STM JOURNALS

International Journal of
Behavioral Sciences

ISSN: 3049-1045
Volume 2, Issue 2, 2025
July–December
DOI (Journal): 10.37591/IJBSC

https://journals.stmjournals.com/ijbsc

Research IJBSC

The Impact of Sleep Quality on Academic Performance and Burnout Among College Students

Sharanya Sharma[1,*], Smriti Sethi[2]

Abstract

In today's academic environment, college students face a multitude of challenges that disrupt their well-being—one of the most overlooked being sleep quality. While balancing coursework, social obligations, and personal goals, sleep often becomes a casualty of the student lifestyle. Many students often sacrifice sleep without fully realizing how it affects their mental sharpness and emotional well-being. This study delves into the complex connection between how well students sleep, how they perform academically, and the levels of burnout they experience during college life. A sample of 120 students (60 male and 60 female) aged 18–25 was measured using the Pittsburgh Sleep Quality Index (PSQI), Academic Performance Scale (APS), and Oldenburg Burnout Inventory (OLBI). Statistical methods including t-tests, Pearson correlation, and regression analysis were employed to interpret the data. Results revealed no significant gender differences in sleep quality, academic performance, or burnout. However, a significant negative correlation was found between sleep quality and academic performance among females, while a strong positive correlation was found between sleep quality and burnout across both genders. Regression analysis showed that sleep quality significantly predicted burnout for both males and females, and had a modest predictive value for academic performance, particularly among females. These findings suggest that inconsistent sleep not only deteriorates emotional and cognitive resilience but also escalates academic burnout, making it a critical factor in student mental health and performance. Addressing sleep issues may offer a proactive route toward enhancing academic success and reducing burnout among college students.

Keywords: Sleep quality, academic performance, burnout, college students, emotional exhaustion

INTRODUCTION

Getting enough sleep is essential for staying sharp, emotionally steady, and physically healthy—something college students especially need as they juggle multiple responsibilities With increased autonomy, students often compromise sleep in pursuing success, unaware of long-term consequences. Insufficient sleep impairs concentration, memory, and self-regulation, leading to stress and instability. Over time, this can culminate in academic burnout, marked by exhaustion and detachment. The cycle of sleep deprivation, diminished performance, and burnout becomes normalized. This feedback loop undermines learning and heightens attrition risk. While achievement is often associated with intelligence or motivation, sleep is an overlooked yet foundational factor. Recognizing its impact encourages more comprehensive student support.

***Author for Correspondence**
Sharanya Sharma
E-mail: sharanyasharma1904@gmail.com

[1]Student, Department of Psychology and Allied Sciences, Amity University, Noida, Uttar Pradesh, India
[2]Assistant Professor, Department of Psychology and Allied Sciences, Amity Institute of Psychology and Allied Sciences, Amity University, Noida, Uttar Pradesh, India

Received Date: May 19, 2025
Accepted Date: August 13, 2025
Published Date: November 05, 2025

Citation: Sharanya Sharma, Smriti Sethi. The Impact of Sleep Quality on Academic Performance and Burnout Among College Students. International Journal of Behavioral Sciences. 2025; 2(2): 59–65p.

Sleep Quality

Sleep quality reflects how restful, uninterrupted, and rejuvenating one's sleep truly is. High-quality sleep allows students to wake refreshed, while poor sleep from stress, irregular schedules, or screen use leads to frequent awakenings, difficulty falling

asleep, and daytime fatigue. The transition to college often brings changes in routine, academic demands, and new stressors that negatively impact sleep. Students frequently sacrifice sleep for studying, work, or social activities, leading to poor sleep quality that compromises mental clarity, emotional stability, and academic motivation - all crucial for student success.

Academic Performance

College students' academic productivity is influenced by their learning capacity, information retention, and knowledge application. Academic performance, a key indicator of student success, encompasses cognitive function, motivational engagement, emotional resilience, and time management, beyond test scores. This multifaceted construct is shaped by intrinsic and extrinsic factors, including intelligence, study habits, and increasingly, sleep health. Maintaining positive lifestyle choices and sleep hygiene is crucial to combat the detrimental effects of lack of sleep, potentially resulting in diminished concentration, impaired memory, and increased errors—factors that deeply interconnect with students' physiological, psychological, and behavioural outcomes.

