THE RELATIONSHIP BETWEEN ACADEMIC STRESS AND SLEEP QUALITY AMONG COLLEGE STUDENTS

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SUPERVISOR

Ms. Upasana Moten
Assistant Professor

INVESTIGATOR

Sehaj Chawla
Roll No. 2208016
Sem. VIII

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SUPERVISOR'S CERTIFICATE

This is to certify that **Ms. Sehaj Chawla,** student of **Bachelor of Arts (Honours with Research) in Psychology Semester VIII, Session 2022-2026**, bearing **Roll No 2208016,** has worked under my supervision on her dissertation entitled**:**

"RELATIONSHIP BETWEEN ACADEMIC STRESS AND SLEEP QUALITY AMONG COLLEGE STUDENTS".

Her dissertation is fit for submission, in partial fulfillment of the requirements for the award of the Degree in **Bachelor of Arts (Honours with Research) in Psychology**

DATE:

(Ms. Upasana Moten)
SUPERVISOR

Head,
School of Social Sciences and Humanities

श्रेष्ठ
B.C. Road Jammu
180 001
Ph.: 0191-2546078,2565098
Fax:0191-2548239
Email:principal@miercollege.in
Website: www.miercollege.in

DECLARATION BY THE CANDIDATE

I hereby declare that the work presented in the dissertation entitled:

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

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LIST OF ABBREVIATIONS

Abbreviations	Full form
NREM	Non-Rapid Eye Movement
REM	Rapid-Eye Movement
AASM	American Academy of Sleep Medicine
SCN	Suprachiasmatic Nucleus
GABA	Gamma-Aminobutyric Acid
HPA Axis	Hypothalamic-Pituitary-Adrenal Axis
PSQI	Pittsburgh Sleep Quality Index
r	Pearson's Correlation Coefficient
COVID-19	Corona Virus Disease 2019
SD	Standard Daviation
SPSS	Statistical Package for Social Sciences
M	Mean

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ABSTRACT

The present study examined the relationship between academic stress and sleep quality among college students, with a focus on how academic demands affect their psychological and physiological well-being. In today's highly competitive academic environment, marked by heavy workloads and performance pressures, students are especially vulnerable to stress-related sleep disturbances.

The study was conducted on a sample of 149 college students aged 18–25 years, comprising both undergraduate and postgraduate participants. Academic stress was measured using the Academic Stress Scale, while sleep quality was assessed with the Pittsburgh Sleep Quality Index (PSQI). Data were analyzed using descriptive statistics (mean and standard deviation), Pearson's correlation coefficient, and t-test.

Results revealed a significant positive correlation between academic stress and poor sleep quality ($r = 0.338$, $p < .01$), indicating that higher academic stress is associated with greater sleep disturbances. No significant gender differences were found in academic stress levels, and no significant differences emerged in sleep quality between undergraduate and postgraduate students.

The findings highlight the bidirectional relationship between academic stress and sleep, wherein stress disrupts sleep and poor sleep further intensifies stress. This underscores the need to address both factors to improve students' mental health, cognitive performance, and academic outcomes. The study recommends institutional interventions such as stress management programs and sleep hygiene awareness initiatives to promote overall student well-being.

Keywords **:** academic stress, sleep quality, sleep disturbances, college students,

CHAPTER- I
INTRODUCTION

CHAPTER I

INTRODUCTION

Sleep is an essential, evolutionarily conserved biological state crucial for maintaining physical health, cognitive performance, and psychological well-being. Far from being a passive condition, contemporary research describes sleep as a highly dynamic neurobiological process that involves intricate patterns of brain activity essential for emotional regulation, memory consolidation, metabolic restoration, immune functioning, and overall stress resilience. Advances in neuroimaging, electrophysiology, and chronobiology have further illuminated how sleep supports neural plasticity, reorganizes cognitive networks, and facilitates the integration of new information functions that are indispensable for learning and day-to-day functioning (Medic et al. 2017; Walker, 2017)

Within this expanded scientific understanding, sleep is increasingly viewed as a central determinant of mental health, shaping how individuals perceive, interpret, and respond to the demands of daily life. Even minor disturbances in sleep architecture can alter mood, impair judgment, reduce attention, and heighten emotional reactivity. These vulnerabilities are especially pronounced in college students, who are navigating a unique developmental stage characterized by heightened academic pressure, lifestyle changes, psychosocial adjustments, and increased autonomy in managing daily routines. As a result, sleep becomes both more essential and more vulnerable during this period.

College students frequently experience irregular sleep schedules, insufficient sleep duration, and compromised sleep quality due to academic deadlines, late-night study habits, social commitments, and technology use. The cumulative effects of these patterns can significantly impair cognitive efficiency, learning capacity, and psychological stability. At the same time, growing evidence suggests that high academic stress stemming from examinations, workload, performance expectations, and competitive academic environments directly disrupts sleep initiation, continuity, and depth. This interaction creates a feedback loop in which stress worsens sleep, and poor sleep, in turn, heightens stress perception, emotional deregulation, and academic difficulties.

Understanding the role of sleep within the broader context of student well-being is therefore critical. As modern academic environments evolve and the prevalence of stress-related difficulties among students increases, the need to examine how sleep quality interacts with

academic stress becomes more urgent. Exploring this relationship not only contributes to existing scientific knowledge but also holds practical relevance for designing effective student support systems, promoting mental health, and enhancing academic performance.

1.1 Conceptualizing Sleep: A Contemporary Psychological Perspective

Recent findings emphasize the active and restorative nature of sleep. Modern studies highlight the operation of the lymphatic system, which clears neurotoxin waste such as β-amyloid during deep sleep, providing a mechanistic understanding of how sleep contributes to neural health and emotional stability (Xie et al.2013). The discovery of this clearance system has transformed psychological models of sleep by showing that inadequate sleep directly impairs neural functioning and stress regulation.

Sleep also plays a critical role in synaptic plasticity, enabling the brain to refine neural connections based on the day's learning experiences. Newer cognitive neuroscience literature links sleep quality to emotional balance, psychological resilience, and the capacity to cope with complex cognitive tasks (Cerelli,2014; Tononi &Walker, 2017). Thus, from a psychological standpoint, sleep serves as a regulator of both cognitive and emotional resources necessary for functioning in academically demanding environments.

1.1.1 Sleep Architecture: Stages and Ultradian Cycles

Human sleep unfolds in repeating 90–120-minute ultradian cycles, progressing through non-rapid eye movement (NREM) and rapid eye movement (REM) phases. Contemporary sleep scoring frameworks, such as those outlined by the American Academy of Sleep Medicine (AASM), provide a detailed classification of sleep stages based on neuro-physiological patterns (Iber et al., 2007).

NREM Sleep: Stage N1, the light transitional stage, is marked by theta-wave activity and reduced environmental responsiveness (Silber et al., 2007).

Stage N2, which represents the largest proportion of sleep, is defined by sleep spindles and K-complexes that help preserve sleep continuity. Spindles have been linked to motor memory consolidation and learning efficiency (De Gennaro & Ferrara, 2003).

Stage N3, or slow-wave sleep, features high-amplitude delta waves and is crucial for immune restoration, energy conservation, and synaptic downscaling, enabling long-term memory integration (Cirelli 2014 & Dang-Vu et al., 2010)

REM Sleep : REM sleep, typically accounting for 20–25% of total sleep, is associated with heightened brain activity resembling wakefulness, vivid dreaming, and emotional memory processing. Neuropsychological research indicates that REM sleep reorganizes associative networks, reduces emotional reactivity, and facilitates creative problem-solving (Cai et al., 2009; Van Der Helm & Walker, 2009). These functions make REM particularly significant in understanding how students manage academic pressures.

Two-Process Model of Sleep Regulation:-

While foundational, the Two-Process Model remains supported by recent findings. Process S (homeostatic pressure) reflects the accumulation of somnogens like adenosine during wakefulness, and Process C (circadian rhythm) is governed by the suprachiasmatic nucleus (SCN), aligning sleep-wake patterns to the 24-hour cycle (Borbély et al., 2016; Czeisler & Gooley, 2007). Newer analyses show that lifestyle factors such as digital device exposure, nighttime studying, and academic stress interfere with both processes, particularly among college-aged populations.

Neurochemical Regulation:-

- Sleep is modulated through an interplay of neurotransmitters:
- GABA and galanin promote NREM sleep,
- Orexin/hypocretin stabilize wakefulness,
- Serotonin and dopamine regulate REM transitions.

These mechanisms, elaborated in modern neurobiological models, show that disruptions in arousal systems directly impair sleep quality (Saper et al.2010).

1.1.2 Psychological and Cognitive Functions of Sleep:-

Memory Consolidation and Learning: Contemporary research demonstrates that NREM sleep especially slow-wave sleep facilitates the hippocampal–neocortical transfer of newly learned information, strengthening declarative memory. REM sleep assists in the integration of emotional and procedural memories, and enhances creativity and analytical problem-solving (Rasch & Born, 2013; Cai et al., 2009). Given the academic demands of college life, these cognitive functions position sleep as a foundational determinant of academic performance.

Emotional Regulation: Neuroimaging studies reveal that sleep deprivation results in exaggerated amygdala responses and weakened prefrontal regulatory control, leading to heightened emotional reactivity and stress sensitivity (Goldstein & Walker, 2014; Yoo et al.,

2007). REM sleep, in particular, helps recalibrate emotional circuits by reducing noradrenergic activity, allowing individuals to process emotionally intense experiences more adaptively

Restorative and Homeostatic Functions: Building on earlier theories, modern models show that sleep supports metabolic regulation, hormonal stability, immune functioning, and energy conservation. Chronic sleep disturbances elevate inflammatory markers and disrupt hormone release, including cortisol and growth hormone, which play roles in stress response and physical restoration (Medic et al., 2017; Irwin, 2015).

Sleep in Adolescence and Young Adulthood: Young adults, especially college students, show some of the poorest sleep patterns across age groups. Recent studies attribute this to irregular schedules, excessive academic workload, evening screen use, heightened anxiety, and lifestyle transitions (Chervin & Hershner 2014). Developmentally, this age group is still undergoing maturation of prefrontal regulatory systems, making them more susceptible to stress-induced sleep disturbances and less resilient to the cognitive consequences of sleep loss.

