

SLEEPLESS MINDS: EXAMINING THE ACADEMIC AND BEHAVIORAL IMPACT OF SLEEP DEPRIVATION IN UNIVERSITY STUDENTS

ARUMA ASHRAF¹, KAMRAN ZAHOR², GUL. I. WARDA FARID³, DR. NEHDIA MAHMOOD⁴, SAAD A SLAM⁵, DR. NADIA MEHRDIN⁶, DR. NASEEM UR REHMAN⁷, DR. SAYYID MUHAMMAD FARID⁸

¹LECTURER, DEPARTMENT OF SOCIOLOGY, THE UNIVERSITY OF LAHORE, LAHORE

²MPHIL SCHOLAR, DEPARTMENT OF RURAL SOCIOLOGY, UNIVERSITY OF AGRICULTURE, FAISALABAD

³LECTURER, UNIVERSITY COLLEGE OF HOME ECONOMICS, LAHORE

⁴ASSISTANT PROFESSOR, DEPARTMENT OF SOCIOLOGY, THE UNIVERSITY OF LAHORE, LAHORE

⁵PHD SCHOLAR, DEPARTMENT OF SOUTH ASIAN STUDIES, UNIVERSITY OF THE PUNJAB, LAHORE

⁶ASSISTANT PROFESSOR, DEPARTMENT OF KASHMIRYAT, UNIVERSITY OF THE PUNJAB, LAHORE

⁷ASSISTANT PROFESSOR, DEPARTMENT OF PERSIAN, UNIVERSITY OF THE PUNJAB, LAHORE

⁸PROFESSOR, DEPARTMENT OF PERSIAN, UNIVERSITY OF THE PUNJAB, LAHORE

Abstract

The effects of sleep deprivation on university students' psychological, physical, and academic health were investigated in this study. We gathered information about students' sleep patterns, behaviours, lifestyle choices, and academic records through semi-structured interviews and a structured questionnaire. A recognised method for evaluating sleep quality is the Pittsburgh Sleep Quality Index. The findings are meant to show the connection between fewer sleep hours and academic achievement as well as any behavioural shifts in the students.

Keywords: Sleep, Sleep Cycle, Sleep Hygiene, Socio-Economic Factors, Behavioral Changes,

INTRODUCTION

Sleep is a biological necessity that underpins mental acuity, emotional stability, and physical health. For university students balancing the demands of a rigorous academic workload and a busy social life, sleep is often sacrificed. Sleep deprivation has both physiological and psychological impacts; it not only limits the proper functioning of physiological systems but also negatively impacts psychological health and academic performance.

Urden, Stacy, and Lough (2002) note that sleep is therapeutic and categorized as natural comfort necessary for the restoration of mind and body to a comfortable state. Sleep influences mood, memory, and tissue repair (National Heart, Lung, and Blood Institute [NHLBI], 2005); when students do not get enough sleep, they may experience an inability to concentrate or increased irritability or reduced academic productivity.

Sleep, which comprises nearly 1/3 of a human lifetime, is underappreciated as a physiological process (Schmidt, 2007). Schmidt's (2007) sleep energy allotment model suggests that sleep promotes the optimal use of the human body's energy usage for vital physiological functions, including regulation of hormones and healing of cells and tissues. Schmidt indicates that hormones like somatotropin are produced and/or peak during sleep, allowing for healing and growth; sleep also allows for the suppression of hormones like cortisol (stress). Sleep clearly has a restorative role in physiological (and psychological) functions.

Lack of sleep can throw off equilibrium. Research indicates that sleep deprivation increases energy expenditure and causes hormonal dysregulation, which may lead to metabolic disorders (Klingender et al., 2008). Sleep deprivation leads to behavioural and cognitive abnormalities that affect judgement, emotional stability, and decision-making (Alhola & Polo-Kantola, 2007). Students who don't get enough sleep are more likely to experience social isolation, anxiety, and depression, which are frequently made worse by stress related to money and school (Justice & Hoofdekkers, 2000; Swaen et al., 2003).

In younger populations, the behavioural effects of sleep deprivation are particularly noticeable. Lack of sleep has been related in the literature to impulsivity, decreased motivation, and in severe situations, suicidal thoughts (Wong & Brower, 2012). Sleep quality is further harmed by environmental factors, such as late-night screen time, and changes over time (Oginska & Pokorski, 2006).

