harm),
- Challenge (opportunity for growth),
- Benign/Irrelevant (no impact on well-being).

If an event is appraised as threatening or harmful, it triggers psychological stress.

2. Secondary Appraisal

Secondary appraisal follows primary appraisal and involves evaluating available coping resources. Here, the individual considers:

- *Do I have the ability, resources, or support to manage this situation?*

Coping resources may include:

- Personal skills,

- Emotional resilience,
- Social support,
- Time, energy, and control over the situation.

Stress is most likely to occur when perceived demands exceed perceived coping resources.

Coping Strategies in the Model

Based on appraisal, individuals engage in coping efforts, broadly categorized into:

- Problem-focused coping: efforts to change or manage the stressor.
- Emotion-focused coping: efforts to regulate emotional responses to the stressor.

If coping strategies are perceived as ineffective or insufficient, stress tends to persist or intensify.

Relevance of the Transactional Model to the Present Study

The Transactional Model provides a strong theoretical foundation for examining the relationship between perceived stress and sleep deprivation among young adults, as it directly explains how psychological stress emerges and influences physiological and cognitive functioning.

In the context of young adults:

- Academic pressures, career uncertainty, interpersonal conflicts, and lifestyle demands are frequently appraised as threatening or overwhelming during primary appraisal.
- During secondary appraisal, many young adults may perceive limited coping resources, such as poor time management, inadequate emotional regulation, or lack of social support.

This imbalance leads to elevated perceived stress, even when external demands may be similar across individuals.

Lazarus and Folkman's Transactional Model of Stress and Coping

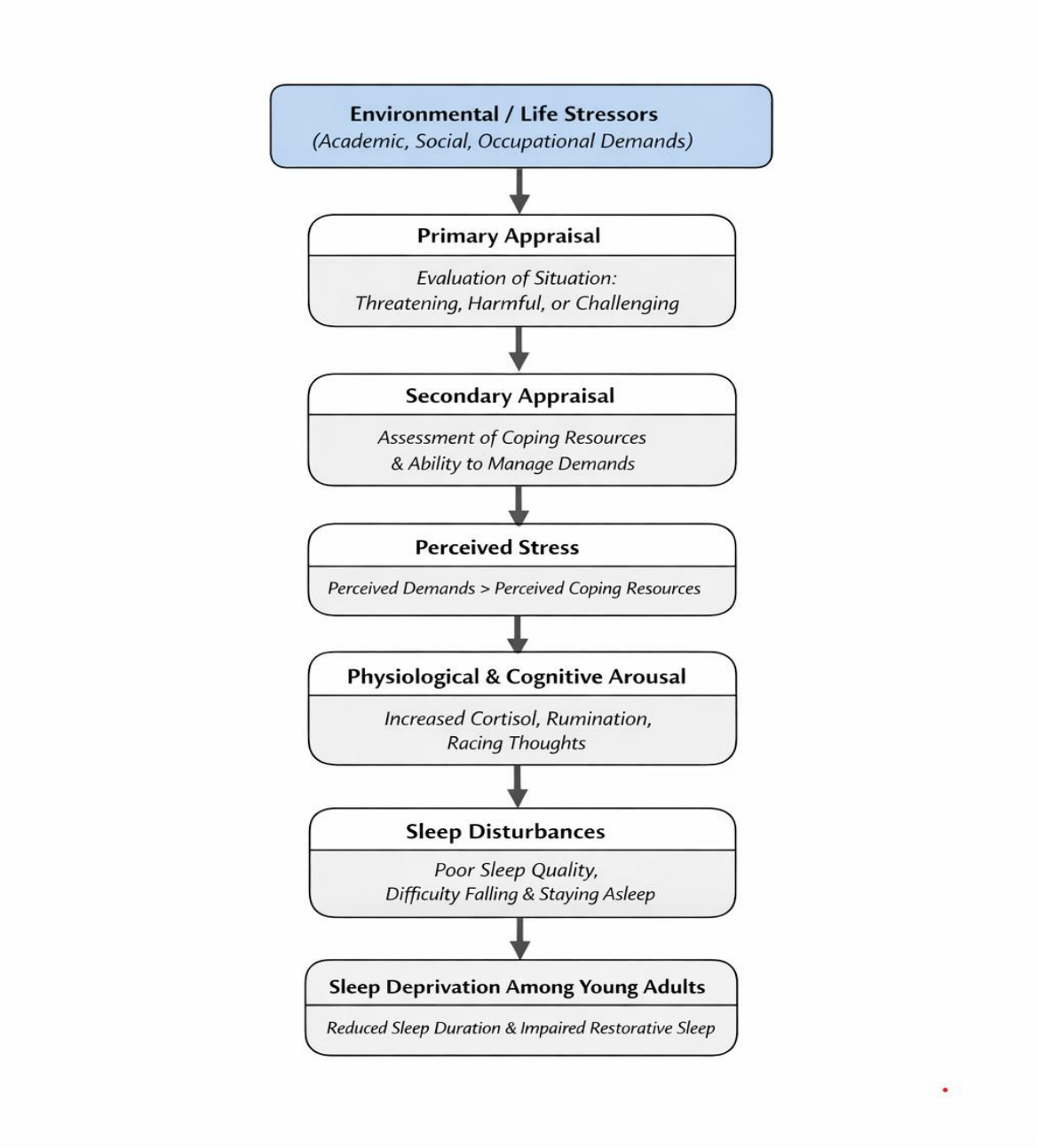


Figure 1.1: ***Lazarus and Folkman's Transactional Model of Stress and Coping***

Stress, Physiological Arousal, and Sleep Disturbance

According to the model, prolonged stress results in sustained physiological and cognitive activation, including:

- Increased cortisol secretion,
- Heightened autonomic nervous system activity,
- Cognitive hyperarousal (racing thoughts, worry, rumination).

These stress-related responses directly interfere with:

- Sleep initiation (difficulty falling asleep),
- Sleep maintenance (frequent awakenings),
- Overall sleep quality and duration.

Young adults experiencing high perceived stress may remain mentally and physiologically alert at night, making restorative sleep difficult and leading to sleep deprivation.

Application of the Model to the Study Variables within this framework:

- Perceived stress reflects the outcome of primary and secondary appraisal processes.
- Sleep deprivation represents a key psychological and physiological consequence of prolonged stress appraisal and ineffective coping.

The model explains why individuals with higher perceived stress are more vulnerable to sleep problems, even in the absence of objectively extreme stressors. Thus, it supports the central assumption of the study that perceived stress is significantly associated with sleep deprivation among young adults.

Objectives of the study:

- To assess the level of perceived stress among young adults.
- To assess the level of sleep deprivation among young adults.
- To examine the relationship between perceived stress and sleep deprivation among young adults.

Hypothesis:

(H_{01}): There is no significant level of perceived stress among young adults.

(H_{02}): There is no significant level of sleep deprivation among young adults.

(H_{03}): There is no significant relationship between perceived stress and sleep deprivation among young adults.

CHAPTER - II

Review of Literature

The Review of Literature (ROL) refers to a systematic, critical, and comprehensive examination of existing theoretical perspectives, empirical studies, and scholarly publications relevant to the present research topic. The Review serves to contextualize the study within the broader body of existing knowledge by identifying key concepts, variables, methodological approaches, and major findings related to the research problem. It helps in highlighting research trends, establishing theoretical foundations, and identifying gaps in the existing literature, thereby justifying the need for the present investigation. In the current study, the Review of Literature focuses on previous research examining perceived stress and sleep deprivation among young adults, providing a conceptual and empirical basis for the formulation of research objectives and hypotheses.

Chrousos (2009) presented a theoretical and physiological synthesis, drawing on experimental and clinical evidence. The framework explains how chronic stress activates the hypothalamic–pituitary–adrenal (HPA) axis and sympathetic nervous system, leading to disrupted sleep initiation and maintenance. The model highlights young adults as particularly vulnerable due to ongoing neurobiological development.

Altena et al. (2010) conducted an experimental fMRI study on young adults ($N \approx 14–20$) to examine the neurobiological effects of sleep deprivation on stress regulation. Neuroimaging analyses and self-report measures indicated reduced prefrontal cortex control and increased amygdala reactivity following sleep deprivation, which were associated with higher perceived stress levels. The findings provide biological evidence for the close relationship between sleep deprivation and perceived stress, supporting the relevance of the present study.

Lund et al. (2010) conducted a cross-sectional survey of 1,125 university students, using the PSQI and stress measures. Multiple regression analysis identified perceived stress as the strongest predictor of poor sleep quality. Approximately 60% of students reported poor sleep, with highly

stressed students demonstrating significantly higher PSQI scores, emphasizing stress as a major determinant of sleep deprivation in young adults.

Hershner and Chervin (2014) examined sleep deprivation and stress among college students using survey methodology. Descriptive statistics and correlational analysis demonstrated that students reporting high perceived stress were significantly more likely to experience chronic sleep deprivation and daytime sleepiness. The study emphasized stress as a major behavioural contributor to poor sleep in young adults.

Van Laethem et al. (2015) examined the association between perceived stress and sleep problems among young adult employees using standardized stress measures and sleep indices. The study employed Pearson correlation and hierarchical multiple regression analysis. Results indicated that higher perceived stress was significantly associated with poorer sleep quality and increased sleep complaints ($p < .01$). Regression findings demonstrated that perceived stress independently predicted sleep disturbances even after controlling for work demands, underscoring stress as a key contributor to sleep deprivation in young adults.