Linking Sleep to Stress: A Contemporary Psychological Pathway: The bidirectional relationship between sleep and stress has been increasingly supported by modern psychophysiological evidence. Stress activates the Hypothalamic–Pituitary–Adrenal (HPA)Axis, elevating cortisol levels and disrupting the body's natural circadian rhythm. Heightened cortisol prolongs physiological arousal, delays sleep onset, fragments sleep architecture, and reduces time spent in restorative slow-wave and REM sleep (Dimsdale & Kim, 2007). Over time, chronic activation of the stress response system weakens emotional regulation, heightens physiological tension, and compromises the restorative benefits of sleep.

Conversely, inadequate sleep undermines the brain's ability to regulate emotional responses. Neuroimaging research shows that sleep deprivation leads to hyper-activation of the amygdala and reduced connectivity to prefrontal regulatory regions patterns associated with elevated stress reactivity, anxiety, irritability, and decreased coping capacity (Yoo et al., 2007). This deregulation contributes to a self-reinforcing cycle in which stress impairs sleep, and poor sleep amplifies the perception and physiological effects of stress.

This reciprocal interaction is especially pronounced among college students facing persistent academic pressure. Poor sleep quality diminishes attention, memory encoding, executive

functioning, and emotional resilience all of which are crucial for academic success. Studies consistently report that students experiencing higher academic stress demonstrate shorter sleep durations, irregular sleep-wake patterns, and poorer subjective sleep quality, which further exacerbate stress and reduce academic efficiency (Chervin & Hershner, 2014).

Thus, sleep functions both as a predictor and consequence of stress, operating as a central psychological mechanism through which academic demands influence student well-being. This bidirectional model forms the conceptual foundation for examining the relationship between academic stress and sleep quality among college students.

1.1.3 Importance of Sleep Quality in College Students

College years represent a pivotal transition marked by major physiological and psychological changes. Recent evidence highlights how technology-driven lifestyles increasingly disrupt sleep patterns, with studies such as Beattie et al. (2015) & Chang et al. (2015) demonstrating the impact of blue-light exposure on melatonin suppression. Earlier foundational work like Roenneberg et al. (2003, as cited in Okano et al., 2019) introduced the concept of "social jet lag," explaining irregular sleep cycles common among students. While Chervin and Hershner (2014) emphasize sleep as a cornerstone of cognitive and emotional health, it remains evident that the contemporary college environment amplifies sleep challenges more than ever.

Recent data reflect growing global concern about student sleep health, particularly following the COVID-19 pandemic. Voderholzer et al. (2021) reported a 15–20% increase in sleep disturbances during lockdowns. Okano et al. (2019) found that a majority of students fail to achieve the recommended sleep duration, paralleling trends highlighted earlier by Hershner and Chervin (2014). Lund et al.'s (2010) landmark study remains important, showing over 60% of students experience poor sleep quality. Older work by Buboltz et al. (2009) further illustrates how living environments affect sleep, while Roenneberg et al. (2003) laid early groundwork on circadian mismatch. Together, these studies trace a progression of understanding from early observations of sleep patterns to modern technological and pandemic-related influences.

Recent longitudinal evidence underscores the academic consequences of poor sleep. Azeez et al. (2023) demonstrated that nightly sleep consistency strongly predicts academic success. Okano et al. (2019) found that sleep variability accounts for up to 25% of GPA variance. Filatova et al. (2020) further supported sleep–performance links through large cross-sectional

analyses. Earlier work such as Walker (2017) provided neuroscientific explanations, while Diekelmann and Born (2010) connected sleep to memory consolidation. Gilbert and Weaver (2010) quantified GPA differences, and Curcio et al. (2006) offered foundational evidence on sleep, learning, and neuroplasticity. These studies collectively show a decade-long strengthening of the sleep-academics association.

Recent systematic reviews, including Scott et al. (2019), highlight the strong association between sleep loss and depressive symptoms among students. Goldstein and Walker (2014) offer neurobiological explanations, documenting amygdala hyper reactivity under sleep deprivation. Earlier seminal work by Chervin & Hershner (2014) emphasized the bidirectional relationship between sleep and mood disorders. Neckelmann et al. (2007, as cited in Chervin & Hershner 2014) documented early links between sleep disturbance and anxiety. Pigeon et al. (2012) showed insomnia predicting suicidal ideation, while Miller et al. (2011) examined sleep's role in substance misuse. This chronological progression reflects deepening recognition of sleep as a core determinant of mental health.

Recent large-scale analyses such as Itani et al. (2017) and Spira et al. (2013) emphasize the long-term metabolic and cognitive risks of short sleep. Prather et al. (2015) demonstrated increased susceptibility to infections, while Cappuccio et al. (2010) linked sleep duration to mortality and cardiovascular risk. Earlier research such as Spiegel et al. (2004) showed hormonal disruptions from restricted sleep, laying biological groundwork for later findings. Roenneberg et al. (2003) provided early circadian theory that shaped subsequent decades of research. These studies reveal how understanding has evolved from biological mechanisms to large-scale public-health implications.

1.2 Stress

Stress is widely understood as a psychological and physiological state that emerges when individuals perceive that external or internal demands exceed their ability to cope. Modern scholarship emphasises that stress is not merely a reaction to events, but a dynamic process shaped by cognitive appraisals, emotional responses, and environmental contexts (Schneiderman et al., 2005). Contemporary interpretations by Everly and Lating (2019) highlight that today's stressors are predominantly psychosocial academic pressure, social expectations, financial concerns rather than the physical threats that dominated earlier eras.

Over time, the definition of stress has expanded to integrate biological, behavioral, and cognitive dimensions. Amirfakhraei et al. (2013) trace this evolution from ancient medical doctrines like the Humor theory to modern scientific frameworks, illustrating that stress has long been recognized as a universal human experience. A major conceptual shift occurred with Lazarus and Folkman's (1984) Transactional Model, which remains foundational to current understanding. This model asserts that stress arises from two stages of cognitive evaluation: the primary appraisal, where an event is judged as threatening or challenging, and the secondary appraisal, which assesses one's coping resources. Thus, stress is subjective, varying significantly between individuals.

Earlier physiological explanations, such as Selye's General Adaptation Syndrome (1956), conceptualised stress as a non-specific bodily response consisting of alarm, resistance, and exhaustion phases. Although older, this theory continues to inform contemporary biological formulations of stress.

1.2.1 Theoretical Perspectives on Stress

Recent theoretical developments propose more integrative models. Crosswell and Lockwood (2020) argue for a bio-psychosocial approach, stating that stress should be understood through combined physiological markers, behavioural responses, and psychological appraisals. This framework reflects the growing recognition that no single indicator can fully capture stress.

In structured settings such as academic or workplace environments, the Job Demands Resources Model by Demerouti et al. (2001) has become highly applicable. It explains that stress occurs when high demands such as deadlines or workload are paired with insufficient resources, leading to exhaustion and burnout.

Hobfoll's Conservation of Resources Theory (1989) offers another influential perspective, suggesting that stress arises when individuals lose important psychological or material resources, or when they anticipate such loss. This model is particularly relevant for students balancing academic workloads with time, energy, and emotional resources.

Earlier work such as the Allostatic Load Model (McEwen, 1998) extended physiological ideas of stress by explaining how chronic exposure to stressors leads to cumulative biological wear-and-tear. Foundational frameworks such as Selye's General Adaptation Syndrome

(1956) remain historically significant, though modern theories now acknowledge the central role of cognition and context.

1.2.2 Physiological Mechanisms of Stress

The biological mechanisms underlying stress have been extensively explored in recent research. Neurobiological findings by Arnsten et al. (2023) demonstrate that chronic stress alters the functional connectivity between the amygdala and prefrontal cortex, impairing emotional regulation and decision-making. At the hormonal level, Tsigos et al. (2020) explain that activation of the hypothalamic–pituitary–adrenal (HPA) axis results in the release of cortisol, which supports short-term adaptation but becomes harmful when chronically elevated.

Earlier analyses by Chrousos (2009) describe the sympathetic–adrenal–medullar system as responsible for the rapid fight-or-flight reaction through the release of adrenaline and nor adrenaline. McEwen's influential work (2006; later expanded in 2017) introduced the concept of all static load,describing how prolonged activation of the body's stress systems damages brain structures such as the hippocampus and accelerates physical deterioration. Foundational physiological understanding originates from Selye's work in the 1950s, which first described the body's systematic response to stress.

1.2.3 Types of Stress

Recent work by Turner et al. (2023) frames stress along a continuum of intensity and duration, noting that short-term acute stress can improve alertness and performance, particularly in academic contexts. Chronic stress, by contrast, is characterised by long-lasting pressure and is associated with cognitive decline and emotional exhaustion. Earlier research supports this distinction; Mariotti (2015) emphasises the harmful physiological and psychological effects of chronic stress, while Dhabhar (2014) demonstrates the adaptive benefits of acute stress.

The distinction between eustress and distress also remains relevant. While eustress facilitates motivation and growth, distress occurs when demands outweigh the individual's coping resources, producing negative emotional and behavioural outcomes distinction originally articulated by Selye (1974) and refined by Lazarus (1993).

Newer studies provide substantial evidence for the wide-ranging consequences of prolonged stress. Turner et al. (2023) report that high perceived stress levels contribute to accelerated cognitive decline, particularly affecting memory and attention. Arnsten et al. (2023) similarly found that stress disrupts neural pathways involved in executive functioning. Shields et al. (2019) earlier demonstrated that chronic stress impairs working memory and inhibitory control, findings consistent with Shields et al. (2016), who documented reductions in cognitive flexibility.

Psychological consequences remain significant: chronic stress contributes to the onset of depression and anxiety through neuroinflammatory processes and neurotransmitter deregulation (Slavich & Irwin, 2014). Physiologically, long-term stress increases the risk of insulin resistance and metabolic disorders (Kyrou & Tsigos, 2009), as well as cardiovascular problems including hypertension (Black & Garbutt, 2002). Earlier foundational studies such as Segerstrom and Miller (2004) showed that chronic stress weakens immune functioning, and Lupien et al. (2009) linked stress hormones to reduced hippocampal volume, affecting memory processing.

Modern approaches to stress assessment favour multi-method strategies. Crosswell and Lockwood (2020) highlight that combining physiological measures such as cortisol levels or heart rate variability with self-report scales provides a more accurate understanding of stress. Physiological assessments have long been used, with Adam and Kumari (2009) demonstrating the importance of diurnal cortisol patterns in stress evaluation.