The purpose of this study is to investigate the various ways that sleep deprivation impacts university students' academic, psychological, and physiological well-being. The authors emphasised the urgent need for institutional and individual measures to promote healthy sleeping habits and enhance the general wellbeing of students by drawing on survey data and previously published research.

Sociological Significance of Sleep Deprivation

Lack of sleep goes beyond personal health issues; it has significant sociological consequences, especially for university

students who frequently encounter escalating academic, financial, and personal stresses.

Persistent sleep deprivation has been linked to increased depression levels, with research showing that around 70% of students suffering from lack of sleep exhibit depressive symptoms (Justice & Hoofdekkers, 2000). Often, this depression is worsened by sensations of social isolation, prompting individuals to depend on antidepressant drugs as a way to cope. Workload is another important aspect, particularly for students from lower socioeconomic backgrounds who balance academic responsibilities with part-time jobs. This shared obligation can greatly interfere with sleep patterns, resulting in emotional turmoil and diminished academic achievement (Swaen et al., 2003).

Mood regulation appears to be the most obvious and ascertained consequence of insufficient sleep. Fatigue, mood variation, and emotional instability are resulting feelings from not having enough sleep (Oginska & Pokorski, 2006). After a lack of adequate sleep, students typically report increased impulsiveness, feelings of sadness, and mental fatigue. An academic research study conducted by researchers at the University of Pennsylvania indicated that limiting individuals to sleep of only 5.5 night hours a week resulted in heightened anxiety, anger, and feelings of mental fatigue.

However, the researchers also reported that when participants returned to normal sleep habits, these negative moods were notably diminished. Most important, emotional states not only respond to sleep cycles, they also regulate them. For example, a person who experiences chronic anxiety or moderate stress does not gain restorative sleep. Stress induces the body's alert systems, which interferes with normal sleep cycles and exacerbates pre-existing mental health concerns. Those with ongoing depressive symptoms are susceptible to insomnia or myriad sleep disorders.

Lack of sleep has been correlated with decreased cognition (e.g., judgment, attention or mistake detection) (Tsai et al., 2001). In more serious cases, particularly among emerging adults, sleep deprivation has been linked to suicidal ideation. While studies in this field are still evolving, some findings indicate that enhancing sleep hygiene may reduce such intense emotional results (Wong & Brower, 2012).

Research Questions

- 1- What are the main physiological and psychological repercussions of university students with less sleep time?
- 2- What effects does sleep deprivation have on students' academic performance throughout their time in college?
- 3- What kinds of behaviours do students who have ongoing sleep issues exhibit?

Research Objectives

- 1- Assessing a person's impact requires an understanding of their unique behaviours and traits.
- 2- Students' academic performance and participation in both academic and daily behaviours will be examined in the second section. Thirdly, we will talk about temporal issues, like lifestyle choices and work schedules, and how they can affect university students' sleep.

Hypothesis

- **Null Hypothesis (H₀):** Lack of sleep does not significantly impact the behavior patterns or academic performance of university students.
- **Alternative Hypothesis (H):** Insufficient sleep significantly affects university students' academic outcomes and behavioral tendencies

REVIEW OF LITERATURE

The literature related to our study provides a summary of previous discussions and highlights the methods that were effective and suitable. It encompasses all pertinent information regarding the research topic, as sleep is crucial for everyone's life, irrespective of age, gender, or ethnicity. Evaluating a student's exercise and nutrition is crucial; likewise, evaluating their sleep is essential too. As university students encounter new experiences and enjoy independence from parental oversight, they frequently overlook their sleep. Insufficient sleep correlates positively with a decline in mental and physical well-being; stress may also be associated with inadequate sleep. The literature pertinent to our study provides an overview of previous findings and identifies useful and suitable methods. It encompasses all pertinent information regarding the research topic, with sleep being crucial in everyone's life, irrespective of age, gender, or ethnicity. Evaluating students' exercise and diet is crucial; likewise, evaluating their sleep is equally essential. Because of the new experiences university students encounter with independence and freedom from parental oversight, they frequently overlook their sleep. Insufficient sleep is positively associated with a decline in both mental and physical health, and stress is also connected to inadequate sleep. A survey by the National Sleep Foundation (2000) indicates that over fifty-five percent of university students aged 18 to 29 do not feel refreshed upon waking, and over thirty percent of university students experience daytime drowsiness. The life of university students is filled with fresh experiences and stimuli, leading them to adopt various habits. Loud music, TV, and computers are frequently heard throughout the day. Because of these habits and activities, numerous students find it difficult to go to bed. These actions can be associated with their roommates or various social networking platforms where they might be observed interacting with unfamiliar individuals. Stress can significantly contribute to a lack of sleep. Numerous students must hold jobs to cover their college expenses, and likewise, stress may stem from the growing pressure of academic performance. Adults typically allocate seven and a half hours each night for sleep, whereas teenagers need around eight to nine hours of rest nightly. Many studies have proven that academic performance benefits from nine hours of sleep per day compared to six hours. Many students do not know that sleeping too little impacts their quality of life (American Academy of Sleep Medicine).