Pilcher et al. (2015) examined sleep deprivation and stress among college-aged young adults using self-report sleep measures and stress questionnaires. Correlation analysis and multivariate analysis of variance (MANOVA) revealed that individuals experiencing chronic sleep deprivation reported significantly higher perceived stress levels ($p < .01$). The findings highlighted a bidirectional relationship between stress and insufficient sleep in young adults.

Beiter et al. (2015) examined perceived stress and sleep difficulties among 374 university students in the United States. Using the Perceived Stress Scale (PSS) and sleep-related self-report measures, the study employed Pearson correlation and multiple regression analysis. Results indicated that higher perceived stress was significantly associated with poorer sleep quality and shorter sleep duration ($p < .001$). Regression findings showed stress to be one of the strongest predictors of sleep disturbances among young adults.

Orzech et al. (2016) examined the relationship between digital technology use, perceived stress, and sleep quality among college students ($N \approx 250–300$) using self-report questionnaires.

Descriptive statistics and correlational analyses revealed that approximately 89% of students used electronic devices within one hour of bedtime, which was significantly associated with higher perceived stress and poorer sleep quality. The study highlights technology-related behaviors as an important factor disrupting the stress–sleep regulation process in young adults, supporting the focus of the present study.

Almojali et al. (2017) conducted a cross-sectional study among medical students using the PSS and PSQI. The authors employed Pearson correlation and logistic regression analysis. Results showed that students with high perceived stress were significantly more likely to experience poor sleep quality (Odds Ratio = 2.6, $p < .001$). The study demonstrated that stress substantially increased the risk of sleep deprivation among young adults in academically demanding environments.

Richardson et al. (2017) explored perceived stress and sleep problems among first-year university students. Using Pearson correlation and logistic regression, the study found that students with higher stress levels had significantly greater odds of reporting insufficient sleep (OR > 2.0, $p < .01$), suggesting stress as a key risk factor for sleep deprivation during academic transition.

Peltzer and Pengpid (2017) conducted a multi-country study involving university students from low- and middle-income countries. Employing chi-square tests and multivariable logistic regression, the study found that higher perceived stress significantly increased the likelihood of short sleep duration and poor sleep quality ($p < .001$), demonstrating cross-cultural consistency of the stress–sleep relationship.

Fawzy and Hamed (2017) studied stress and sleep quality among medical students using PSS and PSQI. Independent *t*-tests and Pearson correlation analysis showed that students with high stress had significantly poorer sleep quality ($p < .001$). Stress levels were strongly correlated with PSQI scores, reinforcing the stress–sleep association in academically demanding young adult populations.

Garett et al. (2018) studied 308 college students to examine relationships among smartphone use, stress, and sleep quality. Using Pearson correlation and mediation analysis, the study found that poor sleep quality was significantly associated with higher perceived stress ($r = .42$, $p < .001$). Excessive smartphone use before bedtime significantly mediated the stress–sleep relationship, suggesting that technology use intensifies stress-related sleep disturbances in young adults.

Amaral et al. (2018) assessed 1,074 Portuguese university students using Structural Equation Modeling (SEM) to examine relationships among perceived stress, depression, and sleep deprivation. The results indicated that perceived stress served as a key mediating variable between depressive symptoms and poor sleep quality. Students experiencing chronic sleep deprivation had a 2.3-fold increased risk of depression, highlighting the central role of stress in sleep-related mental health outcomes among young adults.

Dinis and Bragança (2018) examined perceived stress and sleep quality among university students in Portugal using the Perceived Stress Scale (PSS) and the Pittsburgh Sleep Quality Index (PSQI). Pearson correlation analysis revealed a significant positive association between perceived stress and poor sleep quality ($r = .48$, $p < .001$). Further, multiple regression analysis indicated that perceived stress significantly predicted sleep disturbances even after controlling for anxiety and depression, highlighting stress as an independent contributor to sleep deprivation among young adults.

Jiang et al. (2018) studied Chinese undergraduate students to explore associations between perceived stress and sleep quality. Pearson correlation analysis revealed a significant positive relationship between perceived stress and PSQI scores ($r = .46$, $p < .001$). Further, hierarchical regression analysis confirmed perceived stress as an independent predictor of sleep deprivation after controlling for anxiety and depressive symptoms.

Kalmbach et al. (2018) explored stress-related sleep reactivity among young adults using experimental and survey designs. Regression and moderation analyses showed that individuals with higher perceived stress were more vulnerable to stress-induced sleep disturbances, supporting a bidirectional stress–sleep vulnerability model.

Park and Lee (2019) investigated stress and sleep quality among South Korean university students using the Perceived Stress Scale (PSS) and PSQI. Pearson correlation analysis revealed a significant positive relationship between perceived stress and poor sleep quality ($r \approx .49$, $p < .001$). Further, multiple regression analysis confirmed perceived stress as a significant predictor of sleep deprivation after adjusting for academic workload and lifestyle variables.

Maheshwari and Shaukat (2019) investigated stress and sleep quality among Indian undergraduate students using the PSS-10 and PSQI. Independent sample *t*-tests and Pearson correlation analysis showed that students with high perceived stress reported significantly poorer sleep quality compared to low-stress peers ($p < .01$). The correlation between perceived stress and PSQI scores was moderate to strong ($r \approx .52$), indicating a substantial association between stress and sleep deprivation in Indian young adults.

Taylor et al. (2019) investigated stress and sleep patterns in emerging adults aged 18–25 years. Using actigraphy-based sleep assessment and perceived stress questionnaires, the authors applied linear regression models. Findings showed that higher perceived stress significantly predicted reduced sleep efficiency and increased sleep latency ($p < .01$), highlighting both subjective and objective effects of stress on sleep.

Zhang et al. (2020) examined perceived stress and sleep problems among Chinese university students during periods of academic pressure. Using structural equation modeling (SEM), the study demonstrated that perceived stress exerted a significant direct effect on sleep quality and an indirect effect via anxiety, indicating complex pathways linking stress to sleep deprivation.

Scott et al. (2021) analyzed sleep and stress patterns in emerging adults aged 18–25 years using longitudinal data. Mixed-effects regression models revealed that increases in perceived stress over time were significantly associated with reductions in sleep duration and sleep efficiency ($p < .001$). The longitudinal design strengthened causal inference, suggesting that rising stress levels contribute to progressive sleep deprivation during young adulthood.

Rao (2022) used the Pittsburgh Sleep Quality Index (PSQI) and the felt Stress Scale (PSS-14) to examine the association between felt stress and sleep quality among 195 first-year Indian medical students, ages 18 to 20. According to the study, there is significant psychological vulnerability in this population due to the high incidence of both poor sleep quality (78% of participants scored ≥5 on the PSQI) and excessive perceived stress levels (64% scoring above 28 on the PSS). Five of the seven PSQI components showed a significant positive correlation between perceived stress and poorer sleep quality, according to statistical analysis. This suggests that higher stress is systematically associated to numerous dimensions of sleep disturbance rather than isolated sleep difficulties. Participant characteristics were summarized using descriptive statistics, and the strength and direction of the association between felt stress and sleep quality were examined using Pearson's product-moment correlation coefficient.

Shelar et al. (2022) assessed the relationship between perceived stress and sleep quality in a cross-sectional sample of 200 adults from the Mumbai region representing varied age groups. The findings revealed relatively high mean scores on both the Pittsburgh Sleep Quality Index (PSQI ≈ 10.3) and the Perceived Stress Scale (PSS ≈ 21.4), reflecting a notable prevalence of sleep disturbance and perceived stress within the sample. Statistical analysis indicated a significant positive correlation between PSQI and PSS scores, suggesting that increasing levels of perceived stress were associated with poorer sleep quality. Pearson's product-moment correlation coefficient was utilized to investigate the relationship between stress and sleep quality, and descriptive statistics were utilized to characterize sample characteristics.

Mukherjee et al. (2022) investigated the relationship between perceived stress and sleep deprivation among employees of a government medical college in Eastern India, representing a predominantly young adult working population. Perceived stress and sleep quality were assessed using the Perceived Stress Scale (PSS) and the Pittsburgh Sleep Quality Index (PSQI), respectively. Independent sample *t*-tests were employed to examine group differences, while Pearson's product–moment correlation analysis was used to assess the association between perceived stress and sleep quality. The findings revealed a very strong positive correlation between perceived stress and poor sleep quality in both health professionals (r = .963) and non-medical employees (r = .959), indicating that higher stress levels were closely associated with greater sleep

deprivation. These results provide robust empirical evidence supporting a significant relationship between perceived stress and sleep disturbances among young adults.

Mao et al. (2023) conducted a systematic review synthesizing evidence from 38 studies published between 2011 and 2022 across multiple occupational groups, including young adults. The review primarily included studies employing correlation analyses, regression models, and multivariate analyses, with sleep commonly assessed using the Pittsburgh Sleep Quality Index (PSQI) and stress measured through scales such as the Perceived Stress Scale (PSS). Across studies, a consistent negative association was observed between job-related stress and sleep quality, indicating that higher stress levels were reliably associated with poorer sleep outcomes, although effect sizes varied by occupation.