Self-report measures remain central in psychological research. The Perceived Stress Scale (Cohen et al., 1983), refined in later work by Cohen (2014) and Warttig et al. (2013), is among the most widely used tools for assessing subjective stress. Earlier instruments such as the Life Events Checklist (Gray et al., 2004) and the Daily Hassles Scale (Kanner et al., 1981) focus on major stressors and everyday irritants, respectively.

1.3 Stress and Sleep: A Bidirectional Relationship

Recent studies emphasise the bidirectional relationship between stress and sleep. Zhang et al. (2023) reported that poor sleep mediates the relationship between stress and depressive symptoms in students, while Li et al. (2024) found that rumination intensifies the stress–sleep cycle. Earlier meta-analyses by Jarrin et al. (2014) and Alvaro et al. (2013) established that

stress predicts insomnia symptoms, which in turn heighten stress levels. Foundational research by Akerstedt (2006) and Kim and Dimsdale (2007) highlighted that elevated stress disrupts sleep onset, sleep continuity, and overall sleep quality.

1.4 Academic Stress Among College Students

Academic stress is recognised as one of the most pervasive stressors experienced by college students in modern higher education systems. Recent research shows that academic-related pressures including examinations, continuous assessments, high competition, and the expectation to excel have intensified stress levels among young adults. Li et al. (2024) emphasise that academic stress significantly predicts burnout and emotional exhaustion among university students, reflecting a growing concern in contemporary academic environments. Similarly, Cui et al. (2024) found that academic stress negatively affects students' motivation, self-efficacy, and psychological well-being. Global survey data from Gallup (2023) further indicate that over 60% of college students experience daily stress primarily due to academic demands. Earlier findings by the American College Health Association (2022) also documented high levels of anxiety and stress associated with coursework, deadlines, and performance pressures.

The term *academic stress* broadly refers to the psychological distress caused by academic-related demands, such as exams, assignments, grading systems, and future career uncertainty. Misra and McKean (2000) offered one of the earliest scholarly definitions, describing academic stress as emotional tension arising when academic expectations exceed students' perceived capabilities. Sharma and Kaur (2011) expanded on this by highlighting that the transition into college marked by increased workload, social adjustments, and unfamiliar expectations makes students particularly vulnerable to academic pressure.

Recent studies show that the prevalence of academic stress has risen significantly in the post-pandemic academic landscape. Li et al. (2024) reported that academic stress is one of the strongest predictors of emotional exhaustion among students. Cui et al. (2024) similarly found that students report heightened levels of pressure related to workload, performance, and career concerns. The Gallup (2023) global student report highlighted that academic pressure remains the leading source of stress worldwide, exceeding personal and social stressors. During the COVID-19 pandemic, academic stress escalated further due to disruptions in learning environments, with Son et al. (2020) finding that 70% of students

experienced worsened academic stress due to online learning difficulties, increased workload, and uncertainty.

Earlier studies provide additional insight into the roots of academic stress. Pascoe et al. (2020) argued that high expectations, competitive evaluation systems, and unclear academic guidelines contribute significantly to student stress. Mesidor and Sly (2016) further reported that international students experience additional academic stress due to language barriers, cultural adjustment, and unfamiliar instructional methods. Classic definitions by Sharma and Kaur (2011) stress that academic transitions themselves such as moving from school to college create new responsibilities and expectations that heighten stress.

The psychological burden associated with academic stress has been extensively documented in recent years. Li et al. (2024) reported that academic stress predicts significant increases in emotional exhaustion, anxiety, and feelings of inadequacy among college students. Cui et al. (2024) found that prolonged academic stress diminishes psychological resilience and contributes to lowered self-esteem. Gallup (2023) revealed that students experiencing daily academic stress are nearly twice as likely to report anxiety symptoms compared to their peers.

Earlier meta-analytic evidence from Pascoe et al. (2020) validated these findings, indicating that academic stress is strongly associated with depression, irritability, and general psychological distress. Ibrahim et al. (2013) noted that students under sustained academic pressure often report feelings of helplessness, low mood, and fatigue, indicating the wide-ranging emotional consequences of academic overload. These psychological effects not only diminish well-being but also impair students' capacity to cope with further academic demands.

Academic stress often results in maladaptive behavioural patterns. Recent studies by Li et al. (2024) show that students under high academic stress are more likely to engage in procrastination, avoidance, and self-handicapping behaviours, all of which reduce academic efficiency. Earlier research by Ibrahim et al. (2013) identified associations between academic stress and unhealthy lifestyle habits, such as poor diet, reduced physical activity, increased caffeine consumption, and occasional substance misuse. These behaviours may temporarily alleviate stress but often contribute to worsening academic and mental health over time.

Misra and McKean (2000) noted that academic stress also contributes to time management difficulties, disruptions in daily routines, and declines in social engagement. Such behavioural consequences not only reflect students' attempts to cope with heavy academic pressure but also create feedback loops that intensify the stress experience.

Burnout is increasingly recognised as a critical consequence of prolonged academic stress. Li et al. (2024) found strong associations between academic stress and burnout symptoms, including emotional exhaustion, detachment from academic tasks, and reduced academic efficacy. Garefelt et al. (2020) earlier demonstrated that sustained academic pressure leads to long-term motivational decline, academic disengagement, and diminished performance. Burnout has also been linked to physical and mental health problems, including chronic fatigue, anxiety, and susceptibility to illness.

Earlier literature has shown that burnout develops gradually, often beginning with excessive workload and poor coping resources before progressing to emotional exhaustion and cynicism. This progression underscores the importance of early intervention and support for students experiencing academic stress.

Recent studies reveal that academic stress has significant effects on physical health. Tsigos et al. (2020) explain that academic stress activates the HPA axis, elevating cortisol levels and contributing to fatigue, headaches, gastrointestinal issues, and weakened immunity. Earlier research by Kyrou and Tsigos (2009) also linked chronic academic stress to metabolic disturbances and weight changes.

Studies such as Black and Garbutt (2002) document associations between chronic stress including academic stress and increased risk of hypertension, cardiovascular problems, and physiological deregulation. These findings indicate that the impact of academic stress extends beyond psychological functioning to influence long-term health outcomes.

1.5 Relationship Between Academic Stress and Sleep Quality Among College Students

The relationship between academic stress and sleep quality has received increasing empirical attention in recent years, reflecting growing concerns about the well-being of college students. Recent studies demonstrate that academic stress is one of the strongest predictors of sleep disturbances among young adults. Zhang et al. (2023) reported that higher academic

stress significantly predicts poorer sleep quality, with sleep acting as a mediator between stress and depressive symptoms. Similarly, Li et al. (2024) found that rumination intensifies the impact of academic stress on sleep, leading to prolonged sleep onset, fragmented sleep, and reduced overall restorative sleep. These findings affirm that sleep disturbances are not merely a by-product of busy academic schedules but a direct consequence of stress-related psychological and physiological processes.

Academic stress influences both the quantity and quality of sleep. Students experiencing high levels of academic pressure frequently extend study hours late into the night, sacrifice sleep before examinations, and maintain irregular sleep–wake schedules due to fluctuating academic demands. Son et al. (2020) found that during the pandemic, nearly 70% of students experienced sleep disruptions directly linked to heightened academic pressure and uncertainty. Earlier findings by Pascoe et al. (2020) also demonstrated that academic stress contributes to persistent sleep problems among students, including inconsistent bedtimes and reduced sleep duration. These disruptions often lead to daytime sleepiness, impaired concentration, and diminished academic performance, creating a cycle in which stress and poor sleep mutually reinforce each other.

A large body of evidence shows that cognitive arousal is a key mechanism linking academic stress to sleep impairment. Under high stress, students experience intrusive thoughts, worry, and rumination about upcoming exams, deadlines, or academic performance. Li et al. (2024) emphasised that such cognitive hyper arousal delays sleep onset and increases night time awakenings. Earlier research by Jarrin et al. (2014) confirmed that stress-related cognitive activity interferes with the initiation and maintenance of sleep, contributing to insomnia symptoms. Lund et al. (2010), in one of the most influential studies on student sleep patterns, found that academic stress significantly predicts sleep disturbances among college students, including delayed sleep onset and poor sleep efficiency.

The physiological mechanisms underlying this relationship have also been well documented. Tsigos et al. (2020) explained that academic stress activates the Hypothalamic–Pituitary–Adrenal (HPA) axis, triggering the release of cortisol, a hormone that increases alertness and disrupts the body's natural circadian rhythm. This hormonal activation makes it difficult for students to initiate sleep, especially when stress occurs late in the day. Earlier work by Kim and Dimsdale (2007) similarly highlighted that elevated stress levels lead to heightened sympathetic nervous system activity, preventing the physiological relaxation required for

sleep. These processes produce a state of both cognitive and physiological hyperarousal, which directly impairs sleep quality.

Poor sleep, in turn, magnifies academic stress. Zhang et al. (2023) showed that inadequate sleep increases emotional vulnerability, reduces motivation, and exacerbates the psychological effects of academic pressure. Shields et al. (2019) demonstrated that sleep deprivation impairs working memory, attention, and cognitive flexibility, making it more difficult for students to meet academic demands. Earlier work by Curcio et al. (2006) provided foundational evidence that poor sleep reduces learning capacity, memory consolidation, and academic efficiency. Thus, students who sacrifice sleep to manage academic responsibilities often experience diminished cognitive functioning, leading to poorer performance and heightened stress reinforcing a detrimental cycle.

Furthermore, sleep disturbances intensify negative mood states associated with academic stress. Zhang et al. (2023) found that poor sleep mediates the relationship between academic stress and depression among college students. Earlier studies have shown similar trends, indicating that sleep problems heighten emotional reactivity, reduce coping capacity, and increase the likelihood of stress-related anxiety (Alvaro et al., 2013; Jarrin et al., 2014). These emotional consequences further interfere with academic engagement, reinforcing stress and undermining well-being.

Overall, the literature clearly demonstrates a strong bidirectional relationship between academic stress and sleep quality. Contemporary studies show that academic stress disrupts sleep through psychological (rumination, worry), behavioural (late-night studying), and physiological (HPA activation) pathways. Poor sleep then exacerbates academic difficulties and emotional distress, making students more vulnerable to the effects of academic pressure. This cyclical interaction underscores the importance of addressing both stress management and sleep hygiene within university settings to support student health and academic success.

1.6 Statement of The Problem

The present study is entitled as “The Relationship between Academic Stress and Sleep Quality Among College Students”.

1.7 Operational Definitions

Academic stress: Academic stress refers to the level of stress experienced by college students in relation to academic demands.

