



A Study on Sleep Quality and Academic Performance among College Going Students

¹Jahan Ara, Masters of Arts , Applied Psychology,

Amity Institute of Psychology and Allied Sciences ,Noida, India.

Sabamir1955@gmail.com

²Dr. Anajli Sahai Shrivastava, Assistant Professor,

Amity Institute of Psychology and Allied Sciences, Noida, India

assrivastava@amity.edu

ABSTRACT

In light of the complexity of the variables impacting college students' sleep patterns and the consequences these have for their health, this research seeks to understand how students' sleep quality correlates with their academic success. Getting a good night's sleep is important for your mental and physical health, which in turn affects your ability to concentrate and complete assignments. Sleep disorders, such as inconsistent sleep patterns, inadequate sleep length, and reduced sleep quality, are common among college students and are associated with a number of negative effects, such as worse academic performance and increased stress levels. Using

empirical studies and statistical analysis, this study investigates how many aspects of academic performance—including attendance, grades, coursework involvement, and general academic motivation—are affected by sleep quality. The research also looks at how stress, lifestyle choices, environmental variables, and institutional support systems affect the quality of sleep that college students get. The purpose of this study is to help educators, administrators, or healthcare providers better understand the relationship between students' sleep quality and their academic performance so that they can create more effective interventions to encourage better sleep habits and better results for college students.

Keywords: *sleep quality, academic performance, college students, well-being, cognitive function, stress*

INTRODUCTION

College students sometimes have considerable difficulties in juggling their academic obligations, social commitments, and personal health in the hectic and demanding setting of higher learning. The quality of their sleep is an often-overlooked yet very important component of their general health and academic performance. Academic performance, sleep habits, and the complex relationship between the two have recently attracted the interest of scholars, teachers, and medical experts. The importance of getting a good night's sleep in connection to doing well in school is huge. Cognitive performance, consolidation of memories, attention span, & general physical and mental wellness all depend on getting enough sleep. On the other side, research shows that college students who get too little or bad sleep have a greater likelihood of mental health problems, worse cognitive ability, higher stress levels, and worse academic performance. There is a lack of consensus on how college students' sleep affects their academic performance, despite the increasing amount of study on the subject. Sleep habits and academic achievements might vary among varied student groups due to factors including

lifestyle choices, environmental effects, technology distractions, and academic expectations. Consequently, the purpose of this research is to investigate the complex relationship between college students' sleep and their academic performance.

- a) This study aims to fulfil many goals by a thorough evaluation of current literature, empirical investigation, and statistical analysis: Look at the typical college student's sleep schedule, taking into account how it varies by age, gender, major, and financial status.
- b) Examine the relationship between sleep quality and academic outcomes including attendance, motivation, engagement, and grades.
- c) Consider factors like stress, dietary habits, mental health, and social support as possible moderators or mediators of the association between sleep quality & academic achievement.
- d) Addressing the specific demands and problems of higher education, provide treatments and suggestions based on research to improve college students' sleep hygiene and academic performance.

This research seeks to add to the current body of information in the domains of public health and education by illuminating the intricate relationship between the quality of sleep and academic achievement. Educators, legislators, healthcare providers, and other stakeholders engaged in enhancing college students' health and academic performance may draw substantial conclusions from this study's results.

BACKGROUND OF THE STUDY

An increasingly important problem in the context for higher education, the backdrop of this research explores the complicated link between academic performance and sleep quality

among college students. Students' sleep habits and patterns may be greatly affected by the specific demands of college life, which are marked by increased independence and academic pressure. Irregular sleep patterns and poor sleep quality are common among this group as they adjust from the rigid schedules of high school to the more fluid schedules of college. Anxiety and sleep problems are common symptoms of academic stress, which includes things like high expectations for one's performance in class and the fear of missing important due dates. Technological distractions, such as smartphones and laptops, are common and may further disturb sleep patterns. Research has shown that using screens too close to bedtime might hinder the generation of melatonin and cognitive relaxation.

Furthermore, college students face a multitude of psychosocial stresses, including connections with peers, sexual interests, financial worries, and the process of discovering who they are. These factors may amplify emotional upheaval and lead to sleep problems. Students' mental and physical wellness, as well as their performance in school and general well-being, are affected by the cumulative influence of these elements. The importance of treating sleep-related difficulties in colleges and universities is highlighted by the many negative health effects associated with chronic sleep deprivation, such as impaired immunological function, obesity, increased cardiovascular risk, or mental health disorders.

Many schools have begun programs to encourage good sleep habits and overall wellbeing for their students after realizing the significance of these issues to their students' health. Additional research and intervention techniques that are specific to the requirements of college students are necessary since the efficacy if these support systems might differ throughout schools. This research seeks to shed light on the complex connection between college students' sleep quality and their academic success in this context. In order to help educators, administrators, lawmakers, and healthcare providers improve college students' health and achievement, this study looks at the processes at work, as well as contextual variables and possible treatments. Improving academic performance and encouraging a culture

of wellness and resilience among undergraduates are two possible outcomes of tackling sleep-related concerns in higher education.