Burnout Among College Students

College students often experience burnout due to prolonged academic stress and inadequate coping resources. Burnout involves emotional exhaustion, detachment, and diminished academic performance, frequently emerging during the transition to higher education. Symptoms include fatigue, procrastination, and disinterest. Cultural and institutional pressures, especially in India, heighten the risk. Poor sleep exacerbates burnout by reducing emotional resilience. Over time, burnout impairs academic and emotional well-being, as students lose motivation and avoid responsibilities, leading to further decline. Addressing this issue is crucial for improving students' overall well-being.

Correlation Between Academic Performance, Sleep Quality and Burnout

These 3 variables are deeply interconnected. Poor sleep disrupts memory, attention, and reasoning, leading to reduced academic performance. This underperformance creates emotional stress and exhaustion, resulting in burnout, which in turn worsens sleep. Cognitive fatigue from poor sleep decreases academic self-efficacy and increases task avoidance. Emotionally, students who expect better performance but struggle due to poor sleep often feel overwhelmed. This chronic strain leads to burnout symptoms such as fatigue and disengagement, further weakening academic behaviours and perpetuating the cycle. The relationship is cyclical—sleep affects academics, which affects stress and burnout, which then deteriorates sleep quality. Intervening through sleep improvement can help break this cycle.

Rationale of the Study

Adequate sleep is vital for mental clarity, emotional balance, and academic success in college students. Yet, academic pressure, social demands, and poor habits often disrupt sleep, impairing memory, focus, and stress regulation. Inadequate sleep also contributes to burnout, marked by emotional exhaustion and detachment. While prior studies link sleep and performance, limited primary data explores their combined effect with burnout. This study uses validated tools—PSQI, APS, and OLBI—to gather primary data from students, examining how sleep quality affects academic outcomes and emotional health. The findings aim to raise awareness among students, educators, and institutions, emphasizing sleep’s essential role in student well-being and achievement. Results may inform interventions like better time management and mental health support.

REVIEW OF LITERATURE

Khaled, A., et al. (2025) [3] assessed sleep quality among medical students using the PSQI. Among 514 participants, a striking 88.1% reported poor sleep quality. While fourth-year students and those with regular sleep schedules were less inclined to have unsatisfactory sleep, factors like GPA, age, and gender showed no significant influence. Students managing five + courses per semester were more prone to midday drowsiness. The findings emphasize the widespread sleep issues in medical education and highlight the need for better sleep hygiene and time management interventions.

Mehta, K. J. (2022) [5] presented an interdisciplinary review on how sleep and emotional state have a strong impact on how the brain works and how well a person does in their studies. It explored their complex interplay and highlighted regulatory factors such as age, gender, diet, circadian rhythms, and genetics. Emphasizing the bidirectional link between sleep and mood, the author proposed visual models to explain their interaction with learning. The review challenged the "one-size-fits-all"teaching strategy, calling for personalized methods to enhance academic and emotional support for students.

Lin, F., & Yang, K. (2021) [4] examined the multidimensional causes of academic burnout among students, categorizing them in inner and environmental aspects. The study identified environmental aspects—such as academic stress, school setting, social dynamics, parenting style, and economic background—and internal factors, emphasizing their complex interaction and the gap in research integrating both dimensions. The authors called for more in-depth studies on the mechanisms linking these factors to burnout and emphasized the need for well-informed prevention and intervention strategies.

Ye,Y.,et al.(2021) [7] looked into how having a support system affects burnout among university students, and whether their overall satisfaction with life helps connect the two.Surveying 503 students in a Chinese university, they found that stronger support system was linked to lower academic burnout, with life satisfaction partially mediating this effect. Interestingly, the strength of this mediation varied by socioeconomic status (SES)—it was stronger in students from higher SES backgrounds. This study adds nuance to the understanding of burnout by linking social and psychological variables and underscores the importance of tailored support strategies based on students' socioeconomic context.