Sleep quality: Sleep quality refers to the subjective evaluation of an individual's sleep characteristics, including duration, latency, efficiency, disturbances, and daytime functioning.

College students: College students refer to individuals aged approximately 18–25 years who are currently enrolled in undergraduate or postgraduate degree programs.

1.8 Objectives

O1- To examine the relationship between academic stress and sleep quality among college students.

O2- To assess the difference in academic stress between male and female students.

O3- To assess the level of sleep quality among undergraduate and postgraduate students.

1.9 Hypotheses

H0 - There will be no significant and positive relationship between Academic Stress and Sleep Quality.

H0 – There will be no significant gender differences in the levels of Academic Stress.

H0 – There will be no significant difference in the level of Sleep Quality between undergraduate and postgraduate students.

1.10 Delimitations

- The study is limited to college students aged 18-25 years.
- Data is collected only from selected colleges, limiting wider generalization.
- Only two variables-sleep quality and academic stress are examined.
- The study uses self-report questionnaires, not clinical or physiological sleep measures.

- The sample size is restricted to a manageable number for feasibility.

1.11Significance of the study

The present study holds significant importance in understanding how Academic stress influences sleep quality among college students. With the growing academic workload, increased competition, and lifestyle disruptions, college students often experience irregular sleep patterns that directly affect their emotional regulation, cognitive functioning, and academic performance. By examining the relationship between sleep quality and academic stress, this study aims to contribute to the existing body of knowledge in health and educational psychology, offering insights into how sleep can serve as a protective or risk factor in managing academic pressures.

The findings of this research may prove beneficial for educators, counsellors, and policymakers to design effective interventions that promote better sleep hygiene and reduce stress-related problems among students. Furthermore, the study will help students become more self-aware of their sleep patterns and how they impact overall mental well-being, concentration, and productivity. Understanding this relationship can also guide the development of workshops and counselling programs aimed at improving time management, reducing burnout, and enhancing academic success.

CHAPTER -II

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

2.1 Sleep Quality among College Students

Shrestha et al. (2023), in their study among Nepalese university students, reported that nearly two-thirds of participants scored above the clinical cut off for poor sleep quality on the Pittsburgh Sleep Quality Index. Their findings highlighted irregular sleep schedules, excessive screen exposure, and academic workload as primary contributors to poor sleep.

Similar trends have been observed in Middle Eastern contexts. Al-Oran et al. (2023) examined nursing students in Jordan and found that a majority reported sleep deprivation, delayed sleep onset, and excessive daytime sleepiness. Poor sleep quality was strongly associated with emotional exhaustion and academic overload, suggesting that demanding academic environments significantly compromise students' sleep health. Studies conducted in Saudi Arabia also support these findings. Khalil et al. (2020) reported that university students with poor sleep quality exhibited reduced alertness, impaired cognitive performance, and higher fatigue levels, which negatively affected both academic engagement and daily functioning.

Goyal et al. (2018) similarly found that medical students in India exhibited irregular sleep patterns, reduced sleep duration, and poor sleep efficiency, with academic pressure emerging as a major contributing factor. Collectively, these findings demonstrate that poor sleep quality is a widespread phenomenon among college students, transcending cultural, geographical, and disciplinary boundaries. Indian studies further reinforce the global evidence on sleep disturbances among students. Singh et al. (2016) reported that more than half of Indian dental students experienced poor sleep quality, primarily due to late-night studying, examination stress, and heavy academic workload.

2.2 Academic Stress among College Students

Academic stress refers to the psychological strain experienced by students in response to academic demands such as examinations, assignments, deadlines, competitive evaluation, and expectations for high achievement. The transition from school to college often intensifies academic stress, as students face increased workload, greater autonomy, and heightened

responsibility for academic success. Gupta and Saini (2023), in their investigation of Indian undergraduates, reported that high perceived academic stress was significantly associated with anxiety, difficulty concentrating, irritability, and frequent sleep disturbances. Their findings emphasized that academic stress not only affects academic performance but also disrupts emotional regulation and daily routines.

Al-Oran et al. (2023) observed similar patterns among Jordanian nursing students, who reported high levels of emotional exhaustion and stress due to intense academic demands and clinical responsibilities. In Indonesia, Sari et al. (2021) identified academic workload and examination pressure as major predictors of chronic stress, which in turn disrupted students' sleep–wake cycles.

Indian evidence further highlights the pervasive nature of academic stress. Yadav et al. (2021) demonstrated that Indian college students experiencing high academic stress reported low motivation, irritability, mental fatigue, and reduced academic engagement. Khalil et al. (2020) reported comparable findings among Saudi medical students, noting that sustained academic pressure contributed to chronic stress, sleep disturbances, and fatigue. These studies collectively suggest that academic stress is a central psychological challenge during college years and has far-reaching implications for students' mental health, behaviour, and physiological functioning.

2.3 Relationship between Academic Stress and Sleep Quality

Extensive research has established a strong and consistent relationship between academic stress and sleep quality among college students. This relationship is widely described as bidirectional, meaning that academic stress disrupts sleep, and poor sleep further exacerbates stress perception. Ebrahimi et al. (2020), in a study conducted among Iranian undergraduates, reported that academic stress accounted for nearly 40% of the variance in poor sleep quality. Students with higher stress levels experienced longer sleep latency, frequent night time awakenings, and reduced sleep efficiency.

Similarly, Gupta et al. (2020) reported a strong negative correlation between perceived academic stress and sleep quality among Indian students, indicating that increased stress predicted poorer sleep outcomes. Alzoub et al. (2020) found that university students experiencing elevated academic stress exhibited greater insomnia symptoms, excessive

daytime sleepiness, and reduced sleep satisfaction. These findings provide empirical support for the cyclical nature of the stress–sleep relationship.

Earlier theoretical explanations by Lemmens et al. (2016) conceptualized this interaction as a stress-induced arousal cycle, wherein heightened academic stress increases cognitive rumination and physiological arousal, making it difficult to initiate and maintain sleep. Empirical evidence from Ethiopian students further demonstrated that stress and anxiety significantly predicted poor sleep quality, reinforcing the universality of this relationship across cultures (Lemma et al., 2016). Together, these findings confirm that academic stress and sleep quality are closely interdependent and jointly influence students' mental health and academic functioning.

2.4 Gender and Environmental Factors

Gender differences have been consistently reported in studies examining academic stress and sleep quality. Female students generally report higher perceived stress and poorer sleep quality compared to male students. Shrestha et al. (2023) found that female students experienced poorer sleep quality and higher stress levels, often due to combined academic, emotional, and social pressures.

Environmental factors further shape students' stress and sleep experiences. Campus atmosphere, hostel living conditions, urban noise, peer culture, and academic competitiveness have all been identified as influential factors. Sari et al. (2021) noted that crowded living environments, lack of structured routines, and excessive academic pressure negatively affected students' sleep quality. Alzoub et al. (2020) also reported higher rates of insomnia, stress-related fatigue, and emotional exhaustion among female university students. These findings suggest that interventions aimed at improving sleep quality must consider both gender-specific vulnerabilities and environmental contexts.

2.5 Psychological and Behavioral Correlates

Psychological factors such as anxiety, depression, and perceived stress play a critical role in shaping sleep quality and academic functioning. Al-Oran et al. (2023) reported that students experiencing high stress and poor sleep quality exhibited increased emotional exhaustion, reduced motivation, and cognitive difficulties.

Behavioural habits also contribute significantly to sleep disturbances. Shrestha et al. (2023) found that extensive social media use and late-night electronic device engagement delayed sleep onset and shortened total sleep duration. Sari et al. (2021) and Khalil et al. (2020) identified irregular meal timings, caffeine consumption, and sedentary lifestyles as behavioural contributors to poor sleep quality. Lemma et al. (2016) further demonstrated that stress-induced insomnia was a significant predictor of depressive symptoms, which in turn worsened academic engagement and performance. These findings highlight the multifactorial nature of sleep disturbances, influenced by psychological vulnerability as well as lifestyle choices.

2.6 Neurocognitive Impact of Poor Sleep Under Academic Stress

Recent literature emphasizes the neurocognitive consequences of poor sleep quality, particularly under conditions of sustained academic stress. Sleep deprivation and fragmented sleep negatively affect attention, executive functioning, working memory, and emotional regulation functions that are critical for academic success. Brown et al. (2012) explained that chronic sleep disruption interferes with prefrontal cortex functioning, leading to impaired decision-making and reduced cognitive flexibility. These impairments become more pronounced when combined with academic stress, which further taxes cognitive resources.

Similarly, Killgore (2010) reported that sleep-deprived individuals exhibit slower reaction times, reduced vigilance, and increased susceptibility to errors Curcio et al. (2006) demonstrated that students experiencing sleep loss showed diminished learning capacity and reduced ability to consolidate newly acquired information. In academic settings, these deficits translate into poor examination performance, reduced classroom engagement, and lower academic confidence. When academic stress is present, these cognitive impairments are intensified, creating a cycle in which stress and poor sleep jointly undermine academic functioning.

2.7 Emotional Regulation, Stress Reactivity, and Sleep Disturbance

Sleep plays a critical role in emotional regulation, and disruptions in sleep have been linked to heightened emotional reactivity and stress sensitivity. Diekelmann and Born (2010) highlighted that REM sleep is particularly important for emotional processing and memory integration. Disrupted REM sleep, which is commonly observed among stressed college

students, results in difficulty regulating negative emotions and coping with academic challenges.

Al-Oran et al. (2023) observed that students with poor sleep quality reported higher emotional exhaustion and lower academic engagement, emphasizing the emotional costs of sleep deprivation under stress. Baglioni et al. (2016) found that insomnia significantly increased vulnerability to depression, suggesting that chronic sleep disturbances may act as a precursor to psychological disorders. In the context of academic stress, poor sleep amplifies emotional exhaustion, irritability, and anxiety, making it more difficult for students to manage academic demands effectively.

2.8 Cross-Cultural Evidence on Academic Stress and Sleep Quality

In South Asian contexts, Shrestha et al. (2023) and Gupta and Saini (2023) highlighted the role of cultural expectations, family pressure, and competitive academic environments in intensifying stress and disrupting sleep. Indian students, in particular, face strong societal emphasis on academic achievement, which often leads to extended study hours and compromised sleep. Cross-cultural studies provide valuable insights into the universality of the stress–sleep relationship among college students. Research conducted in Iran, Jordan, Saudi Arabia, Nepal, Indonesia, and India consistently demonstrates high prevalence of poor sleep quality associated with academic stress.