Huang et al. (2024) examined 8,178 Chinese college students (mean age ≈ 19 years) using the PSS and PSQI. The study employed Pearson correlation analysis and multivariable regression models, controlling for depression and other covariates. Results demonstrated that perceived stress was a significant predictor of poor sleep quality, with students in the highest stress quartile reporting substantially worse PSQI scores than those in the lowest quartile. The findings highlight a robust stress–sleep relationship among young adults even after adjusting for confounding factors.

Busa (2024) surveyed 304 Hungarian health-science undergraduates (mean age ≈23) using the PSS and Athens Insomnia Scale (AIS). They found that higher insomnia severity (AIS) corresponded to significantly higher perceived stress. Students with severe insomnia (AIS ≥16) had mean PSS ≈34, compared to ≈23 for those with no insomnia (AIS < 6). ANOVA results were highly significant ($p = .001$), demonstrating strong stress–sleep associations.

Rayapureddy and Benerji (2025) conducted a cross-sectional study on 123 private medical practitioners in South India using the PSS-10 and PSQI. Analysis using Pearson's correlation and regression showed that 69.1% had moderate stress and 70.7% reported poor sleep quality, with a strong positive correlation between perceived stress and sleep quality ($r = 0.61$, $p < .001$). The findings confirm perceived stress as a significant predictor of poor sleep, supporting the stress–sleep association relevant to the present study.

Studies among Indian nursing staff and Chinese hospital workers during COVID-19 employed chi-square tests, correlation analyses, and regression models to examine stress–sleep associations. Findings consistently indicated that higher workplace stress (measured using PSS) was significantly associated with poorer sleep quality. Across these samples, younger professionals experiencing elevated stress reported greater sleep deprivation, underscoring occupational stress as a critical risk factor for disturbed sleep.

Suman et al. (2025) examined perceived stress and sleep quality among young adults using Pearson's correlation analysis. The study reported a strong positive association between higher stress levels and poorer sleep quality, reinforcing existing evidence of the stress–sleep relationship in non-clinical young adult populations, despite limitations related to sample size.

Gap of the Study:

Numerous studies have found a strong correlation between sleep deprivation and felt stress in medical trainees and college students. However, the majority of these studies only look at particular subgroups and cannot be applied to the larger Indian young adult population. Additionally, a large number of research concentrate on the quality of sleep rather than measuring the length of sleep deprivation. There is a dearth of comprehensive studies that look at young adults (18–26 years old), encompassing both students and working professionals, and their perceptions of stress and sleep deprivation using validated instruments like PSS and PSQI.

SIGNIFICANCE OF THE STUDY:

This study will focus on young adults aged 18 to 26 years residing in India. It includes both college students and working professionals to ensure a diverse representation of this age group. The study will use standardized tools—the Perceived Stress Scale (PSS-10) and Pittsburgh Sleep Quality Index (PSQI)—to measure perceived stress and sleep deprivation, respectively. Data will be collected through simple random sampling, and findings will be used to identify associations between stress levels and sleep duration or quality in this population.

CHAPTER – III

Research Methodology

This chapter outlines the methodological framework adopted to investigate the relationship between perceived stress and sleep deprivation among young adults. It describes the research design, sample characteristics, sampling technique, tools used for data collection, and the statistical procedures employed for data analysis. The methodology has been carefully selected to ensure systematic data collection, reliability of measurement, and validity of findings. By employing standardized psychological instruments and appropriate statistical techniques, the present study aims to empirically examine the association between perceived stress and sleep deprivation, thereby addressing the stated research objectives and hypotheses.

Research Design

The present study adopts a quantitative method and cross-sectional, correlational research design. This design is appropriate as it enables the researcher to examine the nature and direction of the relationship between perceived stress and sleep deprivation at a single point in time without manipulating any variables. The correlational approach facilitates an objective assessment of the association between the selected psychological constructs in a natural setting.

Population

The target population for the present study comprises young adults between age-range 18–26 years. This age group represents a critical developmental period marked by academic, occupational, and psychosocial transitions, making individuals particularly vulnerable to stress and sleep-related difficulties.

Sample Size

The sample for the present study consists of N=150 participants. The sample size was considered adequate for correlational analysis and to ensure sufficient statistical power.

Sampling Technique

The study employs a probability sampling in which the simple random technique will be used.

Rationale for Simple Random Sampling

- It provides equal chance of selection to all participants in the population.

- It helps in reducing selection bias and increases objectivity.
- It ensures a representative sample, enhancing generalizability of results.
- It is appropriate for quantitative correlational research.

Inclusion Criteria

- College students and working professional from the age range 18 years to 26 years.
- Willing to participate voluntarily and provide informed consent.
- Able to read and understand the language of the questionnaire.

Exclusion Criteria

- Students who decline participation or submit incomplete questionnaires.
- Students below 18 years or above 26 years will be excluded from the study.

Research Instruments

The following standardized tools were used for data collection:

1. Perceived Stress Scale (PSS-10)

The Perceived Stress Scale–10 (PSS-10) developed by Cohen, Kamarck, and Mermelstein (1983) is a self-report measure assessing the extent to which individuals perceive their lives as stressful during the past one month. It consists of 10 items rated on a 5-point Likert scale from 0 (Never) to 4 (Very Often), with four positively worded items reverse scored, yielding total scores from 0 to 40. The scale has demonstrated good internal consistency with Cronbach's alpha values ranging from 0.78 to 0.91 and shows strong construct and convergent validity.

2. Pittsburgh Sleep Quality Index (PSQI)

The Pittsburgh Sleep Quality Index (PSQI) developed by Buysse et al. (1989) is a standardized self-report instrument used to assess subjective sleep quality and sleep disturbances over a one-month period. It comprises 19 self-rated items that generate seven component scores, which are summed to obtain a global score ranging from 0 to 21, with scores greater than 5 indicating poor

sleep quality. The PSQI has demonstrated good reliability, with a reported Cronbach's alpha of approximately 0.83, and exhibits strong criterion and construct validity, effectively distinguishing between good and poor sleepers and showing significant associations with perceived stress and psychological distress in both clinical and non-clinical populations.

Data Collection Procedure

Data were collected through online modes. Participants were approached through educational institutions and social media platforms. After explaining the purpose of the study, informed consent was obtained. Participants were instructed to respond honestly to all items. Confidentiality and anonymity were ensured throughout the data collection process.

Statistical Analysis

The collected data were analyzed using SPSS (Statistical Package for the Social Sciences). Descriptive statistics such as mean, standard deviation, and frequency were used to summarize the data. Pearson's Product Moment Correlation was employed to examine the relationship between perceived stress and sleep deprivation. The level of significance was set at 0.05.

