



The Correlation Between Sleep Duration And Learning Achievement Of Efl Students

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Abstrac

This quantitative descriptive study aimed to explore the relationship between sleep duration and academic performance among third-year English Language Teaching students at IAIN Palangka Raya. data was collected from 24 voluntary participants. Results indicated that most respondents slept between 11:00 pm and 12:00 am, with an average sleep duration of 5.458 hours. Despite the majority having below the recommended 7 hours of sleep per night, the study found a weak negative correlation (-0.088) between sleep duration and academic performance (GPA). However, the p-value of 0.684 suggested that this correlation was not statistically significant. Discussion highlighted the importance of sleep for cognitive functions and academic success. Although the study contradicted some existing theories, it emphasized the need for further research with larger samples and more specific performance measurements. The findings could guide educational institutions in developing evidence-based interventions to improve students' sleep quality and, potentially, academic performance. this research contributes to the understanding of the complex relationship between sleep and academic achievement, prompting further exploration for a more comprehensive perspective.

INTRODUCTION

Quantification of sleep is as important as it is complex, and there are many ways to measure it (Villalba-Heredia et al., 2021). Sleep is one of the important aspects of human life that has a significant impact on physical, mental, and cognitive health. Adequate sleep duration and quality are essential for optimal physical recovery, memory consolidation, and cognitive function. In an academic context, students majoring in English face high academic pressure. They are often faced with tasks that require literature analysis, essay writing, language skill development, and research. College students report significantly poorer sleep quality, including inconsistent sleep schedules and poor sleep, than the general population (Raley et al., 2016). Competition for top academic grades can create additional stress. Healthy sleep patterns have been shown to have a positive impact on cognitive ability, concentration, problem solving and memory. In addition, adequate sleep also helps maintain mental health, reducing the risk of psychological disorders such as anxiety and depression. However, in a fast-paced and demanding academic environment, students often sacrifice sleep to meet assignment deadlines or test preparation. Such a sleep-deprived mindset can make it difficult for the brain to generate new problem-solving ideas (Jannathul et al., 2023). These challenges may impact their sleep quality and in turn, may affect their academic performance. In fact, sleep quality is very important for the health and well-being of individuals and has an important role in learning and memory processes (Valic et al., 2014). In addition, the role of sleep in relation to academic performance is still a matter of debate. Because, although the relationship between sleep and academic success has been introduced in the medical literature for a long time, there is still no definitive answer in this regard (Jalali et al., 2020). Some studies found a positive relationship between adequate sleep and better academic performance, while other studies produced mixed findings. Therefore, further research is needed to explore the relationship between sleep duration and academic performance, particularly in English majors. The importance of sleep in influencing well-being and learning achievement has been a major topic of concern in multidisciplinary research. College students, as a group of people who often face academic pressures, often struggle to maintain a balance between their sleep quality and the demands of their studies. This imbalance can have an impact on aspects of students' well-being and, more importantly, on their learning outcomes. Therefore, research on the correlation between sleep duration and student learning achievement is becoming increasingly important in the context of higher education.

Previous research found by (Lin et al., 2020) showed that sleep duration affects academic achievement. sleep duration is related to adequate and insufficient sleep time. as we know, lack of sleep can cause decreased concentration,



increased levels of fatigue, and lack of sleep also disrupts the function of brain structures that are important for cognitive processes (Zeek et al., 2015). All of which are necessary to achieve high academic success. These findings contradict research by (Woods et al., 2023) which found no relationship between sleep quality and student academic achievement in terms of race and ethnicity. So, from this finding, it is necessary to further study the relationship between sleep duration, in this case the quality of one's sleep, and learning achievement. Few studies have focused on the population of EFL students, who often have specific demands related to language, writing, and text analysis skills. Therefore, it is necessary to explore the extent to which sleep duration affects academic achievement specifically in the context of English language students.

Based on the background and literature presented, the research question is: "Is there a significant correlation between sleep duration and academic achievement of EFL students?" To answer this question, this study will collect data on students' sleep duration and correlate it with their academic achievement based on their overall grade point average (GPA). The results of this study are expected to provide a deeper understanding of the impact of sleep on the academic performance of English majors and can be the basis for recommendations and policies that support students' well-being and help improve their academic achievement.

METHOD

This study used a quantitative descriptive approach to identify and describe the relationship between sleep duration and English students' learning achievement.

The population in this study was third-year Tadris English students at IAIN Palangka Raya. A total of 24 students volunteered to participate in this study. The participants were selected based on their willingness to fill out the questionnaire survey.

The instrument used in this study was an online questionnaire using Google form. The questionnaire used for this study was taken from the research questionnaire on sleep duration and academic performance among student pharmacists by Megan L. Zeek and colleagues. This questionnaire is specifically to collect information about students' sleeping hours which are divided into 5 time groups, the time to start activities which are divided into 4 time categories, GPA for 5 semesters, the amount of sleep at night and the number of naps in a week. so that in total there are 5 questions given. The questionnaire was pretested with several students to ensure the clarity of the questions and the accuracy of the instrument. Data collection is carried out through the distribution of the questionnaire to the selected participants. The survey is administered during a convenient time, ensuring that participants have ample opportunity to respond thoughtfully. Data collection was carried out through distributing questionnaires to third year students of the Tadris English study program at IAIN Palangka Raya. of the 24 participants there were those from class A and some were from class B. initially the researcher needed 20 participants, but when the distribution of the lift turned out to be 24 participants. this is all because the distribution of questionnaires was carried out in the class group on Whatsapp which made participants fill out the questionnaire exceeding the target. The survey was conducted at the right time, to ensure that participants had sufficient opportunity to answer seriously.