METHODOLOGY

Aim

The purpose of the study was to explore the relationship and influence of sleep quality on academic performance among college students.

Variables

- *Independent Variable*

Sleep Quality: Sleep quality is how someone feels about the different aspects of their sleep, like how long they sleep, how quickly they fall asleep, how deep their sleep is, and how relaxed they feel. It includes both numbers (like overall sleep time) and words (like sleep problems and how satisfied you are with your sleep). The main variable in this study is sleep quality, which is the amount of happiness and adequacy that college students feel with their sleep.

- *Dependent Variable*

Academic Performance: Academic performance is how well students do in university. It is usually measured by things like grades, test results, GPA (Grade Point Average), as well as class rank. It shows how well students have learned the academic material, skills, and abilities that are tested in their tests and assignments. The amount of academic success among college students is shown by academic results, which is the dependent variable in this study.

Research Objectives

- a) To examine the effect of sleep quality on academic achievement among college students.
- b) To explore the relationship between sleep quality and academic achievement among college students.

Hypothesis

- There is no significant impact of sleep quality on academic performance among college students.
- There is positive relationship between sleep quality and academic performance among college students.

Sample

The study included 134 participants of both genders. The group of participants was made up of a wide range of people by carefully mixing purposeful and random sampling methods. Participants were between the ages of 18 and 25.

Data Collection Instruments

The “Sleep Quality Scale as well as the Academic Performance Scale” testing tool were both used to gather information.

Data Collection Procedure

The "**Sleep Quality Scale along with the Academic Performance Scale**" are two widely used questionnaires that were used in this study to help collect data. Every questionnaire was carefully chosen to evaluate particular elements relevant to the goals of the research. All subjects were given a thorough description of the study's objectives before to participation and were urged to participate at will. They received a bundle of questionnaires with questions about the study, as well as information on how to stay anonymous, get in touch with the researcher, and other important things. In addition, a ten-minute training session was held to make sure every participant understood how to use the survey tools.

- *Sleep Quality Scale*

The 28-item Sleep Quality Scale (SQS) evaluates six aspects of sleep quality: getting up with difficulties, restoring sleep after a night of disruption, challenges starting and staying asleep, and overall sleep pleasure. Its creators set out to create an all-encompassing instrument that could effectively gauge sleep quality in a range of patient and study groups.

Reliability

A coefficient alpha of .92 shows that this Scale of Sleep Quality (SQS) is very consistent with itself. These numbers show that the scale's items are strongly connected to one another, which means that they are constantly measuring the same thing. With a score of .81, the SQS is also good at being reliable from one test to the next. This means that the scale's results don't change over time, which means that it can be relied on to measure sleep quality the same way at different testing sessions.

Validity

The SQS's excellent connection with Pittsburgh Sleep Quality Index (PSQI) scores demonstrates the construct validity of the measure. Given its strong correlation with another

validated sleep quality measure, this shows that the SQS is assessing the target construct of sleep quality efficiently.

- *Academic Performance Scale*

The 8-item Academic Performance Scale is designed to assess self-confidence and motivation. There are eight things on it, and the higher levels are shown on a five-point scale. Participants are asked to rate each item on the scale from "STRONGLY DISAGREE" to "STRONGLY AGREE." The scale takes a few minutes to complete for participants.

Reliability

Test-retest reliability for the Academic Performance Questionnaire (APS) is strong, with a value of 0.85 over a two-week period. This shows that the APS evaluates academic achievement consistently across testing sessions and that the scores received from it are stable and constant over time.

Statistical Analysis

SPSS software was used to look at the study's data in a scientific way. Different types of statistics, such as regression analysis, were used to look at the data. Pearson association tests were also used to see if the hypothesis was correct.

RESULTS

The quality of sleep is very important for everyone's health, well-being, and ability to think clearly. This is especially true for college students, whose plans are often unpredictable

and full of different obligations. Academic achievement, which is a big part of how well students do in college, is closely linked to the quality of their sleep, since getting enough sleep is important for learning, memory consolidation, and brain functioning. Understanding the link between college students' sleep quality and how well they do in school is important for promoting their happiness and achievement in educational institutions.

The goal of this study is to find out if there is a link between the quality of sleep and how well college students do in their classes. The goal of this study is to find out how students' sleep quality affects their ability to do well in school by looking at how sleep rhythms, sleep disturbances, as well as academic results are connected. This study will use a wide range of research methods, such as surveys, sleep tests, as well as academic performance measures, to look into the connection between the quality of sleep and academic success across a range of subjects, levels of study, as well as demographics. The study intends to give insights into the possible determinants and mediators of the sleep-academic performance connection among college students through a careful investigation of empirical data as well as statistical modeling tools.