Grossi, N. R., et al. (2021) [2] explored how both how long and how well individuals sleep relate to burnout and well-being among white-collar workers. Involving 104 participants, the study combined self-reported questionnaires with sleep data from fitness trackers over a two-week period. Findings revealed that sleep quality—rather than sleep duration—significantly predicted both burnout and well-being. While objective sleep duration didn't show strong predictive value, the study highlighted the potential of combining wearable technology with self-assessments, reinforcing the impact of restorative sleep and maintaining psychological health. [7-10]

Allen, H. K., et al. (2021) [1] explored how sleep duration and quality influence the connection between burnout and stress among graduate students. Surveying over 2,600 students from two U.S. universities, the study found that stress significantly predicted burnout symptoms—especially exhaustion. However, students who slept longer or reported better sleep quality experienced a weaker link between stress and exhaustion. Interestingly, sleep did not buffer the effects of stress on cynicism or inefficacy. The findings suggest that improving sleep may buffer the negative effects of stress on emotional exhaustion in graduate populations.

Okano,K., et al. (2019) [6] provided objective evidence linking sleep habits with academic performance by tracking 88 college students using wearable devices. The research showed that those who had regular and more restful sleep over the month and the week leading up to exams performed significantly better on quizzes and midterms. Sleep metrics explained about 25% of the variance in grades, emphasizing the importance of long-term sleep patterns over last-minute rest.

METHODOLOGY

Aim

This study aims to examine the impact of sleep quality on academic performance and burnout among college students.

Objectives

1. To examine gender differences in the level of sleep quality, academic performance and burnout among college students.
2. To study the relationship between sleep quality and academic performance among college students.

3. To study the relationship between sleep quality and burnout among college students.
4. Sleep quality will predict academic performance among college students.
5. Sleep quality will predict burnout among college students.

Hypothesis

H_1: There will be no significant gender differences in the level of sleep quality, academic performance and burnout among college students.

H_2: There will be no significant relationship between sleep quality and academic performance among college students.

H_3: There will be no significant relationship between sleep quality and burnout among college students.

H_4: Sleep quality will not significantly predict academic performance among college students.

H_5: Sleep quality will not significantly predict burnout among college students.

Variables

Independent variable (IV):

- Sleep Quality

Dependent variables (DVs):

- Academic Performance
- Burnout Levels

Sample and Its Selection

20 research papers and literature reviews which studied sleep quality, academic performance and burnout over the last decade were studied out of which 7 were shortlisted. The Pittsburgh Sleep Quality Index (PSQI)by Dr. Daniel J. Buysse and colleagues (1989), The Academic Performance Scale (APS), developed by Carson Birchmeier, Emily Grattan, Sarah Hornbacher, and Christopher McGregory Oldenburg Burnout Inventory (OLBI) by Eva Demerouti and colleagues (2001) was generated into a google form and had been filled by 120 college students (50 males and 50 females) within the age ranges of 18 to 25.

Inclusion Criteria

Participants were college students aged 18–25 who gave informed consent and were enrolled in undergraduate or postgraduate programs.

Exclusion Criteria

Students who did not consent or had chronic medical conditions affecting sleep were excluded to avoid confounding variables.

Description of the Tools Employed

This study utilizes three well-established tools to assess sleep quality, academic performance, and burnout among students. The Pittsburgh Sleep Quality Index (PSQI) is a widely used tool that measures an individual's sleep quality and disturbances over the past month through 19 items across seven domains including sleep latency, duration, efficiency, and daytime dysfunction. Scores range from 0 to 21, with higher scores reflecting poorer sleep quality; scores above 5 indicate significant sleep-related issues. The PSQI has demonstrated strong reliability and correlates well with objective sleep assessments, making it a trusted measure across diverse populations. To evaluate academic engagement, the Academic Performance Scale (APS) is employed. The Academic Performance Scale (APS) by Christopher McGregory , is an 8-item self-report instrument that evaluates academic habits and engagement using a 5-point Likert scale. It has shown high internal consistency and test-retest reliability, supporting its use in educational research.Burnout is assessed using the Oldenburg Burnout Inventory (OLBI). The Oldenburg Burnout Inventory (OLBI) assesses burnout across two

dimensions—exhaustion and disengagement—through 16 items rated on a 4-point Likert scale. This tool includes both positively and negatively worded items to minimize bias and has shown strong reliability and validity in both occupational and academic contexts.