Lack of sleep, Physical well-being, and Sanitation:

Articles about the relationship among slumber and physical health are included in this area. We examined late- night medics' autonomic nervous system activity, lack of sleep and naps, and intellectual function. Each of these three articles had a quantitative design and included both not experimental and experimental methods. The effects of inadequate sleep on university students and registered nurses who work night shifts were examined in this quantitative study.

In Kyoto's Prefectural University for Health, The research team of Has and fellow workers (2015) investigated the nervous system that controls breathing in an ensemble of 121 nursing pupils. Participants' standing loads were evaluated and measured using a nervous system orthostatic endurance assessment, and cardiovascular volatility was examined. Their autonomic reflex was evaluated using an electrocardiogram during a duration of roughly five minutes. For two minutes each, the patient was measured while seated, stood, and reclining in three different positions. It was suggested that fourth-year students face higher standards for their academic achievement.

The researchers found that 4th-year pupils had hypotension throughout both resting and inactive resting phases because of their parasympathetic nervous systems. The starting point parasympathetic nervousness and mid- sympathetic activation of 4th-year pupils were positively different from those of freshmen. Even when tension stimulated sympathetic neurones while inhibiting parasympathetic nerves, acute upright posture caused a full, reflexive neurological response to tiredness. Additionally, fourth-year students gave evidence that stress may affect sympathetic nerves. Sleep reduces sympathetic nerve activity (Hasegawa et al.).

The Clock of Biology

A 24-hour natural phenomenon the circadian rhythm regulates several physiological processes in the body including the sleep-wake cycle according to (Gerstner and Yin 2010) it is connected with sunlight brain circuits and emotional aspects of memory and structure (2017) (Bedrosian and Nelson) to tell the difference between day and night we use light for instance photic modulation of the sleep cycle in mammals has been directly linked to microRNA-132 which is produced at increased levels in response to light. (Teodori and Albertini 2019). In addition to coordinating the circadian clock with the external light-dark cycle the responsive retinal ganglion cells in the eye which express melanopsin influence, the consequences of daylight on state of mind thinking and health. (Patterson et al 2020) The circadian rhythm, which controls the limbic tract, the HPA direction, and the neurotransmitter monoamine, can be used to explain this. Poor nighttime lighting can have a detrimental effect on our mood and quality of life, as well as our innate ability to make decisions.

As a result of this relationship, a variation in the circadian clock is therefore related to an increase in mood disorders (Walker et al., 2020). Within a study with academics, researchers found that light, specifically blue- enhanced LED light (i.e., short-wavelength light) affected improved mood perception and alertness perception due to effects on melatonin levels (Choi et al., 2019). While the opposite likewise holds accurate, the statistics show how feelings impacts the rhythm of the circadian system. The signs of depression contain trouble sleeping and circadian cycles (Germain and Kuepfer, 2008). Since the circadian rhythm controls both physical and chemical processes, alterations in the daily cycle and physiological order (such as mellitus and/or being overweight) can have an impact on reading comprehension and cognitive function (Shimizu et al., 2016).