Flowchart of Methodology

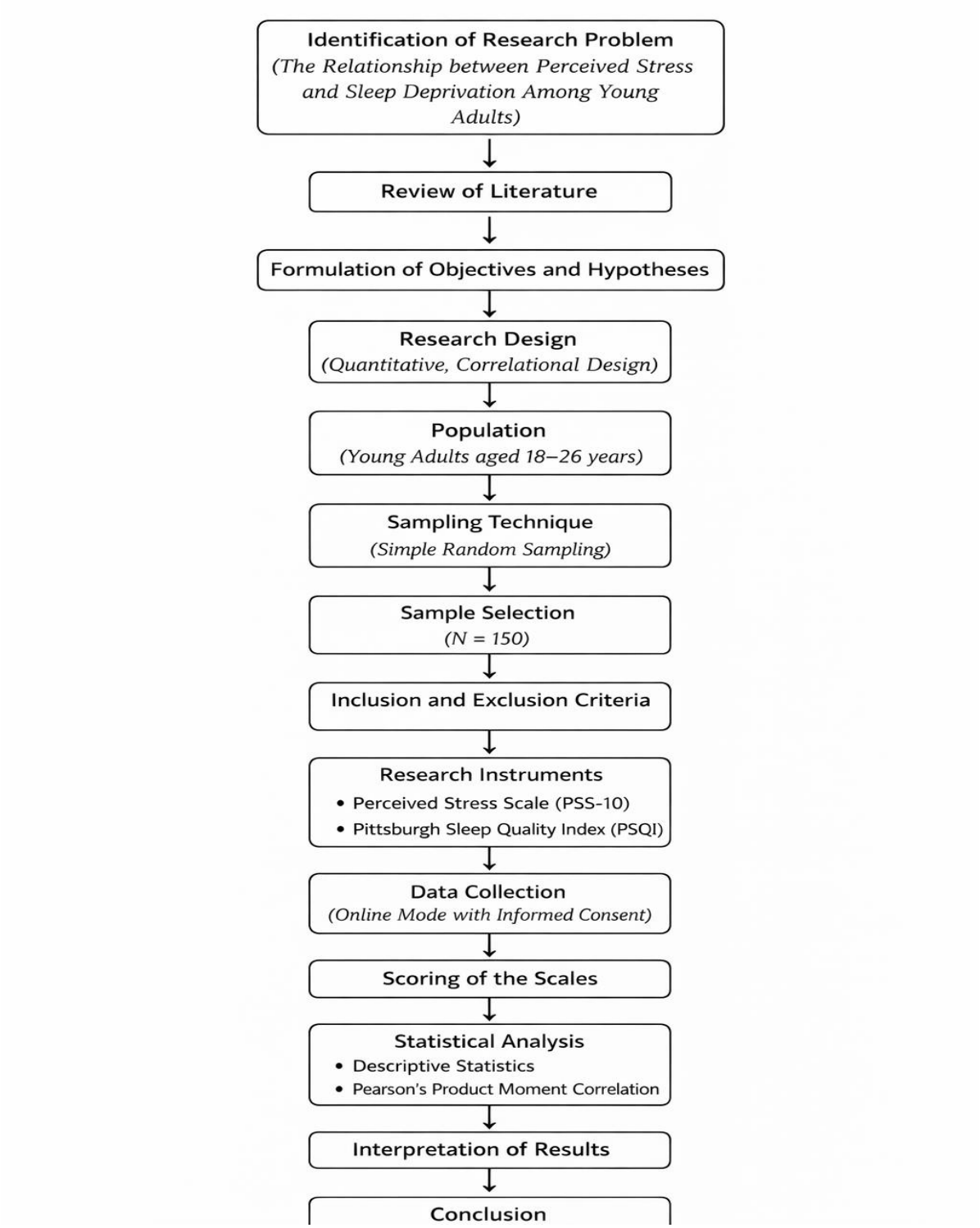


Figure 3.1: ***Flowchart of Methodology***

Chapter IV

Results

4.1 Introduction

The present study examined the relationship between perceived stress and sleep deprivation among young adults aged 18 to 26 years residing in India. A sample of 196 participants completed two standardized self-report measures: the Perceived Stress Scale–10 (PSS-10), which assessed subjective levels of perceived stress, and the Pittsburgh Sleep Quality Index (PSQI), which evaluated sleep quality across seven component domains yielding a global sleep score ranging from 0 to 21. A PSS-10 score of 0–13 indicates low stress, 14–26 indicates moderate stress, and 27–40 indicates high perceived stress. A PSQI global score greater than 5 is indicative of poor sleep quality. Statistical analyses were performed using IBM SPSS Statistics (Version 27). The results are organised into four subsections, namely, descriptive statistics, frequency distributions and categorical classifications, correlation analysis, and a summary of findings.

4.2 Descriptive Statistics

Descriptive statistics including means, standard deviations, minimum and maximum values were computed for the PSS-10 total score and all seven PSQI component scores, as well as the PSQI global score. These are presented in Table 1.

Table 1

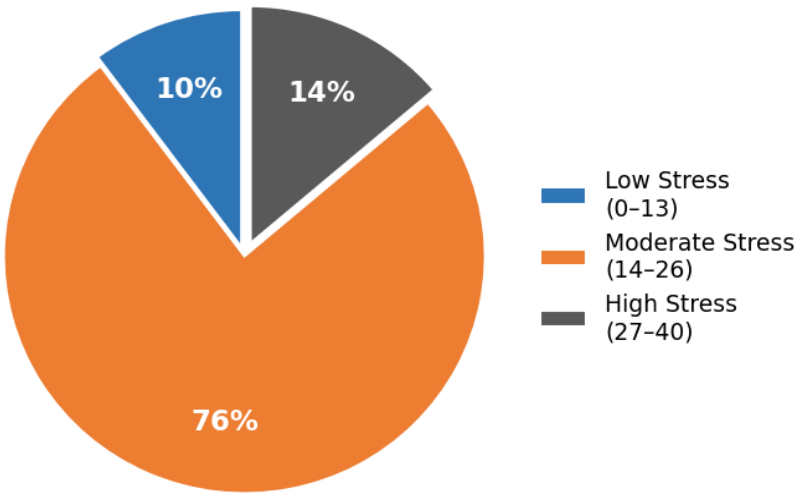
Descriptive Statistics for PSS-10 and PSQI Variables (N = 196)

Variable	N	M	SD
PSS-10 Total (Perceived Stress)	196	20.52	5.535
PSQI Global Score (Sleep Quality)	196	7.51	3.535
C1 – Subjective Sleep Quality	196	1.05	.692
C2 – Sleep Latency	196	1.17	.811
C3 – Sleep Duration	196	.77	.904
C4 – Habitual Sleep Efficiency	196	1.24	1.336
C5 – Sleep Disturbances	196	1.35	.658
C6 – Use of Sleep Medication	196	.38	.817
C7 – Daytime Dysfunction	196	1.55	.799

As illustrated in Table 1, the mean PSS-10 Total Score was 20.52 (SD = 5.535), indicating that, on average, participants reported moderate levels of perceived stress. The mean PSQI Global Score was 7.51 (SD = 3.535), which exceeds the established clinical cutoff of 5, confirming widespread poor sleep quality in the sample. Among PSQI components, Daytime Dysfunction recorded the highest mean score (M = 1.55, SD = 0.799), followed by Sleep Disturbances (M = 1.35, SD = 0.658) and Habitual Sleep Efficiency (M = 1.24, SD = 1.336). Use of Sleep Medication was the least affected component (M = 0.38, SD = 0.817).

Figure 1.

PSS-10 stress category distribution of participants.



The descriptive statistics showed that 76.0% of participants reported moderate perceived stress, 13.8% reported high stress, and only 10.2% reported low stress, as illustrated in Figure 1. These findings indicate that perceived stress is a pervasive concern in this young adult population, consistent with previous literature on Indian college students and working professionals (Maheshwari & Shaukat, 2019; Garg & Singh, 2025).

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Figure 2.

Distribution of PSS-10 scores among young adults.

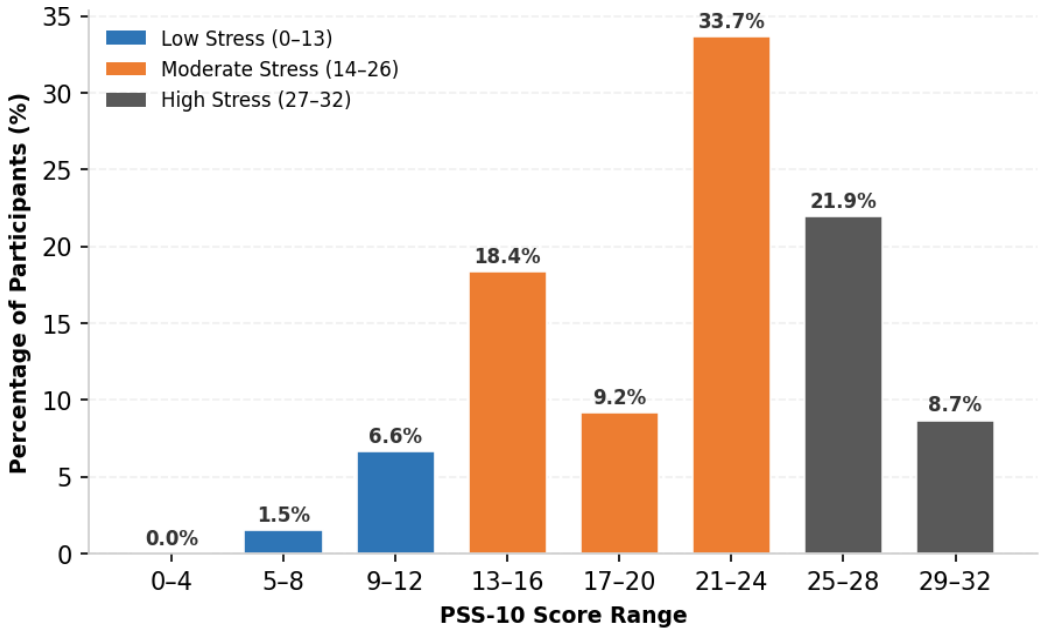
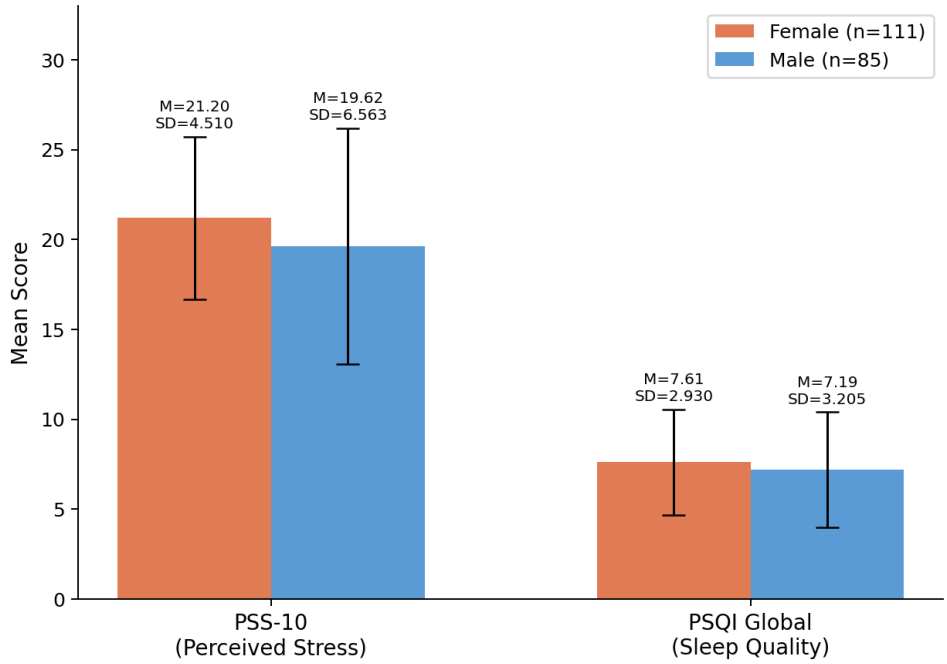


Figure 2 presents the distribution of PSS-10 scores across grouped score ranges. The distribution indicates a concentration of scores in the 17–24 range, consistent with the sample mean of 20.52. The majority of scores fell in the moderate stress band (14–26), with comparatively fewer participants at the extreme ends of the scale. This approximately normal distribution supports the representativeness of the sample.