Table 1

Descriptive statistics of all variables among college students

	Sleep Quality	Academic Performance
Mean	38.97015	30.04478
Standard Deviation	12.59546	4.962818
Count	134	134

The table displays descriptive data about academic performance and sleep quality for a sample of 134 people. Based on the sample, the average degree of sleep quality is 38.97, as indicated

by the mean score. The 12.60 standard deviation indicates a moderate level of interindividual heterogeneity in sleep quality. However, the sample's average level of academic success appears in the mean Academic Performance score of 30.04. When compared to sleep quality, the standard deviation = 4.96 shows that academic performance varies throughout people quite little. These results provide light on the sample's overall sleep quality as well as academic performance levels, pointing out areas that can benefit from interventions or changes. For example, addressing sleep quality fluctuation could possibly improve academic outcomes.

Table 2

Regression analysis of impact of sleep quality on academic performance among college students

Regression Statistics	
Multiple R	0.089108
R Square	0.00794
Adjusted R Square	0.000425
Standard Error	4.961764
Observations	134

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	26.01037	26.01037	1.056512	0.305892
Residual	132	3249.721	24.6191		
Total	133	3275.731			

Null Hypothesis (H_0): There is no significant impact of sleep quality on academic performance among college students.

Alternative Hypothesis (H_0): There is significant impact of sleep quality on academic performance among college students.

According to the standard significance level of 0.05, the F-statistic in the ANOVA table does not meet the significance level of 0.305892. This indicates that the regression model as a whole cannot be considered statistically significant. Additionally, the p-value of the regression coefficient for sleep quality's t-statistic is likewise above 0.05, indicating that, in this sample, sleep quality has no discernible effect on academic performance.

Therefore, we **accept the Null Hypothesis (H_0)**, which states that college students' academic performance is not significantly impacted by their sleep quality. As a result, we reject the **Alternative Hypothesis (H_1)**, which holds that college students' academic performance is significantly impacted by their sleep quality.

Table 3

Pearson correlation analysis of relationship between sleep quality and academic performance among college students.

	<i>Sleep Quality</i>	<i>Academic Performance</i>
Sleep Quality	1	
Academic Performance	-0.08911	1

Null Hypothesis (H_0): There is positive relationship between sleep quality and academic performance among college students.

Alternative Hypothesis (H_0): There is negative relationship between sleep quality and academic performance among college students.

The value of -0.08911 for the correlation coefficient among the quality of sleep and academic success shows a negative association. This provides some evidence that higher levels of sleep quality may be somewhat correlated with worse academic achievement. As a result, we reject the **Null Hypothesis (H_0)**, which says the relationship is positive, as well as accept the **Alternative Hypothesis (H_1)**, which says the relationship is negative. This suggests that there is a tendency for academic performance to decline marginally as sleep quality declines.

DISCUSSION

College students' academic success and the quality of their sleep were looked at in this study because good sleep is important for brain health and general well-being. The descriptive data showed how well the group slept and how well they did in college. They also showed where improvements could be made, especially in dealing with changes in sleep quality to improve academic performance.

However, the regression study showed that college students' academic success was not significantly affected by the quality of their sleep. Overall, there was no statistically significant difference in the regression model, and there was not a significant impact on academic performance, according to the p-value of the sleep quality regression coefficient.

In the same way, the Pearson correlation study showed a negative relationship between the quality of sleep and academic performance. This means that better sleep quality may be linked to slightly worse academic success.

Ultimately, the results imply that sleep quality itself might not be a robust predictor of academic achievement among this sample of college students, even though the study did offer helpful insights into the correlation between the two. Other things, like how you study, how stressed you are, and how well you handle your time, may also have a significant impact on how well you do in school. More study into how these factors affect each other could give us a better idea of how to help college students do well in college and develop good sleep habits at the same time.

CONCLUSION

The sample's academic performance and sleep quality were summarized by the descriptive data shown in Table 1. It was discovered that although there was substantial diversity in the individuals' sleep quality, there was very little change in their academic performance. The finding brought to light a possible improvement in academic results by treatments or modifications targeted at enhancing the quality of sleep.

The study aimed to ascertain if sleep quality substantially affected academic achievement. Table 2 displayed the regression analysis. The regression model, that considered sleep quality as an independent predictor, did not, according to the data, reach statistical significance. This shows that sleep quality by itself may not be a reliable indicator of college students' academic achievement in this specific population. Moreover, Table 2's ANOVA table showed that a gauge of overall significance, fell short of the accepted cut off point for statistical significance. Therefore, the null hypothesis was accepted, which says that the quality of sleep does not have a big effect on college students' academic performance.

The results of the correlation analysis shown in Table 3 supported the inference made from the regression analysis. Although there was a modest negative correlation (-0.08911) between academic achievement and sleep quality, there was not enough of a connection for the

two variables to be considered statistically significant. As a result, the alternative hypothesis—which proposed a negative association—was accepted with bigger and more varied samples is necessary to validate these results. However, efforts to address variations in college students' sleep quality are still essential to supporting their general well-being and possibly improving academic performance. in place of the null hypothesis, which claimed a positive relationship between academic achievement and sleep quality.

In summary, the results of the study indicate that there is no statistically significant correlation between college students' academic performance and sleep quality, even though there could be a little negative effect. Academic achievement is probably more influenced by variables other than sleep quality. It is essential to acknowledge the limitations of this study, such as its dependence on a particular sample.

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