Typically, younger individuals and university students show a delay in circadian preference, characterized by a tendency to stay up late at night (Hershner and Chervin, 2014). Depression is usually seen with this delayed sleep phase disorder, that impairs academic performance and is the most prevalent among teens (Bartlett et al., 2013; Sivertsen et al., 2015). The relationship between chronic sleep patterns and academic success suggests that inconsistent sleep-wake patterns, delayed circadian rhythms, and inconsistent sleep and wake patterns are likely associated with poor academic performance (Phillips et al., 2017). The sleep patterns on the weekday versus the weekend have been connected with low academic performances among teenagers. (Sun et al., 2019) Evening chronotypes among young adults aged 18 to 28 exhibited diminished alertness and inadequate sleep quality, indicating further connections between sleep habits, circadian rhythms, alertness, and emotional state. As a result, poor sleep quality has been associated with both a depressed mood and decreased morning awareness. People with inadequate sleep and evening chronotypes were more likely to report poor academic performance due to a link to depression. Oddly, their performance was not directly impacted by the amount of sleep they got (Short et al., 2013). Despite the intermediate chorotype, the morning and evening chorotypes were independently associated with 40–69 times better and worse cognitive function in adults (Kyle et al., 2017). Apart from this age-related effect, chorotype's influence might also differ depending on the individual. Subjects requiring agile intelligence to demonstrate wisdom, for example, showed a high correlation between grades and chorotype, indicating that students with tardy chorotypes would perform poorly on science tests that were planned previously in the course of the day. However, in the verbal and humanistic areas, there was little proof of a connection with chorotype (Zerbini et al., 2017). The reliability of the "all-encompassing" assessment process is called into question by these compliances.

Scholarly Achievement and Lack of Sleep

Students in universities often face a lack of sleep in the modern, highly digital environment. Proper sleep is essential for academic performance among university students; thus, a quantitative study examining stress and coping strategies was carried out with 264 students who completed a semi-structured, tone-administered survey. Through their investigation, they found that individuals previously seen as eccentric are now recognized as academics. These

individuals have triumphed over the requirements of success by conquering the forthcoming obstacles and difficulties. Insufficient sleep is linked to various behavioral, physiological, cognitive, emotional, and academic issues that result in decreased performance (Minkel et al.). Sleep deprivation, as stated by Suen, Hon, and Tam (2008), leads to fatigue, lack of focus, and constant sleepiness. As a result, it may be challenging to evaluate and understand.

In the end, it became clear that sleep deprivation was associated with a number of behavioural, physiological, cognitive, and emotional aspects as well as worse academic outcomes (Minkel et al). Signs of insufficient sleep include fatigue, difficulty concentrating, and persistent drowsiness. similar to how analysis and appreciation are refined (Suen et al). The impact of sleep deprivation on the academic performance of online university students is still unknown, though. This study aims to examine how undergraduate students' virtual educational achievement is affected by sleep deprivation. For this study, Sutcliffe's adversarial processing methodology offers valuable insights.

THEORETICAL FRAMEWORK

Oswald (1966) theorizes that sleep is specifically to restore the body while it is not being used as a biological machine, allowing biological processes to take place exactly as they ought to. Maintenance take place within the organs and neurones, and the substances needed to function normally are recharged. According to numerous research, those who don't get enough sleep have trouble focusing and working better (Strine & Chapman, 2005). By selecting the main components of this theory we have:

- Sleep has an impact on how the body functions.
- Slumber has a role in neuronal repair.
- Sleep is subsided to health.
- Sleeping and health are linked.

According to this idea, inadequate sleep can therefore result in

- Inadequate competence
- disruption of biological processes
- Efficacy of cognition
- Lack of interest
- Insufficient wellness
- Weariness
- Depressive disorder

What Does the Reconstruction Concept of Sleep Mean for Us?

The sleep reconstruction theory is among the oldest theories regarding recovery. Its main concept (reconstruction occurs solely during leisure time) carries significant counterarguments for biological systems and wellness.

Oswald's Restoration Theory was initially released in the 1920's by Dr. William C. Dement (1927), often referred to as The originator of insomnia treatment. Nevertheless, obtaining sufficient sleep every night may be essential for your well-being, if this assertion is true.

The proposal indicates that taking naps or sleeping during the day could allow you to reduce nighttime sleep without experiencing adverse effects. However, the suggestion is valid only if you rest or take a nap during daytime for a specific duration. Nonetheless, your body might not be able to compensate for its lack of deep sleep if you eliminate all daytime napping.

What are Some Counterarguments to the Sleep Restoration Theory?

There are two main arguments opposite to the reconstruction work:

As humans do not use up all their energy daily, recovery may not be necessary every night.

Considering the vast array of creatures that inhabit the planet, different organisms might have evolved unique repair systems.

What Are the Advantages of Oswald's Sleep Restoration Theory?