Figure 3.

Mean scores on PSS-10 and PSQI global score with standard deviations.



As shown in Figure 3, the mean PSS-10 score was higher among females (M = 21.20, SD = 4.51) compared to males (M = 19.62, SD = 6.56), indicating that female participants reported slightly higher levels of perceived stress on average. Similarly, the mean PSQI Global Score was marginally higher in females (M = 7.61, SD = 2.93) than in males (M = 7.19, SD = 3.21). Both values exceed the clinical cutoff of 5 for poor sleep quality, confirming widespread sleep impairment across genders. The error bars reflect the respective standard deviations, indicating somewhat greater variability in stress scores among male participants.

Figure 4.

Mean scores across PSQI components by gender with standard deviations.

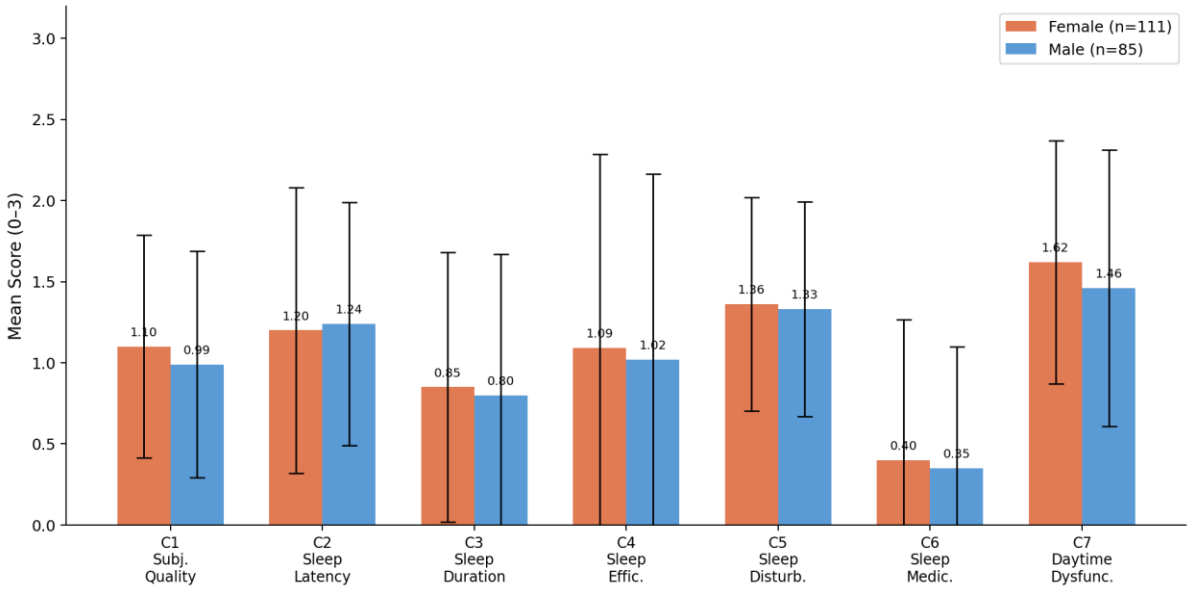


Figure 4 illustrates the mean scores across all seven PSQI components separately for males and females. Daytime Dysfunction (C7) emerged as the most prominently affected domain in both groups, with females recording a slightly higher mean (M = 1.62, SD = 0.75) compared to males (M = 1.46, SD = 0.85). Sleep Disturbances (C5) were similarly elevated in both genders (Female: M = 1.36, SD = 0.66; Male: M = 1.33, SD = 0.66). Habitual Sleep Efficiency (C4) and Sleep Latency (C2) also showed comparable scores across groups. Use of Sleep Medication (C6) recorded the lowest mean in both females (M = 0.40, SD = 0.87) and males (M = 0.35, SD = 0.75), indicating that pharmacological intervention for sleep was uncommon across the sample. Overall, the pattern suggests that the primary burden of sleep impairment was functional and disturbance-related rather than pharmacological in nature for both genders.

Table 3

Distribution of Participants by PSQI Sleep Quality Category (N = 196)

Sleep Category	PSQI Score Range	f	%	Cumulative %
Good Sleeper	0 – 5	66	33.7	33.7
Mild Poor Sleep	6 – 10	90	45.9	79.6
Moderate Poor Sleep	11 – 15	36	18.4	98.0
Severe Poor Sleep	≥ 16	4	2.0	100.0
Total		**196**	**100.0**	

As illustrated in Table 3, only 33.7% (n = 66) of participants were classified as Good Sleepers. The largest group was Mild Poor Sleep (45.9%, n = 90), followed by Moderate Poor Sleep (18.4%, n = 36) and Severe Poor Sleep (2.0%, n = 4). In total, 66.3% of participants obtained PSQI scores above the clinical cutoff of 5, indicating widespread sleep impairment in this sample

Figure 5.

PSQI sleep quality category distribution of participant.

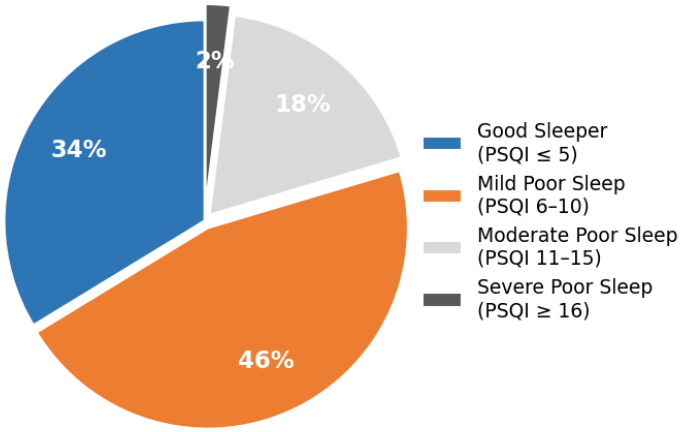


Figure 5 illustrates the proportional distribution of sleep quality categories in the sample. The dominance of the Mild Poor Sleep category (46%) and the combined rate of poor sleep (66.3%) reinforce the conclusion that sleep deprivation is a significant and widespread concern among young adults in India, as has been documented in prior Indian studies (Rao, 2022; Shelar et al., 2022; Mukherjee et al., 2022).

Table 4

Frequency Distribution of Scores across PSQI Components (N = 196)

PSQI Component	Score 0 f (%)	Score 1 f (%)	Score 2 f (%)	Score 3 f (%)	N
C1 – Subjective Sleep Quality	34 (17.3)	126 (64.3)	28 (14.3)	8 (4.1)	196
C2 – Sleep Latency	40 (20.4)	92 (46.9)	54 (27.6)	10 (5.1)	196
C3 – Sleep Duration	94 (48.0)	68 (34.7)	20 (10.2)	14 (7.1)	196
C4 – Habitual Sleep Efficiency	90 (45.9)	34 (17.3)	6 (3.1)	66 (33.7)	196
C5 – Sleep Disturbances	14 (7.1)	106 (54.1)	70 (35.7)	6 (3.1)	196
C6 – Use of Sleep Medication	158 (80.6)	8 (4.1)	24 (12.2)	6 (3.1)	196
C7 – Daytime Dysfunction	16 (8.2)	78 (39.8)	80 (40.8)	22 (11.2)	196

Table 4 presents the frequency distribution across all seven PSQI components. Notably, 92.9% of participants reported at least mild Sleep Disturbances (C5), and 91.8% experienced at least mild Daytime Dysfunction (C7), making these the most pervasively affected sleep domains. Habitual Sleep Efficiency (C4) showed the most bimodal distribution, with 45.9% scoring at 0 (adequate efficiency) and 33.7% scoring at 3 (severely low efficiency, < 65%). Use of Sleep Medication was the least affected component, with 80.6% reporting no medication use.

4.4 Correlation Analysis

Pearson product-moment correlation coefficients were computed among PSS-10 Total Score, PSQI Global Score, and all seven PSQI component scores to examine the interrelationships among perceived stress and the dimensions of sleep deprivation. The significance level was set at $p < .05$ (two-tailed). Results are presented in Table 5.

Table 5

Pearson Correlations among PSS-10 Total, PSQI Global, and PSQI Components (N = 196)

Variable	1	2	3	4	5	6	7	8	9
1. PSS-10 Total	—								
2. PSQI Global	.405**	—							
3. C1 Subj. Quality	.401**	.660**	—						
4. C2 Sleep Latency	.265**	.603**	.441**	—					
5. C3 Sleep Duration	.132	.545**	.282**	.140	—				
6. C4 Sleep Efficiency	−.012	.577**	.142*	.103	.337**	—			
7. C5 Sleep Disturb.	.296**	.633**	.411**	.425**	.138	.195**	—		
8. C6 Sleep Medic.	.194**	.444**	.165*	.102	.065	−.001	.309**	—	

9. C7 Daytime Dysfunction	.607**	.684**	.542**	.485**	.152*	.113	.395**	.371**	—

As presented in Table 5 the PSS-10 Total Score demonstrated a statistically significant positive correlation with PSQI Global Score ($r = .405$, $p < .001$), indicating that higher levels of perceived stress were associated with poorer overall sleep quality. This finding provides direct empirical support for the central hypothesis of the study, that perceived stress and sleep deprivation are significantly related among young adults.