Ebrahimi et al. (2020) reported that Iranian students experiencing high academic stress were significantly more likely to report insomnia symptoms and daytime dysfunction. Similar findings were reported by Alzoub et al. (2020) among Middle Eastern university students. These cross-cultural findings suggest that while academic stress and sleep disturbances are global phenomena, cultural and contextual factors influence their severity and expression.

2.9 Academic Stress, Sleep Quality, and Academic Performance

Several studies have explored the mediating role of sleep quality in the relationship between academic stress and academic performance. Zhou and King (2022) further demonstrated that stress reactivity mediated the relationship between poor sleep and academic burnout. Students with inadequate sleep showed heightened stress responses, which contributed to emotional exhaustion and reduced academic efficacy. These findings suggest that sleep quality acts as a crucial pathway through which academic stress affects academic outcomes.

Taylor et al. (2013) reported that sleep quality was a stronger predictor of academic performance than sleep duration alone. Students experiencing high academic stress but maintaining better sleep quality demonstrated relatively better academic outcomes compared to those with poor sleep quality.

2.10 Methodological Trends in Sleep and Academic Stress Research

A review of methodologies reveals that most studies examining academic stress and sleep quality employ cross-sectional designs and self-report measures such as the PSQI and perceived stress scales. While these methods provide valuable insights, they limit causal inference. Mollayeva et al. (2016) emphasized the need for longitudinal and mixed-method approaches to better understand the dynamic relationship between stress and sleep.

Additionally, many studies focus on specific professional groups, limiting generalizability. This highlights the need for broader investigations across diverse academic streams, particularly within the Indian context. The present study addresses this methodological gap by examining undergraduate students from multiple disciplines.

2.11 Coping Strategies and Lifestyle Factors

Recent research emphasizes the role of coping strategies and lifestyle behaviours in moderating the impact of academic stress on sleep quality. Ali et al. (2022) reported that students who practiced adaptive coping strategies such as mindfulness, physical exercise, and effective time management experienced lower perceived stress and better sleep efficiency. Similarly, a study published in Frontiers in Public Health demonstrated that institutional stress-management programs and physical activity interventions significantly improved sleep quality and academic coping skills among college students.

The review of literature indicates that academic stress and poor sleep quality are highly prevalent among college students, largely attributable to escalating academic demands, frequent examinations, heavy workloads, intense competition, and shifting lifestyle patterns. Numerous studies have consistently demonstrated that excessive academic stress adversely impacts students' emotional well-being, concentration, academic performance, and overall mental health. Similarly, research highlights that poor sleep quality is associated with increased fatigue, emotional instability, diminished cognitive functioning, and reduced academic efficiency.

Furthermore, the existing literature underscores a significant bidirectional relationship between academic stress and sleep quality, wherein heightened stress levels contribute to disturbed sleep, while impaired sleep, in turn, exacerbates stress and related psychological difficulties. Although several studies have examined academic stress and sleep quality independently, there remains a paucity of research that simultaneously investigates the interrelationship between these two variables, particularly among general college students in the Indian higher education context.

The present study seeks to address this identified gap by systematically examining the relationship between academic stress and sleep quality among college students.

2.12 Research Gap

Most of the existing studies on academic stress and sleep quality have been conducted in Western or foreign settings, while limited research has focused specifically on Indian college students. Previous research has largely concentrated on medical, engineering, and other professional students, whereas students from general academic streams remain comparatively underrepresented. Furthermore, many studies have examined academic stress and sleep quality as separate variables, with only a few exploring the relationship between the two simultaneously. In addition, gender differences and variations based on academic qualification, such as undergraduate and postgraduate levels, have not been adequately investigated within the Indian higher education context. There is also a lack of sufficient research addressing academic stress and sleep quality among college students in the post-COVID-19 academic environment, where changing learning methods and increasing psychological demands may significantly influence students overall well-being.

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CHAPTER- III

RESEARCH METHODOLOGY

CHAPTER III

RESEARCH METHODOLOGY

Research methodology is basically the overall plan or blueprint of how a study is conducted. It describes the entire process a researcher follows to collect, analyse,and interpret data in order to answer the research questions. It includes everything from how the sample was selected, what tools were used to collect data, how data was analysed, what statistical techniques were applied.

3.1 Research Design

The present study adopted a quantitative cross-sectional research design to examine the relationship between academic stress and sleep quality among college students. A quantitative approach was employed because the study aimed to objectively measure the variables and analyse their relationship using statistical techniques. The cross-sectional design involved collecting data from college students at a single point in time, allowing the researcher to assess the current levels of academic stress and sleep quality in the population. This research design was considered appropriate as it enabled the systematic, objective, and efficient examination of patterns, relationships, and differences among the study variables. In particular, the study sought to identify gender differences in academic stress and differences in sleep quality between undergraduate and postgraduate students.

3.2 Population & Sample

Population refers to the entire group of individuals, objects, or elements that possess certain characteristics relevant to a research study. It is the complete set from which the researcher selects a sample for investigation.

The study population comprised undergraduate and postgraduate male and female students aged 18-25 years from colleges in the Jammu region.

The foundation of each scientific study is sampling. An efficient sample saves time, cost, and effort and minimizes estimation errors. The study's goals, methodology, and characteristics of the population under investigation are some of the variables that influence the sample size. The researcher selected a manageable sample for the present study due to limitations of time and resources.

A total of 150 college students (N = 150) were selected as participants for the study. The participants included both male and female students and belonged to undergraduate and

postgraduate programs. The age range of the participants was 18 to 25 years. The participants were selected from different colleges and academic streams to obtain varied responses regarding academic stress and sleep quality.

3.3 Sampling technique

In the present study, convenient sampling technique was used for collecting the data.Convenient sampling ensures that every individual in the population has an equal chance of being selected for the study. This technique helps reduce bias and increases the representativeness of the sample.

The use of convenient sampling enabled the researcher to select participants from different academic backgrounds and demographics. This method helps in improving the reliability and generalizability of the findings related to academic stress and sleep quality among college students.

3.4 Research tools and description

Selecting appropriate research tools is essential for conducting a successful research study. Depending on the objectives of the study, suitable instruments are selected to collect relevant data. The choice of data collection tools depends on the nature and scope of the research problem.

- PITTSBURGH SLEEP QUALITY INDEX (PSQI)

The Pittsburgh Sleep Quality Index (PSQI) was developed by Buysse, Reynolds, Monk, Berman, and Kupfer (1989). It is a widely used self-report questionnaire designed to assess sleep quality and sleep disturbances over a one-month time interval.

The PSQI consists of 19 individual items that are grouped into seven components, which include:

- Subjective Sleep Quality
- Sleep Latency
- Sleep Duration Habitual Sleep Efficiency
- Sleep Disturbances
- Use of Sleep Medication
- Daytime Dysfunction

Each component is scored on a four-point scale (0–3), where higher scores indicate poorer sleep quality. The seven component scores are summed to obtain a global PSQI score, which ranges from 0 to 21.

A global score greater than 5 indicates poor sleep quality, while lower scores indicate better sleep quality. The PSQI has demonstrated strong reliability and validity and is widely used in clinical psychology, sleep research, and community studies.

- ACADEMIC STRESS SCALE

The Academic Stress Scale was developed by Kim (1970) to measure the level of academic stress experienced by students. The scale consists of 40 items designed to assess various sources of academic stress among students.

The scale measures stress related to:

- Study pressure
- Examination stress
- Academic workload
- Teacher expectations
- Peer competition

Participants respond to the statements based on their level of agreement or frequency of experience. Higher scores on the scale indicate higher levels of academic stress among students. The Academic Stress Scale has been widely used in educational and psychological research and has demonstrated good reliability and validity for measuring

3.5 Statistical techniques employed

In order to analyze the collected data, the investigator used the following statistical techniques:

- Mean
- Standard Deviation
- t-test
- Pearson’s Product Moment Correlation

The Mean and Standard Deviation will be used to describe the central tendency and variability of the scores obtained from the participants.

The t-test will be used to examine the differences between groups, particularly to determine gender differences in academic stress and differences in sleep quality between undergraduate and postgraduate students academic stress among student populations.

The Pearson's Product Moment Correlation will be used to determine the relationship between academic stress and sleep quality among college students. All statistical analyses to be conducted using the Statistical Package for Social Sciences (SPSS).

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

The present study was conducted to examine the relationship between Academic Stress and Sleep Quality among College Students. The study aimed to understand how academic demands and stress levels influence the sleep patterns and overall sleep quality of students. Additionally, the study explored differences in academic stress and sleep quality across various demographic variables such as gender, qualification, course, and type of institution.

A total of 149 participants were included in the study. Data were collected using standardized measures of academic stress and sleep quality. Descriptive and inferential statistical techniques were employed to analyze the data. The findings are presented systematically in the form of tables and figures for clarity and better interpretation.

This chapter presents a detailed analysis of the results obtained from the study. It begins with the description of the demographic characteristics of the sample, followed by the analysis of the relationship between academic stress and sleep quality. Further, differences across demographic variables are examined. The findings are discussed in the context of existing literature and relevant theoretical frameworks.

4.1 Demographic characteristics of the sample

Table 4.1

Frequency distribution of males and females

Gender	Frequency	Percent
Male	62	41.6
Female	87	58.4
Total	149	100.0

Table 4.1 shows the distribution of participants based on gender. Out of the total sample of 149 respondents, 62 (41.6%) were males and 87 (58.4%) were females. The findings indicate that the sample consisted of a higher proportion of female participants than male participants which is shown in fig.1

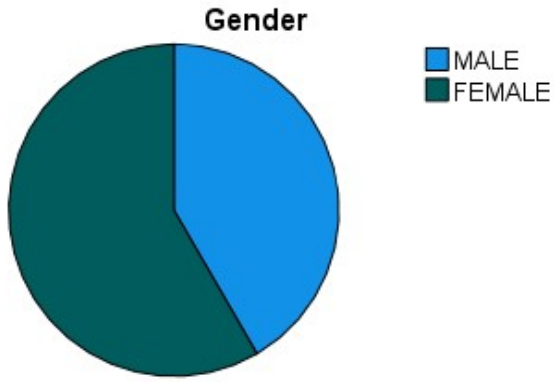


Figure 4.1

Frequency distribution of gender catagorized as Male and Female

Table 4.2

Frequency distribution of different age groups

Age	Frequency	Percent
18-21	102	68.5
22-25	47	31.5
Total	149	100.0

Table 4.2 represents the frequency distribution of participants based on age. It shows the number and percentage of respondents across different age groups within the total sample of 149 individuals. As indicated in the table 2, 102 participants (68.5%) belong to the age group of 18-21 years, while 47 participants (31.5%) fall within the age group of 22-25 years.