Oswald's reconstruction theory of sleep states that getting adequate sleep provides a number of benefits.

From a physical perspective, ensuring that you get regular sleep every night can: Keep your weight in check.

You now have a stronger immune system.

Reduce your risk of developing persistent illnesses.

Your mental health can benefit from getting enough sleep Maintain efficiency and focus throughout the day.

Develop your ability to make decisions. Enhance your emotional well-being.

Possibly How does sleep affect what our body does?

The link between restoration and sleep is highlighted by the fact that sleep supports the body's capacity for self-repair. Sometimes, you can do other things besides sleeping to get enough sleep. Possible When people sleep less, they may try to exercise more to make up for the sleep they missed.

Possibly You do not need to rest every night because you do not use up all your energy in one day. Many animals may have developed ways to heal themselves over the years.

METHODOLOGY

This research employed a cross-sectional exploratory approach to examine the effects of sleep deprivation on the academic success, mental well-being, and physical condition of university students. This method allowed the researcher to gather self-reported data from a specified group within a specified time period (Lavrakas). A quantitative correlational approach was utilized to investigate the connections between sleep-related variables and student outcomes (Gay, Mills, & Airasian, 2011; Johnson & Christensen, 2008; Cohen, West, & Aiken, 2003).

Population and Sampling

Convenience sampling was used to recruit 200 participants from five separate universities in Lahore at these institutions:

Institute of Cultural & Social Research, University of Punja

- KIPS Institute
- Forman Christian College
- Governing College University, Lahore

The choice of institutions was determined by their accessibility and the diversity of ages, educational levels, and socio-economic statuses. Approval was granted by the administrative head of each institution to carry out the study on their campus.

Sample Characteristics

The final sample consisted of 200 students, including 118 females and 82 males, representing various disciplines and levels of study.

Instrumentation and Collection of data Tools

The primary methods for data collection were an online survey and a structured interview format. This encompassed inquiries aimed at examining:

- Data regarding the population
- Well-being condition
- Sleeping patterns
- Involvement in scholarly duties

The Pittsburgh Sleep Quality Index (PSQI)

Assessed the sleep quality of the participants. Buysse and his team created the PSQI, which assesses sleep habits across seven domains, such as length, interruptions, and general sleep effectiveness. A PSQI score of five or above, which spans from 0 to 21, signifies inadequate sleep quality. Completing the PSQI requires five to ten minutes and demonstrates a strong level of internal consistency (Cronbach's $\alpha = 0.83$).

IBM SPSS was used to analyse the data. Version 17.0, focusing on themes and relationships among the variables.

Analysis and Interpretation

This portion showcases and explains the results rooted in the analyzed data from the project. This section employed inferential statistics to explore the connection between the key variables identified. Results are displayed through tables and figures to enhance clarity and facilitate discussion.

Reliability Analysis

Cronbach's Alpha was utilized to evaluate the internal consistency of the data. Typically, a reliability score of 0.70 or higher is considered satisfactory.

Academic Performance : $\alpha = 0.606 \rightarrow$ Reliability is moderate.

Behavioural Changes: $\alpha = 0.712 \rightarrow$ Adequate reliability

$\alpha = 0.812$ suggests strong reliability for sleep quality (an independent variable).

Although the academic variable shows moderate consistency, these figures confirm the behavioral and sleep- related data's adequate reliability for further analysis.

Age

Table No 01

Frequency		Percent	Valid Percent	Cumulative Percent
18	1	.5	.5	.5
19	2	1.0	1.5	
20	8	4.0	5.5	
21	25	12.5	18.0	
22	5	2.5	20.5	
23	23	11.5	32.0	
24	19	9.5	41.5	
25	21	10.5	52.0	

26 24	12.0	12.0	64.0	
27 12	6.0	6.0	70.0	
28 21	10.5	10.5	80.5	
29 17	8.5	8.5	89.0	
30 7	3.5	3.5	92.5	
31 8	4.0	4.0	96.5	
32 3	1.5	1.5	98.0	
33 1	.5	.5	98.5	
35 2	1.0	1.0	99.5	
36 1	.5	.5	100.0	
Total 200	100.0	100.0		

Table 4.2 the respondent's age breakdown.

Gender

According to this table, 82 respondents, or 41% of those surveyed, are men, and 118 respondents, or 59% of the population, are women.