Among the individual PSQI components, PSS-10 showed the strongest association with C7 – Daytime Dysfunction ($r = .607$, $p < .001$), suggesting that perceived stress most acutely manifests as functional daytime impairment. A moderate positive correlation was also found between PSS-10 and C1 – Subjective Sleep Quality ($r = .401$, $p < .001$), indicating that individuals with higher stress levels tend to rate their sleep quality more poorly. C2 – Sleep Latency ($r = .265$, $p < .001$) and C5 – Sleep Disturbances ($r = .296$, $p < .001$) also showed significant positive associations with PSS-10, while C6 – Use of Sleep Medication ($r = .194$, $p < .01$) was weakly but significantly correlated. In contrast, C3 – Sleep Duration ($r = .132$, $p = .065$) and C4 – Habitual Sleep Efficiency ($r = -.012$, $p = .864$) did not show significant associations with perceived stress, suggesting that the stress–sleep relationship in this sample was primarily expressed through subjective perception and functional outcomes rather than through objective sleep parameters as shown in Table 5.

4.5 Conclusion

The present study set out to examine the levels of perceived stress and sleep deprivation, and the nature of their relationship, among 196 young adults in India. The results reveal a consistent and

coherent pattern across all analyses. The majority of participants (89.8%) reported moderate to high levels of perceived stress on the PSS-10, with a mean score of 20.52 reflecting widespread psychological stress in this population. Simultaneously, 66.3% of participants were classified as poor sleepers based on PSQI global scores exceeding the clinical cutoff of 5, with Daytime Dysfunction and Sleep Disturbances emerging as the most severely affected sleep domains. Correlation analyses confirmed a significant positive relationship between PSS-10 Total Score and PSQI Global Score ($r = .405$, $p < .001$), with perceived stress most strongly predicting daytime dysfunction ($r = .607$) and subjective sleep quality ($r = .401$). These findings provide robust empirical support for the theoretical framework of the study, specifically the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984), wherein chronic perceived stress disrupts sleep initiation, maintenance, and daytime functioning through sustained physiological and cognitive hyperarousal. Taken together, the results underscore the need for targeted psychological and psychoeducational interventions addressing both stress management and sleep hygiene among young adults in India.

Chapter V

Discussion

This chapter discusses the findings of a study examining the relationship between perceived stress and sleep quality among 196 young adults aged 18–26 years in India, who completed the Perceived Stress Scale–10 (PSS-10) and the Pittsburgh Sleep Quality Index (PSQI). The results were striking: nearly nine in ten participants reported moderate to high perceived stress, and two in three exceeded the clinical threshold for poor sleep quality — confirming that the way young adults experience stress is significantly linked to how poorly they sleep. Yet numbers alone do not tell the full story. The sections that follow give these findings meaning by grounding them in theoretical frameworks, examining the stress and sleep profiles of the sample, unpacking the pattern of correlations across PSQI components, addressing gender differences, and reflecting on limitations, practical implications, and directions for future research.

To make sense of why perceived stress and poor sleep so consistently travel together, it helps to begin not with data but with theory with the mechanistic accounts that explain what is actually happening inside a person when stress begins to erode the quality of their rest.

The first framework is the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984), which locates stress not in the environment but in the person's appraisal of it — specifically, the perception that demands exceed the resources available to meet them. This model shifted the understanding of stress from something that happens to people to something that is actively constructed through subjective evaluation. The PSS-10 was designed precisely to capture this appraisal-based experience, measuring not the presence of objective stressors but how overwhelmed, unpredictable, and uncontrollable life has felt over the past month. A high PSS-10 score, in this sense, is a direct window into a person's ongoing sense of being outpaced by their circumstances. When this appraisal tips toward overwhelm, the body responds in ways that are physiologically incompatible with sleep: the HPA axis activates and releases cortisol, the sympathetic nervous system shifts into heightened arousal, and the body enters a state of sustained readiness that is the biological opposite of the disengagement sleep requires. Sleep needs the body to slow down, cool down, and let go and a system primed for threat cannot easily do any of those things (McEwen, 2007).

The second framework is the Hyperarousal Model of Insomnia (Espie, 2002; Perlis et al., 1997), which identifies the specific cognitive and physiological mechanism through which stress most

directly disrupts sleep. The model proposes that individuals under sustained stress enter a state of chronic overactivation that persists into the night, the mind remains busy and vigilant at bedtime, ruminative thoughts circle without resolution, and the nervous system stays primed rather than settling. Sleep onset requires a kind of passive surrender, a willingness to disengage from mental activity and allow the brain to transition into its slower, restorative rhythms. Hyperarousal makes that surrender genuinely difficult. The person lies in bed rehearsing tomorrow's challenges, replaying today's frustrations, or monitoring their own inability to fall asleep with mounting anxiety, all of which sustains wakefulness rather than resolving it. This model is particularly useful for interpreting the present findings, because it predicts precisely the pattern that emerged in the data: stress disrupting the subjective quality and daytime consequences of sleep, rather than its raw duration.

This model is particularly illuminating when it comes to one of the present study's most theoretically interesting findings: perceived stress was most strongly associated with daytime dysfunction ($r = .607$) and subjective sleep quality ($r = .401$), while showing no significant relationship with sleep duration ($r = .132$, $p = .065$) or habitual sleep efficiency ($r = -.012$, $p = .864$). This is precisely the signature of hyperarousal-driven sleep disruption, a person may spend the usual amount of time asleep, but the sleep they obtain is lighter, more fragmented, and less restorative, leaving them depleted and struggling to function the following day. Stress, in other words, does not simply steal hours of sleep; it degrades the quality and recuperative value of the sleep that does occur.

Together, these two frameworks provide a coherent and complementary account of the present results: the Transactional Model explains the macro-level appraisal process and its physiological consequences, while the Hyperarousal Model explains the specific cognitive and arousal mechanisms through which those consequences play out at bedtime and together, they make sense of a pattern in which stress impairs the experience and functional aftermath of sleep without necessarily reducing its measurable duration.

The stress findings of the present study paint a picture that is both striking and, on reflection, unsurprising. Nearly nine in ten participants (89.8%) reported moderate to high levels of perceived stress, with a mean PSS-10 score of 20.52, comfortably within the moderate-stress range, and only

one in ten reporting low stress. This is not a sample on the edge of crisis; it is a sample living with sustained, pervasive psychological pressure that has become the ambient texture of daily life.

Arnett (2000) coined the term "emerging adulthood" to describe the late teens through mid-twenties as one of the most psychologically demanding phases of human development, a period of simultaneous identity exploration, instability, and self-focus, in which individuals are navigating the end of adolescent dependence and the onset of adult responsibility without yet having the routines, resources, or role commitments that buffer stress in later life. Chandra and Minkovitz (2006) further highlighted how this developmental vulnerability is compounded in the Indian context by specific cultural and structural pressures: intense academic and professional competition, family expectations around performance and life milestones, limited psychological awareness and help-seeking, and the increasingly blurred boundaries between academic, social, and digital life that define contemporary young adulthood.

Also notable is the distribution of PSS-10 scores, which clustered heavily in the moderate range (17–24), with relatively few participants at either extreme. This suggests that what this study captured is not a pathological subset of unusually stressed individuals but the normal, everyday stress load that young Indian adults carry. The mean of 20.52 is not a red-alert figure; it is the baseline — and this makes the associated sleep impairment all the more significant. If moderate, unremarkable, everyday stress is already producing the level of sleep disruption seen in this sample, the relationship between psychological wellbeing and sleep health deserves considerably more clinical and policy attention than it typically receives.

Buckley and Schatzberg (2005) documented that even without reaching clinical thresholds for anxiety or depression, chronic activation of the HPA axis alters circadian cortisol rhythms, disrupts the normal nocturnal decline in arousal, and shifts sleep architecture toward lighter stages while reducing the proportion of deep, slow-wave sleep. The result is sleep that may appear adequate in duration but is inadequate in depth and restoration precisely the pattern reflected in the present data, where stress was unrelated to sleep duration yet strongly associated with how poor and unrefreshing that sleep felt.

If the stress findings were striking, the sleep findings were perhaps even more so. Two-thirds of participants (66.3%) were classified as poor sleepers, with a mean PSQI Global Score of 7.51, nearly three points above the clinical cutoff of 5, and less than one in three participants sleeping

well. This is not a marginal finding; it is a population-level signal of widespread sleep impairment among young Indian adults.

Liu et al. (2016) found that poor sleep quality is pervasive among university students across multiple countries, with PSQI-based rates of poor sleep frequently exceeding 60%, and Lund et al. (2010) identified emerging adulthood as a period of particular vulnerability to sleep disruption, driven by irregular schedules, academic demands, social pressures, and widespread technology use at night. Bhatt et al. (2012) further noted that the lifestyle of the contemporary Indian young adult characterised by academic pressure, screen exposure and irregular sleep timings create conditions that are structurally hostile to healthy sleep. The present findings sit squarely within this literature.