Thus, the majority of the participants were in the age group of 18-21 years, indicating that the sample primarily consisted of Undergraduates as given in the fig. below

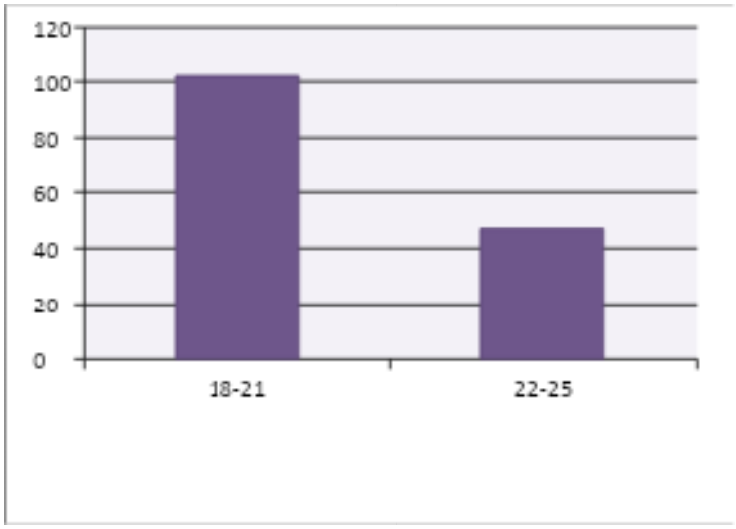


Figure 4.2

Frequency distribution of age grouped as 18-21 and 22-25

Table 4.3

Frequency distribution of the qualification of the college students

Qualification	Frequency	Percent
Undergraduate	88	59.1
Postgraduate	61	40.9
Total	149	100.0

Table 4.3 presents the frequency distribution of participants based on their educational qualification. It shows the number and percentage of undergraduate and postgraduate students within the total sample of 149 individuals. As indicated in the table, 88 participants (59.1%) were undergraduate students, while 61 participants (40.9%) were postgraduate students. Thus, the majority of the participants belonged to the undergraduate category, indicating that the sample was predominantly composed of undergraduate students which is indicated in the fig. below



Figure 4.3

Frequency distribution table on the basis of qualification of the students

Table 4.4

Frequency distribution of the courses of the students

Course	Frequency	Percent
Humanities	73	49.0
Commerce	23	15.4
Science	53	35.6
Total	149	100.0

Table 4.4 presents the frequency distribution of participants based on their course of study. It shows the number and percentage of students from different academic streams within the total sample of 149 individuals. As indicated in the table, 73 participants (49.0%) belonged to the Humanities stream, 23 participants (15.4%) were from Commerce, and 53 participants (35.6%) were from the Science stream.

Thus, the majority of the participants were from the Humanities stream, followed by Science, while the least number of participants belonged to the Commerce stream as demonstrated in the fig. below

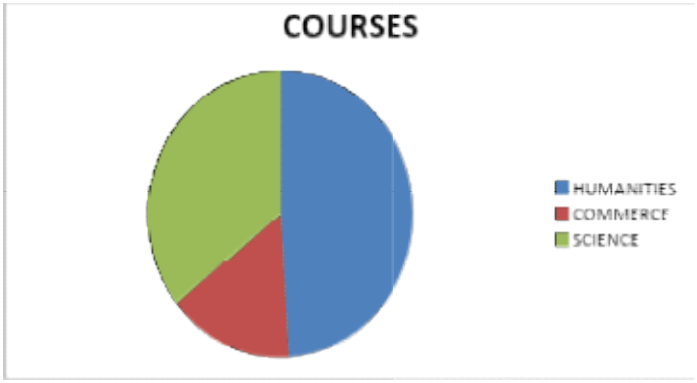


Figure 4.4

Representation of the distribution of participants across the courses

Table 4.5

Frequency distribution of Type of Institution

Type of Institution	Frequency	Percent
Private	43	28.9
Government	35	23.5
Autonomous	71	47.6
Total	149	100.0

Table 4.5 presents the frequency distribution of participants based on the type of institution. Out of the total sample of 149 college students, 71 participants (47.6%) belonged to autonomous institutions, 43 participants (28.9%) were from private institutions, and 35 participants (23.5%) were from government institutions.

The findings indicate that the majority of the participants were from autonomous institutions, followed by private institutions, while the least number of participants were from government

institutions. This suggests that the sample is predominantly composed of students from autonomous institutions.

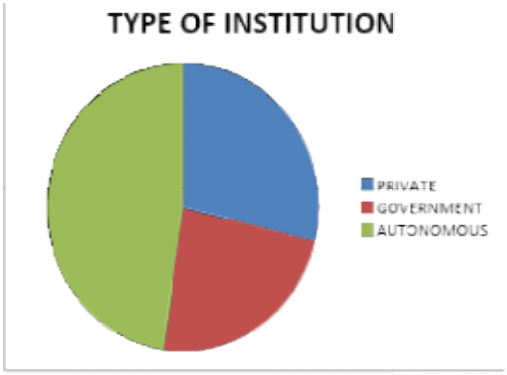


Figure 4.5

Frequency distribution on the basis of Type of Institution

4.2 Correlation Analysis of the Study Variables

Table 4.6

Relationship between Academic Stress and Sleep Quality among college students

Variables	Mean	SD	N	Academic Stress	Sleep Quality
Academic Stress	108.38	31.00	149	1	0.338**
Sleep Quality	7.54	3.58	149	0.338**	1

Note : M and SD are used to represent Mean and Standard Deviation, respectively. Significant at 0.1 ** (p< 0.1)

Table 4.6 presents the relationship between academic stress and sleep quality among college students. The mean score of academic stress was found to be 108.38 (SD = 31.00), while the mean score of sleep quality (PSQI total) was 7.54 (SD = 3.58), based on a sample of 149 participants.

The Pearson correlation analysis revealed a moderate positive correlation between academic stress and sleep quality ($r = 0.338$, $p < .001$), which is statistically significant at the 0.01 level. This indicates that as academic stress increases, poor sleep quality also tends to increase among college students. Since higher PSQI scores reflect poorer sleep quality, the positive direction of the correlation suggests that students experiencing higher levels of academic stress are more likely to report disturbed or inadequate sleep.

Thus, the findings confirm a significant relationship between academic stress and sleep quality. Therefore, the null hypothesis (H0) which stated that academic stress is not associated with poorer sleep outcomes is rejected.

4.3 Gender differences in Academic Stress

Table 4.7

Gender differences in Academic Stress among college students

Variable	Males		Females		t	P
	M	SD	M	SD		
Academic Stress Scale	104.87	31.99	110.89	30.22	-1.169	.244

Table 4.7 presents the comparison of academic stress levels between male and female college students. The mean score of academic stress among male students was 104.87 (SD = 31.99), while female students reported a slightly higher mean score of 110.89 (SD = 30.22).

An independent samples t-test was conducted to examine whether this difference was statistically significant. The results revealed that there was no statistically significant difference in academic stress between male and female students, $t = -1.169$, $p = .244$. As the obtained p-value is greater than the level of significance ($p > .05$), the difference is not significant.

Therefore, the hypothesis (H0) stating that there will be no significant gender difference in the levels of academic stress is supported.

4.4 Differences in Sleep Quality among undergraduate and postgraduate students

Table 4.8

Differences in Sleep Quality among undergraduate and postgraduate students

Variable	Undergraduates		Postgraduates		t	P
	M	SD	M	SD		
PSQ	7.49	3.43	7.62	3.80	0.225	0.823

Table 4.8 presents the comparison of sleep quality between undergraduate and postgraduate students. The mean score of sleep quality among undergraduate students was 7.49 (SD = 3.43), whereas postgraduate students reported a slightly higher mean score of 7.62 (SD = 3.80).An independent samples t-test was conducted to examine whether this difference was statistically significant. The results revealed that there was no significant difference in sleep quality between undergraduate and postgraduate students, $t = 0.225$, $p = .823$. Since the obtained p-value is greater than the level of significance ($p > .05$), the difference is not statistically significant.

Therefore, the hypothesis (H0) stating that there will be no significant difference in the level of sleep quality between undergraduate and postgraduate students is supported .

4.5 Interpretation of findings

Overall, the findings indicate that academic stress and sleep quality are significantly related among college students. Higher academic stress was associated with poorer sleep quality, highlighting the negative impact of academic pressure on students' well-being. No significant gender differences were found in academic stress among male and female students. Similarly, no significant differences were observed in sleep quality between undergraduate and postgraduate students. These findings emphasize the importance of managing academic stress and promoting healthy sleep habits among college students.

Chapter-V

FINDINGS, CONCLUSIONS, DISCUSSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

CHAPTER V

FINDINGS, CONCLUSIONS, DISCUSSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The present study was undertaken to investigate the relationship between academic stress and sleep quality among college students. In today's highly competitive academic environment, escalating academic demands, performance pressures, and lifestyle shifts have substantially affected students' psychological well-being. Sleep, being essential for cognitive performance, emotional regulation, and overall health, is frequently disrupted under conditions of elevated academic stress.

This chapter presents a comprehensive discussion of the study's findings in light of existing empirical literature and relevant theoretical frameworks. It further delineates the theoretical and practical implications of the results, acknowledges the limitations of the study, offers recommendations for future research, and concludes with a concise summary of the major findings.

The study was guided by the following objectives :

O1 To examine the relationship between academic stress and sleep quality among college students.

O2 To assess gender differences in academic stress among college students.

O3 To examine differences in sleep quality between undergraduate and postgraduate students.

After reviewing the literature following hypothesis were formulated :

H0 There will be no significant relationship between academic stress and sleep quality among college students

H0 There will be no significant gender differences among college students.

H0 There will be no significant differences in sleep quality between undergraduate and postgraduate students

The findings revealed a statistically significant relationship between academic stress and sleep quality. However, no significant gender differences were observed in academic stress

levels, and no significant differences emerged in sleep quality between undergraduate and postgraduate students. These results are discussed in detail in the subsequent sections.