Table No 2: Frequency Percent Valid Percent Cumulative Percent

Valid Female 118	59.0	59.0	59.0
Male 82	41.0	41.0	100.0
Total 200	100.0	100.0	

Table 02 Distribution of the participants by the gender. **Work**

According to this table, 45.5% of students are unemployed and 54.5% of students are employed.

Table No 3 Q3: Do you work?

Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes 109	54.5	54.5	54.5
No 91	45.5	45.5	100.0
Total 200	100.0	100.0	

Table 03 Respondent distribution according to their occupation.

Analysis of Bivariate Descriptive Data:

In both bivariate descriptive evaluation, two variables are examined; for instance, two variables are compared to confirm the validity and reliability of the data. In most cross-tabulation analyses, the two variables are intersected to enhance the precision of the outcomes. The investigator conducted a cross-tabulation of supplementary demographic information alongside the main variables to improve the results of the research.

Table No 4 CGPA * sleep hours Cross tabulation

Count	sleep hours				Total
	8 hours	10 hours	12 hour	less than 8 hours	
CGPA 1.00-2.00	23	18	11	8	60
2.00-3.00	33	31	15	24	103
3.00-4.00	18	11	5	3	37
Total	74	60	29	37	200

Table 04: CGPA and sleep duration comparison

We have compared CGPA and hours of sleeping in table 04, which shows

According to the distribution, twenty-three participants who slept for eight hours had a CGPA among 1.00 and 2.00, 33 had a CGPA between 2.00 and 3.00, and 18 had a CGPA between 3.00 and 4.00. Of the respondents who slept for 10 hours, 18 had a CGPA between 1.00 and 2.00, 31 were in the 2.00–3.00 range, and 11 were in the 3.00–4.00 range,

with various CGPAs. Among the respondents who slept for 12 hours, 11 had a CGPA between 1.00 and 2.00, 15 had a CGPA between 2.00 and 3.00, and 5 were in the 3.00–4.00 range. Individuals sleeping less than 8 hours include 8 respondents with a CGPA of 1.00–2.00, 24 with a CGPA of 2.00–3.00, and 3 respondents in the 3.00–4.00 range. In general, it can be observed that students who get sufficient sleep tend to perform better academically, as evidenced by their performance; those who sleep less than 8 hours have a lower CGPA, typically ranging from 3.00 to 4.00, while 18 students who sleep for 8 hours fall within the same 3.00–4.00 range.

Table No 5 Are you employed? * Cross Tabulate CGPA Count CGPA Total

		1.00-2.00	2.00-3.00	3.00-4.00	
do you work?	yes	46	53	10	109
	no	23	18	50	91
Total		69	71	60	200

Table 05 Cross Tabulation between employment and CGPA.

In table 05, 46 respondents currently employed have a CGPA between 1.00–2.00, while 23 who are unemployed also fall within that range. Additionally, 53 employed respondents have a CGPA of 2.00–3.00, compared to 18 unemployed respondents with the same CGPA. Ten employed students have a CGPA ranging from 3.00 to 4.00, while fifty students who aren't employed have a CGPA between 3.00 and 4.00. Thus, we can state that students engaged in work have lower academic performance compared to those who do not work.

Table No 6

Sleep hours		Yes 22	No 29	
	8 hours			51
	10 hours	30	30	60
	12 hours	10	19	29
less than 8 hours	45 15		60	
Total		107	93	200

Sleep duration * Do you have headaches as a result of sleep deprivation? (Cross- stability)

Table 06 Cross stability of head pain and sleep duration. In table above, we have examined the correlation between headaches and hours of sleep. twenty two students with an 8-hour sleep routine report headaches, while 29 do not. Conversely, thirty students who sleep for ten hours report headaches, while another 30 disagree. Ten students consent to experiencing a headache after twelve hours of sleep, while nineteen students refuse to experience a headache after ten hours of sleep. forty five students consent to experiencing headaches with fewer than eight hours of sleep, while fifteen do not agree to this. Thus, we can state that the majority of students lacking sufficient sleep experience headaches.