Procedure

The study will begin with the recruitment of 120 college students (60 males and 60 females), aged 18 to 25, who are currently enrolled in undergraduate or postgraduate programs. Participants will be recruited through email lists, student forums, and social media platforms. After obtaining informed consent, participants will complete a self-report questionnaire designed to assess sleep quality, academic performance, and burnout levels. The survey will include the Pittsburgh Sleep Quality Index (PSQI) to evaluate participants' sleep quality, duration, and disturbances over the past month in Table [1-9]. The Academic Performance Scale (APS), which measures students' engagement, time management, and self-perceived academic success. Burnout levels will be measured using the Oldenburg Burnout Inventory (OLBI), which examines exhaustion and disengagement from academic tasks. The survey will be administered online via Google Forms , ensuring accessibility and convenience for participants. Instructions will be provided to ensure participants respond based on their typical academic and sleep experiences. After distributing the survey, responses were monitored and data was collected. Once the survey closed, the dataset was cleaned to remove incomplete responses and ensure accuracy. The data were analyzed separately for male and female participants using the t-test for the three variables. Subsequently, Pearson correlation coefficients were calculated to study the relationships between sleep quality, academic performance, and burnout. Finally, regression analysis was employed to determine whether sleep quality predicts academic performance and burnout among college students.

RESULTS

The study did not reveal any statistically significant gender differences in sleep quality, academic performance , or burnout levels among college students. However, correlation analysis indicated a significant negative association between sleep quality and academic performance specifically among female students ($r = -0.315$, $p < .05$), suggesting that lower sleep quality corresponded with reduced academic performance in this group. This relationship was not found to be significant among male students. In contrast, sleep quality showed a strong positive correlation with burnout for both genders (males: $r = 0.508$, females: $r = 0.502$, $p < .01$), suggesting that poor sleep contributes to emotional exhaustion and disengagement. Regression analysis further revealed that sleep quality modestly predicted academic performance among females ($R^2 = 9.9\%$) but not males, while it significantly predicted burnout in both groups ($R^2 = \sim 25\%$).

Table 1. Mean, standard deviation and t- value for sleep quality, academic performance and burnout among college students (males and females).

	Mean		SD		t- value	sig
	males	***females***	***males***	***females***		
Sleep Quality	6.73	7.35	3.12	3.57	-1.008	.316
Academic Performance	26.92	27.17	4.93	5.33	-0.267	.790
Burnout	42.08	41.70	6.47	7.19	0.307	.759

Table 2. Correlation between sleep quality and academic performance among males.

Males	**Sleep quality**	**Academic performance**
Sleep quality	1	-0.246
Academic performance	-0.246	1

Correlation is not significant at the 0.05 level (2-tailed)

Table 3. Correlation between sleep quality and academic performance among females.

Females	**Sleep quality**	**Academic performance**
Sleep quality	1	-0.315*

Academic Performance	-0.315*	1

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

Table 4. Correlation between sleep quality and burnout among males.

Males	Sleep quality	Burnout
Sleep quality	1	0.508**
Burnout	0.508**	1

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

Table 5. Correlation between sleep quality and burnout among females.

Females	Sleep quality	Burnout
Sleep quality	1	0.502**
Burnout	0.502**	1

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

Table 6. Regression between sleep quality and academic performance among college students.

Model	R	R square	Adjusted R square
1	.246	.060	.052

Predictors: (Constant), Sleep Quality

Table7. Regression between Sleep quality and academic performance among female college students.

Model	R	R square	Adjusted R square
1	.315	.099	.090

Predictors: (Constant), Sleep Quality

Table 8. Regression between sleep quality and burnout among male college students.

Model	R	R square	Adjusted R square
1	.508	.258	.251

Predictors: (Constant), Sleep Quality

Table 9. Regression between sleep quality and burnout among female college students.