5.1 Interpretation of the Findings

5.1.1 Relationship between Academic Stress and Sleep Quality

The primary objective of the present study was to examine the relationship between academic stress and sleep quality among college students. The results revealed a moderate positive correlation ($r = 0.338$, $p < .01$), indicating that higher levels of academic stress are significantly associated with poorer sleep quality.

This finding aligns with a substantial body of existing empirical evidence. Zhang et al. (2023) demonstrated that academic stress is a significant predictor of sleep disturbances among university students, with sleep quality acting as a mediating factor in psychological outcomes. Similarly, Li et al. (2024) identified rumination as a key mechanism through which academic stress disrupts sleep, leading to delayed sleep onset and fragmented sleep patterns.

At the physiological level, academic stress activates the hypothalamic-pituitary-adrenal (HPA) axis, resulting in increased cortisol secretion. Dimsdale and Kim (2007) explained that elevated cortisol levels disrupt circadian rhythms and prolong physiological arousal, thereby impairing sleep quality. Complementing this, Jarrin et al. (2014) emphasized that academic stress induces cognitive hyper arousal in the form of persistent worry, intrusive thoughts, and performance-related anxiety, which interferes with both sleep initiation and maintenance, often manifesting as insomnia-like symptoms.

The present findings also support the bidirectional nature of the stress-sleep relationship. Alvaro et al. (2013), through a systematic review, established that sleep disturbances not only result from stress but also exacerbate stress levels, creating a vicious cyclical interaction. Shields et al. (2019) further demonstrated that sleep deprivation impairs cognitive functioning, which in turn increases perceived academic difficulty and stress.

Further support is provided by studies conducted in the Indian context. Gupta et al. (2020) reported a significant positive association between perceived academic stress and poor sleep quality among Indian college students. Likewise, Ebrahimi et al. (2020) found that academic stress accounted for a substantial proportion of variance in sleep disturbances, underscoring its strong predictive role.

Hence, the null hypothesis (H0), which proposed no significant relationship between academic stress and sleep quality, was rejected based on the obtain findings.

5.1.2 Gender Differences in Academic Stress

The second objective of the study was to assess gender differences in academic stress among college students. The analysis revealed no statistically significant difference between male and female students ($p > .05$). Although female students reported slightly higher mean academic stress scores, the difference did not reach statistical significance.

This finding is consistent with existing literature. Folkman and Lazarus (1984), in their Transactional Model of Stress and Coping, posited that stress arises primarily from an individual's cognitive appraisal of demands relative to available coping resources, rather than from demographic variables such as gender. Supporting this perspective, Yadav et al. (2021) observed that both male and female college students experience comparable levels of academic pressure due to shared academic expectations, workload, and performance demands. Similarly, Gupta and Saini (2023) reported no significant gender differences in academic stress among Indian college students, despite minor variations in emotional expression.

The absence of significant gender differences in the present study may be attributed to the evolving academic environment in India, where educational opportunities, expectations, and competitive pressures have become increasingly similar across genders. Consequently, academic stress appears to be influenced more by structural and institutional factors such as heavy coursework, frequent evaluations, and intense competition than by gender-specific variables.

Thus, the hypothesis that there will be no significant gender difference in academic stress among college students is supported by the findings of the present study.

5.1.3 Differences in Sleep Quality between Undergraduate and Postgraduate Students

The third objective of the study was to examine differences in sleep quality between undergraduate and postgraduate students. The results indicated no statistically significant difference between the two groups ($p > .05$). Although postgraduate students obtained slightly higher mean scores on the sleep quality index, the difference was not statistically significant. This suggests that poor sleep quality is a widespread concern across both academic levels.

This finding is consistent with previous research in the field. Lund et al. (2010) reported that sleep disturbances are highly prevalent among college students regardless of their academic level. Similarly, Chervin and Hershner (2014) highlighted that irregular sleep schedules, heavy academic workload, and lifestyle factors negatively affect sleep quality across all stages of higher education. More recently, Shrestha et al. (2023) also observed a high prevalence of poor sleep quality among university students, further indicating that sleep problems are not limited to any particular academic group.

The present findings suggest that sleep quality among college students is influenced more strongly by behavioral and environmental factors such as excessive screen time, irregular sleep schedules, and continuous academic pressure than by the level of study (undergraduate or postgraduate) alone.

Thus, the hypothesis that there will be no significant difference in sleep quality between undergraduate and postgraduate students stands supported.

5.2 Implications for Theory and Research

The findings of the present study carry several important theoretical and research implications. The results provide strong empirical support to the Transactional Model of Stress and Coping proposed by Folkman and Lazarus (1984). The significant relationship observed between academic stress and sleep quality validates the core proposition of this model that stress emerges when individuals appraise environmental demands as exceeding their available coping resources. The study also aligns with the bio-psychosocial model of health, demonstrating how biological (HPA axis activation and cortisol secretion), psychological (cognitive hyperarousal and rumination), and social (academic workload and competition) factors interact to influence sleep quality.

Furthermore, the present findings reinforce the bidirectional model of stress and sleep (Alvaro et al., 2013), confirming that academic stress and poor sleep quality maintain a reciprocal relationship, each exacerbating the other.

From a research perspective, this study contributes to the growing body of literature on student mental health in the Indian context by highlighting the critical interplay between academic stress and sleep. It underscores the need for future studies to explore mediating and moderating variables such as coping strategies, resilience, and digital screen exposure in greater depth.

5.3 Educational Implications

- Academic stress being linked to workload and deadlines suggests that educational institutions should review and balance academic demands, such as reducing excessive workload, spacing out deadlines, and adopting flexible evaluation methods.
- Since poor sleep quality affects concentration and learning, institutions should promote student well-being through awareness programs on sleep hygiene, stress management workshops, and a more balanced academic schedule.
- The absence of gender differences indicates that stress-management strategies should be implemented universally for all students, rather than targeting a specific gender group.

Overall, the findings highlight the need for educational institutions to create a supportive and student-friendly environment, including counseling services, mental health support, and policies that prioritize students' psychological well-being.

5.4 Recommendations for future research

- Future studies should adopt longitudinal or experimental approaches to better understand causal relationships.
- Research should include participants from diverse regions, institutions, and backgrounds to enhance generalizability.
- Future research should examine factors such as coping strategies, anxiety, depression, and lifestyle habits as potential mediators or moderators.
- Using objective tools like sleep trackers can improve the accuracy of sleep assessment.

5.5 Limitations of the Study

The present study has several limitations that should be considered while interpreting the findings. Firstly, the sample size was relatively small and confined to a limited geographic region, which restricts the generalizability of the results to the broader population of college students in India. Secondly, the study relied entirely on self-report measures for assessing both academic stress and sleep quality, which may have introduced response biases such as social desirability and common method bias.

. Furthermore, certain relevant variables, including anxiety, depression, coping strategies, and screen time, were not included in the study, which may have influenced the results.

5.6 Conclusion

The present study convincingly demonstrates that academic stress is a significant predictor of poor sleep quality among college students. The findings reveal a clear and meaningful association between heightened academic stress and increased sleep disturbances, thereby underscoring the deeply interconnected nature of psychological and physiological well-being in the lives of young adults.

The absence of significant gender and academic level differences further highlights that academic stress and compromised sleep quality are pervasive challenges affecting college students across demographic groups. Rather than being confined to specific subgroups, these issues appear to be systemic within the contemporary higher education environment.

In conclusion, this study emphasizes the urgent need for integrated, holistic interventions that simultaneously address academic stress and sleep health. By fostering a balanced academic ecosystem that promotes effective stress management, healthy sleep practices, and overall student well-being, educational institutions can significantly enhance not only academic performance but also the long-term mental and physical health of future generation.

SUMMARY

SUMMARY

TOPIC: RELATIONSHIP BETWEEN ACADEMIC STRESS AND SLEEP QUALITY AMONG COLLEGE STUDENTS

SUPERVISOR

Upasana Moten

Assistant Professor

INVESTIGATOR

Sehaj Chawla

Roll No. 2208016

Semester VIII

Introduction

Sleep constitutes one of the most fundamental biological processes essential for sustaining physical health, emotional equilibrium, cognitive performance, and overall psychological well-being. Contemporary psychological research conceptualizes sleep not as a passive state of rest, but as an active neurobiological process that facilitates memory consolidation, emotional regulation, neural restoration, and adaptive stress management. Sufficient sleep has been shown to significantly enhance concentration, learning capacity, decision-making abilities, and academic performance. Nevertheless, the demands of modern academic life characterized by prolonged screen exposure, irregular sleep schedules, and intense academic pressures have substantially compromised sleep quality among college students.

College students constitute a particularly vulnerable population regarding sleep disturbances and stress-related challenges. The combination of heavy academic workloads, examinations, assignment deadlines, competitive environments, career uncertainties, and societal expectations significantly contributes to elevated levels of academic stress. Academic stress can be defined as the psychological and physiological strain that arises when perceived academic demands surpass an individual's coping resources. Prolonged exposure to high stress often manifests in symptoms such as anxiety, emotional exhaustion, diminished concentration, irritability, and deteriorated sleep quality.

Empirical research has consistently demonstrated a bidirectional relationship between academic stress and sleep quality. Elevated academic stress adversely influences sleep latency, sleep duration, and overall sleep efficiency. Conversely, impaired sleep quality exacerbates stress responses, emotional deregulation, and cognitive impairments, ultimately

undermining academic performance and general well-being. Recent studies indicate that students experiencing poor sleep quality are more prone to report heightened fatigue, reduced motivation, impaired memory functioning, and amplified perceptions of stress.

Rationale of the study

The rising prevalence of academic stress and sleep disturbances among college students 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 academic stress and sleep quality among college students. Additionally, the study sought to investigate potential gender differences in academic stress levels and variations in sleep quality between undergraduate and postgraduate students.

Need and Significance of the Study

In the contemporary highly competitive academic landscape, college students are persistently subjected to intense academic pressures, performance expectations, and demanding workloads. Such pressures frequently disrupt students' sleep patterns and exert adverse effects on their psychological and emotional well-being. Sleep quality has increasingly been recognized as a critical determinant of cognitive functioning, emotional regulation, academic achievement, and overall mental health.

The present study holds considerable significance as it investigates the influence of academic stress on sleep quality among college students. A deeper understanding of this relationship is vital for identifying the underlying factors contributing to poor academic 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 college students. Moreover, the study aims to enhance students' awareness regarding the importance of maintaining healthy sleep habits and adopting adaptive coping strategies to manage academic stress.