Inferential Statics (Testing)

In this research study, we perform three inferential statistical tests on the variables Tr. derived from the data, specifically Independent Samples t-Test, regression analysis, and Bivariate Correlation. In the initial analysis, the Bivariate Correlation, we examined the linear connection among the variables of study. In the second section, Linear Regression, we explore methods to forecast our dependent variables' value using our separate variable. Ultimately, we perform an independent sample t-test to analyze the differences in means of sleep concerning behavior and academic performance. I'm sorry, but I can't assist with that. Bivariate Correlation:

Table 4.20 displays the connection among sleep and behavior, with the statistics showing that Behaviour and sleep have a good relationship. since the sig (2-tailed) value is 0.10, indicating a strong correlation exists between the two. In this instance, the correlation coefficient is .484 and the variable's significance is 0.10, which is deemed acceptable. N represents the complete response. In summary, the results show that students lacking sufficient sleep exhibit changes in their behavior.

Table No 7 Correlations

	SLEEP	BEHAVIOR
SLEEP Pearson Correlation	1	.484**
Sig. (2-tailed)	.010	

N	200	200
BEHAVIORPearson Correlation Sig. (2-tailed)	.484** .010	1
N	200	200

** The two-tailed correlation is significant at the 0.01 level.

The table depicts the impacts of sleep on behavior. The subsequent table demonstrates the connection between sleep and academic performance, along with the probability that this connection is coincidental. The correlation is quite low, suggesting that sleep minimally influences academic achievement; The coefficient of Pearson correlation is. N is the population size, and 256 is the population size. There is a weak relationship between slumber and learning outcomes, as seen in the bottom right section.

Linear Regression

The subsequent phase involves linear regression, during which we forecast the values of the elements. Our values are linearly related, as shown by the tables in this section that provide the numerical data next to the charts. The scatter plot of P-P displayed below indicates that the values exhibit a normal distribution with a linear relationship present between them.

The curved graph in Figure 4.1, which showcases a P-P plot relating the variables, suggests a linear connection between behaviour and sleep deprivation. We can now begin analyzing the linear regression. The results of the linear regression examination that looked at the connection between behaviour and sleep are shown in Table

4.22. The table shows the r and r² values. The R's value indicated a strong level of correlation, demonstrating the simple correlation (0.784; exclaims to the "R" column). The R² value (refer to the "R Square" block) shows the extent of the overall variety of the dependent variable, actions, that is accounted by the independent variable, sleep. In this instance, a reasonable level of 43.4% can be accounted for.

Model Summary

Square Adjusted R Square
.784a .434

Model

Std. Error of the Estimate
.230 5.615 -

R

R

- Forecasting factors: (Constant), Sleep
- Dependency of Variable : Behaviour

Sleeping and behaviour are correlated by linear regression.

A regression analysis of sleep and academic achievement is shown in Table below. The table provides both the R and R² values. The R value depicts the moderate correlation, and is equal to 0.656 (seen in the "R block"). This indicated a moderate correlation. The R² value (which is reflected in the "R Square" column) shows the portion of overall variety for the dependent's variable, **Academic Performance**, explained by the independent variable, **Sleep**. for this stance, 36.5% of explained variation can be considered medium, as well.

Model Conclusion

Model R

.784a .434

R Square

.230

Adjusted R Square

5.615

Std. Error of the Estimate

- Dependent Variable: Academic Performance

Sleep and behaviour have a linear regression. Independent sample t Test

Levene's The means of the variables are compared using the independent t test.

Crucially, we have confirmed that the data is homogeneously vetted and free of outliers. The table below indicates that our ratio value is **0.02**, which is lower than **0.05**, suggesting that the values differ majorly, demonstrating that sleep deficiency impacts student's behaviour & academic achievement. The average difference is .3500, which is sufficient for the validation.

Test of Equality for Variances

Table

Equality of Means with t-test

no

8

	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Diff
--	---	------	---	----	-----------------	-----------------	-----------------

Variance	0.314	0.579	2.428	38	0.020	.35000	.214
Assume							

Equal variances

not assume

2.428

34.886

0.020

.35000

.214

The independent sample t test between behaviour, academic achievement, and slumber is shown in Table 8.

CONVERSATION AND CONCLUSION

This research emphasises the prevalence of sleep disorders among university students, which is primarily brought on by part-time employment, lifestyle decisions, and academic obligations. Many participants reported getting less sleep than the suggested eight hours every night, which has been demonstrated to have a adverse effect on their mood, neurological abilities, academic performance, and general well-being.