Model	R	R square	Adjusted R square
1	.502	.252	.244

Predictors: (Constant), Sleep Quality

DISCUSSION

The findings indicate that gender did not significantly influence sleep quality, academic performance, or burnout levels. However, the effects of poor sleep varied by gender. Female students showed a clearer link between insufficient sleep and reduced academic achievement, indicating greater vulnerability to cognitive impacts of insufficient rest. This pattern was not evident in male students, possibly due to different coping mechanisms or lifestyle factors. Sleep quality consistently predicted burnout in both genders, highlighting its universal role in emotional health.

Consequently, the hypotheses linking sleep quality to burnout (H3 and H5) and academic performance in females (H2 and H4) were rejected, while those for males were partially accepted. The findings emphasize that sleep is not just a biological need but a crucial contributor to academic resilience and mental well-being. Promoting better sleep practices, particularly among female students, may enhance academic outcomes and reduce burnout risk in college populations.

CONCLUSION

The research highlighted sleep quality as a key factor influencing both academic performance and burnout among college students, with especially significant effects seen in female participants. While overall levels of individual variables did not differ significantly by gender, the influence and predictive power of sleep quality varied between males and females. The data revealed that poor sleep correlates with diminished academic achievement and heightened emotional exhaustion, reinforcing the importance of sleep in supporting overall student well-being. These insights point to the need for

gender-responsive approaches when designing strategies to improve sleep habits and reduce academic stress within student communities.

Limitations

The limitations of the current study are as follows: -

1. The data collected by conducting an interview could have led to more appropriate findings and would have led to more appropriate conclusions.
2. The cultural differences and background of the participants during the study were left ignored. It might have revealed some other findings and conclusions.
3. The sample size was small i.e., 120 which can be the plausible explanation for not a huge significant difference.

Recommendations

1. Replicating the study with a larger, more diverse group across multiple colleges and states would enhance generalizability.
2. Future work can explore how variables such as anxiety, resilience, social support, or physical health interact with sleep quality, academic performance, and burnout.
3. Adding interviews or focus groups might offer richer understanding of how students personally experience sleep issues and academic pressure.
4. Researchers can implement sleep-improvement interventions and test their effectiveness in reducing burnout or enhancing academic performance.

REFERENCES

1. Allen HK, Barrall AL, Vincent KB, Arria AM. Stress and burnout among graduate students: moderation by sleep duration and quality. *Int J Behav Med*. 2021;28(1):21–8.
2. Grossi NR, Batinic B, Moharitsch S. Sleep and health: examining the relation of sleep to burnout and well-being using a consumer fitness tracker. *Health Technol*. 2021;11:1247–57.
3. Khaled A, Almaghaslah D, Siddiqua A, Alshahrani A, Alqahtani A. Impact of sleep quality on academic achievements of undergraduate medical students: a cross-sectional study from Saudi Arabia. *BMC Med Educ*. 2025;25:59.
4. Lin F, Yang K. The external and internal factors of academic burnout. In: Proceedings of the 2021 4th International Conference on Humanities Education and Social Sciences (ICHESS 2021). 2021. p. 1815–21.
5. Mehta KJ. Effect of sleep and mood on academic performance—at the interface of physiology, psychology, and education. *Humities Soc Sci Commun*. 2022;9:16.
6. Okano K, Kaczmarzyk JR, Dave N, Mandell DJ, Benca RM. Sleep quality, duration, and consistency are associated with better academic performance in college students. *NPJ Sci Learn*. 2019;4:16.
7. Ye, Y., Huang, X., & Liu, Y. (2021). Social support and academic burnout among university students: A moderated mediation model. Psychology Research and Behavior Management, 14, 335–344.
8. Grossi NR, Gattringer F, Sattler S, et al. Sleep and health: examining the relation of sleep to burnout and well-being using a consumer fitness tracker. *Sustainability*. 2021;13(15):8394. doi:10.3390/su13158394.
9. Yu YF, Chang YY, Chang SH. Exploring health promotion behaviors, occupational burnout, and sleep disturbances in traditional industry workers. *Healthcare (Basel)*. 2025;13(1):51. doi:10.3390/healthcare13010051.
10. Meng J, Suárez L, Yip CCE, Marsh NV. White-Collar Workers in the Post-Pandemic Era: A Review of Risk and Protective Factors for Mental Well-Being. *Behav Sci*. 2025;15(10):1313. doi:10.3390/bs15101313.