At the component level, the two most pervasively affected domains were Sleep Disturbances (C5; 92.9% affected) and Daytime Dysfunction (C7; 91.8% affected), while 80.6% of participants reported no use of sleep medication. Morin et al. (2003) described this precise pattern, frequent nocturnal awakening and next-day impairment without pharmacological management as a hallmark of stress-related sleep disruption, in which the nervous system fails to disengage from daytime vigilance by the time night arrives, producing fragmented and unrestorative sleep rather than outright sleeplessness. The finding that Daytime Dysfunction was both the most widely affected component and the most strongly correlated with perceived stress ($r = .607$) tells a particularly coherent story: these young adults are not simply losing sleep, they are losing the ability to function effectively in their waking lives because of it, and the data trace that impairment directly back to the stress they are carrying.

The Pearson correlation between PSS-10 Total Score and PSQI Global Score in this study was $r = .405$ ($p < .001$) — a moderate, statistically robust association that confirms the central hypothesis: higher perceived stress is meaningfully associated with poorer sleep quality. This is not a trivial finding; a correlation of this magnitude in a sample of 196 participants speaks to a genuine and reliable connection between the two constructs.

Almojali et al. (2017), Zou et al. (2021), and Smyth et al. (2020) have each documented associations of comparable magnitude across culturally diverse student populations, with Smyth et al. further demonstrating that the stress–sleep relationship holds even after controlling for depression and anxiety — indicating that perceived stress carries independent predictive weight beyond comorbid mood disturbance. The present findings extend this literature to a sample of

Indian young adults, a population that has received comparatively less attention despite the scale and distinctiveness of the stressors it faces.

At the component level, the strongest association in the entire correlation matrix was between PSS-10 and Daytime Dysfunction ($r = .607$, $p < .001$). Vandekerckhove and Wang (2018) described this as the cognitive-emotional cascade of sleep loss: when stress degrades sleep quality, the resulting depletion — reduced working memory, slower processing speed, impaired attention — is felt most acutely in the sustained effort and executive functioning that waking life demands. A moderate association was also found with Subjective Sleep Quality ($r = .401$), which Harvey (2002) would explain through the cognitive dimension of sleep appraisal — individuals high in perceived stress are primed to evaluate their sleep negatively, and these negative appraisals themselves become maintaining factors for poor sleep, independent of objective sleep parameters.

Perhaps the most theoretically interesting finding is what was not correlated. Åkerstedt et al. (2012) showed that individuals under sustained stress do not necessarily sleep fewer hours but show increased wakefulness after sleep onset and reduced slow-wave sleep — resulting in sleep that is subjectively poor and functionally unrestorative despite adequate duration. The present data mirror this pattern precisely: perceived stress showed no significant relationship with Sleep Duration ($r = .132$, $p = .065$) or Habitual Sleep Efficiency ($r = -.012$, $p = .864$), confirming that stress was not truncating sleep but degrading its depth, continuity, and recuperative value.

Turning to gender, female participants reported modestly higher perceived stress ($M = 21.20$, $SD = 4.51$) and marginally poorer sleep quality ($M = 7.61$, $SD = 2.93$) than males ($M = 19.62$, $SD = 6.56$; $M = 7.19$, $SD = 3.21$). Nolen-Hoeksema et al. (2008) offer a compelling explanation: women are more likely to engage in ruminative cognitive processing under stress — repetitively focusing on distressing feelings and their causes — which sustains the stress response beyond its triggering event and carries it into the night, making nervous system deactivation and sleep onset harder to achieve. That said, the gender differences in this study are modest, and the more important conclusion may be how similar the two groups' experiences are. Both exceeded the clinical threshold for poor sleep, both showed Daytime Dysfunction as the most severely affected domain, and the stress–sleep relationship appears to operate through the same mechanisms regardless of gender — suggesting that the vulnerabilities, and the solutions, are largely shared.

5.1 Limitations

- The sample was taken from the Jammu city only.
- The age range of the sample 18-26 yrs which is another limitation of this study as we can expand the age range.
- The sample size was limited to 196 participants only which shows that the study cannot be generalized to larger population.
- Another limitation of this study is that not only PSS-10 and PSQI can be used to assess for this rather than these tools others tools can also be used for better generalizability for the study.

5.2 Future Recommendations

- The present findings point toward several productive avenues for future inquiry. Longitudinal studies tracking perceived stress and sleep quality across key developmental transitions that is college entry, major examinations, entry into the workforce would provide insight into the temporal dynamics of the stress–sleep relationship and identify the periods of greatest vulnerability in young adulthood.
- Cross-cultural comparisons would be valuable in establishing whether the magnitude and profile of the stress–sleep relationship in Indian young adults differs from patterns documented in Western and East Asian populations, particularly given the distinctive sociocultural stressors faced in the Indian context.
- Most urgently, intervention research evaluating the acceptability and efficacy of stress management and sleep hygiene programmes specifically adapted for Indian young adults is needed.
- Culturally adapted versions of CBT-I and MBSR that account for local help-seeking behaviours, beliefs about sleep, and resource constraints may prove more effective than direct imports of Western programmes.

5.3 Conclusion

This study began with a question about the relationship between perceived stress and sleep quality among young adults in India, and the answer the data provided was unambiguous. Stress and poor sleep are not coincidental companions in this population; they are systematically, significantly, and meaningfully linked. Nearly nine in ten participants were experiencing moderate to high stress. Two in three were sleeping poorly. And the strength of the statistical relationship between the two particularly through the pathway of daytime dysfunction tells a coherent story about what stress does to the body and mind in the hours after the day ends.

The theoretical frameworks that guided this study, the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) and the Hyperarousal Model of Insomnia (Espie, 2002; Perlis et al., 1997) provided an explanatory architecture that the data filled in rather than merely illustrated. The characteristic signature of hyperarousal-driven sleep disruption impaired subjective quality and daytime function without proportional reductions in sleep duration emerged clearly from the correlation pattern, lending the findings a theoretical coherence that goes beyond statistical significance.

What this study ultimately reveals is a population living under sustained psychological pressure and paying for it, night after night, in the currency of sleep. The implications of this are not abstract: chronic poor sleep in emerging adulthood has documented consequences for cognitive development, mental health, physical health, and long-term wellbeing. Addressing the stress–sleep interface in young Indian adults is not a niche concern. It is a matter of public health, educational policy, and human flourishing.

SUMMARY

TOPIC: A STUDY OF THE RELATIONSHIP BETWEEN PERCEIVED STRESS AND SLEEP DEPRIVATION AMONG YOUNG ADULTS

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Introduction

Perceived stress is a pervasive concern among young adults, reflecting subjective evaluations of life demands as overwhelming, unpredictable, and uncontrollable. Sleep deprivation, characterized by poor sleep quality, sleep disturbances, and daytime dysfunction, has emerged as a significant public health issue in this population. Together, these two variables are known to interact through shared neurobiological and psychological mechanisms, creating a cycle of mutual reinforcement that compromises overall well-being.

Young adulthood represents a critical developmental phase characterized by increased responsibilities, identity exploration, academic and occupational pressures, and lifestyle transitions, all of which heighten vulnerability to psychological stress. These challenges often disrupt adaptive coping mechanisms and healthy sleep patterns, making young adults particularly susceptible to stress-related health outcomes.

Perceived stress reflects individuals' subjective evaluations of stressors rather than objective exposure, emphasizing cognitive appraisal and emotional interpretation. High levels of perceived stress have been associated with emotional dysregulation, impaired decision-making, and reduced psychological resilience, particularly among emerging adults navigating transitional life demands.

Sleep deprivation not only affects physical health but also undermines emotional regulation and cognitive functioning, thereby increasing susceptibility to stress and mental health difficulties. Evidence suggests that stress and sleep disturbances are interrelated through shared psychological and neurobiological mechanisms. Hyperarousal, rumination, and dysregulated stress-response

systems are known to interfere with sleep initiation and maintenance, while insufficient sleep further amplifies emotional reactivity and stress sensitivity.

Recent global health reports emphasize that untreated stress and sleep problems during early adulthood can have long-term consequences, including increased risk for mood disorders, impaired academic and occupational performance, and reduced quality of life. Despite growing international literature, there remains a relative scarcity of focused empirical research examining the combined relationship between perceived stress and sleep deprivation among young adults in developing countries, including India.

Rationale of the study

The rising prevalence of perceived stress and sleep deprivation among young adults has emerged as a significant concern for educators, psychologists, and mental health practitioners. In response to this growing issue, the present study was undertaken to systematically examine the relationship between perceived stress and sleep deprivation among young adults. Additionally, the study sought to investigate the level of perceived stress and the level of sleep deprivation experienced by young adults aged 18–26 years.

Need and Significance of the Study

This study focused on young adults aged 18 to 26 years residing in India. It includes both college students and working professionals to ensure a diverse representation of this age group. The study used standardized tools—the Perceived Stress Scale (PSS-10) and Pittsburgh Sleep Quality Index (PSQI)—to measure perceived stress and sleep deprivation, respectively. A deeper understanding of this relationship is vital for identifying the underlying factors contributing to poor psychological adjustment, emotional exhaustion, and psychological distress in this population.

The findings of this research are expected to provide valuable insights for educational institutions, counselors, psychologists, and policymakers in developing effective stress-management programs and sleep hygiene interventions tailored to the needs of young adults. The results underscore the need for targeted psychological interventions addressing both stress management and sleep hygiene among young adults in India.