Furthermore, this research contributes to the existing body of knowledge in educational and health psychology by examining the relationship between academic stress and sleep quality within the Indian higher education context. The results may also serve as a foundation for

future researchers to conduct more comprehensive investigations into student mental health and academic well-being.

Statement of the problem

The present study is entitled as “The Relationship Between Academic Stress and Sleep Quality Among College Students.”

Operational definitions

Academic Stress

Academic stress refers to the level of stress experienced by college students in relation to academic demands such as examinations, assignments, workload, competition, and performance expectations.

Sleep Quality

Sleep quality refers to the subjective evaluation of an individual’s sleep characteristics including sleep duration, sleep latency, sleep disturbances, sleep efficiency, and daytime functioning.

College Students

College students refer to individuals aged approximately 18–25 years who are currently enrolled in undergraduate or postgraduate degree programs.

Objectives of the study

The following objectives were formulated for the present study:

O1 To examine the relationship between academic stress and sleep quality among college students.

O2 To assess the difference in academic stress between male and female students.

O3 To assess the level of sleep quality among undergraduate and postgraduate students.

Hypotheses of the study

H0 There will be no significant positive relationship between academic stress and sleep quality among college students.

H0 There will be no significant gender differences in the levels of academic stress.

H0 There will be no significant difference in the level of sleep quality between undergraduate and postgraduate students.

Population of the study

The population of the present study comprised college students pursuing undergraduate and postgraduate courses from different colleges and academic streams. The participants belonged to the age group of 18–25 years.

Sample for the study

In the present study, convenient sampling technique was employed for selecting the sample. A total of 150 college students were initially selected for the study. However, after screening and data cleaning, the final sample consisted of 149 participants.

The participants included both male and female students belonging to undergraduate and postgraduate programs from different academic streams and institutions.

Sampling technique

Convenient sampling technique was used for collecting the data in the present study. This technique ensured that every individual in the population had an equal chance of being selected for participation. The use of convenient sampling helped in reducing bias and improving the representativeness of the sample.

Tools used

Pittsburgh Sleep Quality Index (PSQI)

The Pittsburgh Sleep Quality Index (PSQI) developed by Buysse, Reynolds, Monk, Berman, and Kupfer (1989) was used to assess sleep quality and sleep disturbances among college students. The scale consists of 19 items grouped into seven components related to sleep quality, sleep duration, sleep disturbances, sleep latency, daytime dysfunction, sleep efficiency, and use of sleep medication.

A global PSQI score greater than 5 indicates poor sleep quality.

Academic Stress Scale

The Academic Stress Scale developed by Kim (1970) was used to measure the level of academic stress experienced by students. The scale consists of 40 items measuring stress

related to academic workload, examination pressure, teacher expectations, peer competition, and study-related demands.

Higher scores on the scale indicate higher levels of academic stress.

Statistical techniques used

The following statistical techniques were employed for analyzing the data:

➢ Mean

➢ Standard Deviation

➢ Pearson's Product Moment Correlation

➢ t-test

The statistical analyses were conducted using the Statistical Package for Social Sciences (SPSS).

Results of the Study

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

- The results revealed a statistically significant positive correlation between academic stress and sleep quality among college students ($r = 0.338$, $p < .001$). This indicates that higher levels of academic stress are associated with poorer sleep quality.
- The descriptive statistics showed that the mean academic stress score among college students was 108.38 (SD = 31.00), while the mean sleep quality score was 7.54 (SD = 3.58).
- No significant gender differences were observed in academic stress levels between male and female students.
- The analysis also indicated no significant difference in sleep quality between undergraduate and postgraduate students.
- Demographic analysis revealed that the majority of the participants belonged to the 18–21 years age group. The sample was predominantly composed of female students compared to male students.

Overall, the findings support the bidirectional relationship between academic stress and sleep disturbances. Increased academic pressure appears to negatively impact sleep

quality, while poor sleep quality, in turn, intensifies stress levels and contributes to emotional exhaustion.

Limitations of the study

- The study was limited to college students aged between 18–25 years only,which may restrict the generalizabity of the findings to other groups.
- The research was conducted only in selected colleges and institutions, limiting the wider representation of student population.
- The study focused solely on two variables namely academic stress and sleep quality, while other related factors were not considered.
- The data collection relied entirely on self-report questionnaires, which may be subject to response bias and inaccuracies.

Suggestions for future research

The present study examined the relationship between academic stress and sleep quality among college students. The findings of the study suggest several directions for future research:

- Similar studies can be conducted on a larger sample to improve the generalizability of the findings.
- Comparative studies may be conducted among students from different academic disciplines and professional courses.
- Longitudinal studies can be undertaken to examine the long-term effects of academic stress on sleep quality.
- Future research may include additional psychological variables such as anxiety, depression, coping strategies, resilience, and emotional well-being.
- Similar studies may be conducted among school students, working professionals, or students from different geographical regions.
- Experimental and intervention-based studies may be conducted to assess the effectiveness of stress-management programs and sleep-hygiene interventions.
- Future studies may also incorporate physiological measures of sleep along with self-report tools for more accurate assessment.

Conclusion

The present study concluded that academic stress and sleep quality are significantly related among college students. Increased academic pressure contributes to poor sleep quality, while disturbed sleep further intensifies stress and emotional difficulties. The findings highlight the importance of maintaining healthy sleep patterns and adopting effective coping strategies to manage academic stress.

The study emphasizes the need for educational institutions and mental health professionals to create awareness regarding stress management, sleep hygiene, and student well-being. Promoting healthy academic environments and psychological support systems can significantly improve students' mental health, academic performance, and overall quality of life.

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APPENDICES

APPENDICES

APPENDIX – A

ACADEMIC STRESS SCALE

Instructions:

This scale consists of 40 items describing the stress in your institution/college life from various sources. The level of stress you feel for each item can be indicated by marking a (✓) in the appropriate column.

- NS = No Stress
- SS = Slight Stress
- MS = Moderate Stress
- HS = High Stress
- ES = Extreme Stress

S.No	Statement	NS	SS	MS	HS	ES
1.	Teachers make too many extra demands on students.	( )	( )	( )	( )	( )
2.	Poor interest in some subjects.	( )	( )	( )	( )	( )
3.	Progress reports to parents	( )	( )	( )	( )	( )
4.	The teacher is not humours towards us.	( )	( )	( )	( )	( )
5.	Lack of concentration during study hours.	( )	( )	( )	( )	( )
6.	Difficulty in remembering all that is studied.	( )	( )	( )	( )	( )
7.	Worrying about the examinations.	( )	( )	( )	( )	( )
8.	Lack of self-confidence.	( )	( )	( )	( )	( )

9.	The teachers do not listen to our ideas.	( )	( )	( )	( )	( )
10.	Conflict with friends/college authorities.	( )	( )	( )	( )	( )
11.	Teachers give more punishment in the class.	( )	( )	( )	( )	( )

12.	Worry about results after examinations.	( )	( )	( )	( )	( )
13.	Hesitate to ask the teacher for detailed explanation.	( )	( )	( )	( )	( )
14.	Biased attitude of the teacher.	( )	( )	( )	( )	( )
15.	Inadequate space or room for study at home.	( )	( )	( )	( )	( )
16.	Not knowing how to prepare for the examinations.	( )	( )	( )	( )	( )
17.	Lack of assertiveness (confidence) in the class.	( )	( )	( )	( )	( )
18.	Lack of opportunity to meet teachers.	( )	( )	( )	( )	( )
19.	Teacher shows socio-economic status on students.	( )	( )	( )	( )	( )
20.	Slow in getting along with the curriculum.	( )	( )	( )	( )	( )
21.	Exam papers are tough and not valued well.	( )	( )	( )	( )	( )
22.	Unable to complete the assignment in time.	( )	( )	( )	( )	( )
23.	Lack of communication between teachers and students.	( )	( )	( )	( )	( )
24.	Monotonous (boring or tedious) teaching style by the teacher.	( )	( )	( )	( )	( )
25.	Not enough discussion in the class.	( )	( )	( )	( )	( )
26.	Lack of mutual help among classmates.	( )	( )	( )	( )	( )

27.	Lack of fluency while speaking the language other than the mother tongue.	( )	( )	( )	( )	( )
28.	Difficulty in public speaking.	( )	( )	( )	( )	( )
29.	The teacher is fast and does not use blackboard legibly.	( )	( )	( )	( )	( )
30.	Teachers lacking interest in students.	( )	( )	( )	( )	( )
31.	Examination syllabus is too heavy in some subjects.	( )	( )	( )	( )	( )
32.	Feeling of inferiority.	( )	( )	( )	( )	( )
33.	Unable to discuss Academic failures with parents.	( )	( )	( )	( )	( )
34.	Not able to grasp the subject matter.	( )	( )	( )	( )	( )
35.	Incomplete and confusing study material.	( )	( )	( )	( )	( )
36.	Eleventh hour preparation for the examinations.	( )	( )	( )	( )	( )
37.	Importance of the subject matter.	( )	( )	( )	( )	( )
38.	Difficulty in adjusting with opposite gender.	( )	( )	( )	( )	( )
39.	Inadequate subject knowledge of the teacher.	( )	( )	( )	( )	( )
40.	Inadequate lab and library facilities.	( )	( )	( )	( )	( )

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? _____
2. During the past month, how long (in minutes) has it usually taken you to fall asleep each night? _____
3. During the past month, what time have you usually gotten up in the morning? _____
4. During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed.) _____

5. During the past month, how often have you had trouble sleeping because you…	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week
a. Cannot get to sleep within 30 minutes				
b. Wake up in the middle of the night or early morning				
c. Have to get up to use the bathroom				
d. Cannot breathe comfortably				
e. Cough or snore loudly				
f. Feel too cold				
g. Feel too hot				
h. Have bad dreams				
i. Have pain				

j. Other reason(s), please describe:				
6. During the past month, how often have you taken medicine to help you sleep (prescribed or "over the counter")?				
7. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?				
8. During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?	No	Only a	Somewhat	A very big
9. During the past month, how would you rate your sleep quality overall?				

	No bed partner or room mate	Partner/roommate in other room	Partner in same room but not same bed	Partner in same bed
10. Do you have a bed partner or room mate?				
	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week
If you have a room mate or bed partner, ask him/her how often in the past month you have had:				
a. Loud snoring				
b. Long pauses between breaths while asleep				
c. Legs twitching or jerking while you sleep				
d. Episodes of disorientation or confusion during sleep				

e. Other restlessness while you sleep, please describe:				