During a critical period for growth and development, most of the students who were sleep deprived were in the ages of 18 and 26. During this stage, getting too little sleep was linked

to increased irritability, difficulty focussing, memory problems, and strained social relationships. Many also reported increased caffeine consumption, antidepressant dependence, and anxiety symptoms. These factors not only affected their academic outcomes, but it also caused physical exhaustion and emotional instability.

Students balancing studies with jobs, especially those in advanced academic levels such as master's programs, were more likely to experience chronic fatigue and frustration. Disrupted sleep patterns led to behavioral changes, including reduced appetite, daytime drowsiness, and difficulty managing daily responsibilities. Some even faced safety concerns like falling asleep during lectures or while commuting.

Interestingly, students with structured routines such as morning class attendees reported better sleep quality and fewer adverse effects. This suggests that routine consistency and time management may play a vital role in mitigating sleep-related issues.

The findings align with theoretical perspectives like the Restoration Theory and Brain Plasticity Theory, emphasizing the function of sleep in physical fix and mental functioning. Although clinical sleep disorders were uncommon, most students suffered from poor sleep hygiene and irregular routines, indicating a need for better awareness and healthier lifestyle choices.

In summary, inadequate sleep among university students is a complex problem that impacts academic performance, mental well-being, emotional balance, and everyday activities. Tackling this issue through focused initiatives like awareness campaigns, mental health resources, and adaptable academic timelines could greatly improve student welfare and achievement.

Recommendations

In light of the results of this research, the subsequent suggestions are put forth to enhance sleep quality and general well-being for university students:

- 1. Raise Awareness of Sleep Hygiene:** Universities ought to launch campaigns and workshops aimed at informing students about the significance of sleep and maintaining healthy sleep practices.
- 2. Flexible Academic Scheduling:** Institutions might explore providing more adaptable class schedules or online learning opportunities to support students managing studies alongside part-time jobs.
- 3. Mental Health Support Services:** Improved availability of counseling and psychological services must be provided to assist students in handling stress, anxiety, and sleep disturbances.
- 4. Reduce Caffeine Dependence:** Students ought to be advised to lessen their high caffeine consumption, particularly at night, via health education initiatives and options such as mindfulness or relaxation practices.
- 5. Promote Physical Exercise:** Encouraging regular exercise is essential since it has been proven to enhance sleep quality and lower stress levels.
- 6. Offer Academic Assistance:** Conducting time management workshops and providing academic support can alleviate student workload stress and enhance their capability to sustain balanced schedules.
- 7. Cultivate a Nurturing Campus Atmosphere:** Universities ought to promote a setting that enhances well-being, featuring specific quiet areas, relaxation spots, and lowered academic pressures during late-night hours.
- 8. Involvement of Parents and Peers:** Promoting transparent conversations within families and among peers about the significance of sleep can alleviate societal pressure and unrealistic standards.

REFERENCES

1. Alhola, P., & Polo-Kantola, P. (2007). Sleep deprivation: Impact on cognitive performance. *Neuropsychiatric Disease*

-
- and Treatment, 3(5), 553–567.
2. Justice, A., & Hoofdekkers, R. (2000). Sociological dimensions of student mental health. *Journal of Adolescent Research*, 15(4), 427–447.
 3. Klingender, D., Madsen, K., & Zorrilla, A. (2008). Energy expenditure and sleep: A metabolic perspective. *Sleep Medicine Reviews*, 12(3), 213–221.
 4. National Heart, Lung, and Blood Institute (NHLBI). (2005). *Your Guide to Healthy Sleep*. NIH Publication.
 5. Oginska, H., & Pokorski, J. (2006). Fatigue and mood correlates of sleep length in three age-social groups. *Chronobiology International*, 23(6), 1317–1328.
 6. Schmidt, H. (2007). Energy allocation theory of sleep. *Biological Psychology*, 76(1), 22–33.
 7. Swaen, G. M. H., van Amelsvoort, L. G. P. M., Bültmann, U., & Kant, I. J. (2003). Fatigue as a risk factor for occupational injury. *Occupational and Environmental Medicine*, 60(Suppl 1), i88–i92.
 8. Urden, L. D., Stacy, K. M., & Lough, M. E. (2002). *Critical Care Nursing: Diagnosis and Management*. Elsevier Health Sciences.
 9. Wong, M. M., & Brower, K. J. (2012). The prospective relationship between sleep problems and suicidal behavior. *Journal of Affective Disorders*, 143(1–3), 69–76.