Statement of the Problem

The present study is entitled as "A Study of the Relationship between Perceived Stress and Sleep Deprivation among Young Adults."

Operational Definitions

Perceived Stress

Perceived stress refers to the individual's subjective appraisal of life demands as stressful, unpredictable, and uncontrollable. In the present study, it was measured using the Perceived Stress Scale–10 (PSS-10).

Sleep Deprivation

Sleep deprivation refers to a condition of insufficient or poor-quality sleep, characterized by difficulty initiating sleep, frequent awakenings, reduced sleep duration, and impaired daytime functioning. In the present study, it was assessed using the Pittsburgh Sleep Quality Index (PSQI).

Young Adults

Young adults refer to individuals aged 18–26 years, comprising both college students and working professionals residing in India.

Objectives of the Study

- To assess the level of perceived stress among young adults.
- To assess the level of sleep deprivation among young adults.
- To examine the relationship between perceived stress and sleep deprivation among young adults.

Hypotheses of the Study

- (H_{01}): There is no significant level of perceived stress among young adults.
- (H_{02}): There is no significant level of sleep deprivation among young adults.
- (H_{03}): There is no significant relationship between perceived stress and sleep deprivation among young adults.

Population of the Study

The target population for the present study comprised young adults between the age range of 18–26 years. This age group represents a critical developmental period marked by academic, occupational, and psychosocial transitions, making individuals particularly vulnerable to stress and sleep-related difficulties.

Sample for the Study

A sample of 196 young adults aged 18–26 years from Jammu district participated in the study. The participants included both college students and working professionals (111 females, 85 males). Participants were selected using simple random sampling based on specific inclusion and exclusion criteria, ensuring the relevance of the sample to the research objectives.

Sampling Technique

Simple random sampling technique was employed for collecting the data in the present study. This technique ensures that every individual in the population has an equal chance of being selected for participation. The use of random sampling helped in reducing bias and improving the representativeness of the sample.

Inclusion and Exclusion Criteria

Inclusion Criteria:

- College students and working professionals from the age range of 18 years to 26 years.
- Willing to participate voluntarily and provide informed consent.
- Able to read and understand the language of the questionnaire.

Exclusion Criteria:

- Participants who decline participation or submit incomplete questionnaires.
- Individuals below 18 years or above 26 years were excluded from the study.

Tools Used

Perceived Stress Scale (PSS-10)

The Perceived Stress Scale–10 (PSS-10) developed by Cohen, Kamarck, and Mermelstein (1983) is a self-report measure assessing the extent to which individuals perceive their lives as stressful during the past one month. It consists of 10 items rated on a 5-point Likert scale from 0 (Never) to 4 (Very Often), with four positively worded items reverse scored, yielding total scores from 0 to 40. A PSS-10 score of 0–13 indicates low stress, 14–26 indicates moderate stress, and 27–40 indicates high perceived stress.

Pittsburgh Sleep Quality Index (PSQI)

The Pittsburgh Sleep Quality Index (PSQI) developed by Buysse et al. (1989) is a standardized self-report instrument used to assess subjective sleep quality and sleep disturbances over a one-month period. It comprises 19 self-rated items that generate seven component scores (C1–C7), which are summed to obtain a global score ranging from 0 to 21. A global PSQI score greater than 5 indicates poor sleep quality.

Statistical Techniques Used

The following statistical techniques were employed for analyzing the data:

- ➢ Mean
- ➢ Standard Deviation
- ➢ Pearson's Product Moment Correlation

The statistical analyses were conducted using IBM SPSS Statistics (Version 27).

Results of the Study

The major findings of the present study are summarized as follows:

- The mean PSS-10 Total Score was 20.52 (SD = 5.535), indicating that, on average, participants reported moderate levels of perceived stress. 89.8% of participants reported

moderate to high levels of perceived stress (76.0% moderate stress; 13.8% high stress; 10.2% low stress).

- The mean PSQI Global Score was 7.51 (SD = 3.535), which exceeds the established clinical cutoff of 5, confirming widespread poor sleep quality in the sample. 66.3% of participants were classified as poor sleepers.
- A statistically significant positive correlation was found between perceived stress and overall sleep quality, $r(194) = .405$, $p < .001$, indicating that higher perceived stress was associated with poorer sleep quality.
- Among the individual PSQI components, Daytime Dysfunction (C7) showed the strongest association with perceived stress ($r = .607$, $p < .001$), followed by Subjective Sleep Quality (C1) ($r = .401$, $p < .001$). No significant relationships were found between perceived stress and Sleep Duration (C3) or Habitual Sleep Efficiency (C4).
- Gender comparisons indicated that female participants reported marginally higher perceived stress (M = 21.20, SD = 4.51) and slightly poorer sleep quality (M = 7.61, SD = 2.93) than male participants (PSS-10: M = 19.62, SD = 6.56; PSQI: M = 7.19, SD = 3.21). Both groups exceeded the clinical threshold for poor sleep quality.
- Among PSQI components, Daytime Dysfunction recorded the highest mean score (M = 1.55, SD = 0.799), followed by Sleep Disturbances (M = 1.35, SD = 0.658). Use of Sleep Medication was the least affected component (M = 0.38, SD = 0.817).

Overall, the findings support a significant positive relationship between perceived stress and sleep deprivation. Higher perceived stress most acutely manifests as functional daytime impairment and poor subjective sleep experience, rather than simply reducing sleep duration.

Limitations of the Study

- The sample was taken from the Jammu city only.
- The age range of the sample 18-26 yrs which is another limitation of this study as we can expand the age range.

- The sample size was limited to 196 participants only which shows that the study cannot be generalized to larger population.
- Another limitation of this study is that not only PSS-10 and PSQI can be used to assess for this rather than these tools others tools can also be used for better generalizability for the study.

Suggestions for Future Research

- Similar studies can be conducted on a larger and more geographically diverse sample to improve the generalizability of the findings.
- Longitudinal studies can be undertaken to examine the directional and causal relationship between perceived stress and sleep deprivation over time.
- Future research may include additional psychological variables such as anxiety, depression, coping strategies, resilience, and emotional regulation as potential mediators or moderators.
- Future studies may incorporate objective physiological measures of sleep (e.g., actigraphy, polysomnography) alongside self-report tools for more accurate sleep assessment.
- Experimental and intervention-based studies may be conducted to assess the effectiveness of stress management programs (e.g., Mindfulness-Based Stress Reduction – MBSR) and Cognitive Behavioral Therapy for Insomnia (CBT-I) among young adults.
- Comparative studies may be conducted across different occupational groups, academic disciplines, and cultural contexts to broaden understanding of the stress–sleep relationship.

Conclusion

The present study concluded that there is a significant positive relationship between perceived stress and sleep deprivation among young adults. The findings revealed that 89.8% of participants reported moderate to high levels of perceived stress, and 66.3% were classified as poor sleepers. Higher perceived stress was significantly associated with poorer overall sleep quality, with Daytime Dysfunction and Subjective Sleep Quality showing the strongest associations. No

significant relationship was found between perceived stress and Sleep Duration or Habitual Sleep Efficiency.

The study highlights the importance of addressing not only the psychological dimensions of perceived stress but also its downstream consequences on sleep health among young adults. The findings emphasize the need for appropriate interventions, including stress management programs, cognitive-behavioral approaches for insomnia, and sleep hygiene awareness initiatives, to reduce sleep impairment and promote psychological well-being among young Indian adults. This research contributes to the growing body of knowledge on stress–sleep interactions and provides a foundation for future longitudinal and interventional studies in this area.

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APPENDICES

APPENDIX A: PERCEIVED STRESS SCALE (PSS-10)

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a tick how often you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

Item No.	Statement	Never (0)	Almost Never (1)	Sometimes (2)	Fairly Often (3)	Very Often (4)
1	In the last month, how often have you been upset because of something that happened unexpectedly?					
2	In the last month, how often have you felt that you were unable to control the important things in your life?					
3	In the last month, how often have you felt nervous and stressed?					
4	In the last month, how often have you felt confident about your ability to handle your personal problems?*					
5	In the last month, how often have you felt that things were going your way?*					
6	In the last month, how often have you found that you could not cope with all the things that you had to do?					

7	In the last month, how often have you been able to control irritations in your life?*					
8	In the last month, how often have you felt that you were on top of things?*					
9	In the last month, how often have you been angered because of things that were outside of your control?					
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

Note: Items marked with (*) are positively worded and are reverse scored. Total scores range from 0 to 40. Score interpretation: 0–13 = Low Stress; 14–26 = Moderate Stress; 27–40 = High Stress.

APPENDIX B: 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? Usual bed time: _____

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

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

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

5. During the past month, how often have you had trouble sleeping because you...

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 would you rate your sleep quality overall?	Very good	Fairly good	Fairly bad	Very bad

7. During the past month, how often have you taken medicine to help you sleep (prescribed or "over the counter")?	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week

8a. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week
8b. During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week

Note: The PSQI generates a global sleep quality score ranging from 0 to 21. A global PSQI score greater than 5 is indicative of poor sleep quality. The seven component scores (Subjective Sleep Quality, Sleep Latency, Sleep Duration, Habitual Sleep Efficiency, Sleep Disturbances, Use of Sleep Medication, and Daytime Dysfunction) are each scored from 0 to 3.