The collected data will be analyzed by statistical methods using Jeffrey's Amazing Statistics Program (JASP) application. Descriptive statistics, such as: mean, standard deviation, and frequency, will be used to summarize the data. Correlation analysis will be conducted to check if there is a relationship between sleep duration and student learning achievement.

At this stage, the data that has been obtained previously is processed and analyzed with the aim of finding out the Correlation between Sleep Duration and Learning Achievement in EFL Students. Data analysis using correlation was carried out to determine the correlation between sleep duration and learning achievement. The correlation formula used is Pearson's product moment with the following hypothesis:

Hypothesis:

Ho: there is no Correlation between Sleep Duration and Learning Achievement of EFL Students.

H1: there is a correlation between sleep duration and students' English learning achievement.

Meanwhile, the Pearson product moment correlation formula is as follows:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2] - [N \sum Y^2 - (\sum Y)^2]}}$$

With:

r_{xy} : The correlation coefficient between Sleep Duration and Learning Achievement

X : Sleep duration

Y : Learning Achievement

The interpretation of r is presented in the following table:

Table 1. Interpretation of values r

Value Interval	Interpretation
0.001 – 0.2	The correlation is very weak
0.201 – 0.4	Weak correlation
0.401 – 0.6	The correlation is quite strong
0.601 – 0.8	Strong correlation
0.801 – 1.0	The correlation is very strong

The research data will use JASP software as a data analysis tool. Decision making as follows:

- If sig. < 0.05 then H_0 is rejected (there is a correlation between Sleep Duration and Learning Achievement of EFL Students)
- If sig. > 0.05 then H_0 is accepted (there is no correlation between Sleep Duration and Learning Achievement of EFL Students)

RESULT

1. Statistik Descriptive Descriptive Frekuensi

Tabel 2. Frequencies for CLASS

CLASS	Frequency	Percent Valid	Percent Cumulative	Percent
A	9	37.500	37.500	37.500
B	15	62.500	62.500	100.000
Total	24	100.000		

Based on table 1, the respondents consisted of 24 people, divided into 9 people (37.5%) from class A and 15 people (62.5%) from class B.

Bedtime

Tabel 3. Frequencies for Bedtime

Bedtime	Frequency	Percent Valid	Percent Cumulative	Percent
11:00pm-12:00am	10	41.667	41.667	41.667
1:00-2:00am	4	16.667	16.667	58.333
2:00-3:00am	1	4.167	4.167	62.500
8:00-9:00pm	1	4.167	4.167	66.667
9:00-10:00pm	8	33.333	33.333	100.000
Total	24	100.000		

Based on the test results table above, the majority of respondents (10 people or 41.667%) slept at 11:00 pm - 12:00 am, while others slept at 1:00-2:00am as many as 4 people (16.667%), at 2:00-3:00am as many as 1 person (4.167%), at 8:00-9:00pm as many as 1 (4.167%) person and at 8 people (33.33%).

Tabel 4. Frequencies for Time of starting the activity

Time of starting the activity	Frequency	Percent Valid	Percent Cumulative	Percent
3:00-4:00am	1	4.167	4.167	4.167
4:00-5:00am	13	54.167	54.167	58.333
5:00-6:00am	5	20.833	20.833	79.167
6:00-7:00am	5	20.833	20.833	100.000
Total	24	100.000		

Based on the JASP test results table, the majority of students started their activities at 4:00-5:00am as many as 13 people (54.167%) while the rest, started their activities at 3:00-4:00am as many as 1 person (4.167%) and at 5:00-6:00am, 6:00-7:00am as many as 5 people (20.833%) each.

Tabel 5. Descriptive Statistics

	GPA	Number of hours of sleep at night	Number of naps in one week
Valid	24	24	24
Missing	0	0	0
Mean	3.611	5.458	2.833
Std. Deviation	0.136	1.351	2.140
Minimum	3.350	3.000	0.000
Maximum	3.830	8.000	7.000

It was found that the average GPA of the 24 respondents was 3.611, this GPA value was in the range of 3.35 to 3.83. As for the amount of sleep at night, the average is 5.458 hours, the number of hours of sleep ranges from 3 - 8 hours. In the variable number of naps a week, the average is 2,833 times. Respondents' answers to this question were in the range of 0-7 or from never napping to napping every day (7 days).

2. Correlation

This test aims to test the correlation between the length of sleep time and Learning Achievement of EFL Students (GPA). The test uses Pearson correlation with the help of JASP. In Pearson testing, the assumption that must be met is normality. The results of the normality test are shown in the table below

Tabel 6. Shapiro-Wilk Test for Multivariate Normality

Shapiro-Wilk	p
0.946	0.221

Normality using the Shapiro Wilk test shows the p-value is 0.221. The p-value > 0.05 so it is concluded that the data is normally distributed, so proceed with the Pearson correlation test. The Pearson test results are as follows :

Tabel 7. Pearson's Correlations

Variable		GPA	Number of hours of sleep at night
1. GPA	Pearson's r	—	
	p-value	—	
2. Number of hours of sleep at night	Pearson's r	-0.088	—
	p-value	0.684	—

The test results show the correlation value between sleep time and GPA is -0.088, this correlation shows a very weak correlation between the two and has a negative sign. To test the significance of the relationship, refer to the p-value. The p-value is 0.648, this value is > 0.05 so H_0 is accepted. H_0 is accepted so it is concluded that there is no relationship between Sleep Duration and Learning Achievement of EFL Students.

DISCUSSION

Sleep is a basic need that is needed by every human being (Tanty et al., 2023). Based on the distribution, the research students consisted of classes A and B. The majority of students slept at 11:00 pm - 12:00 am, this shows that the majority of respondents' sleeping hours are late at night. Then, waking up at 4:00 am - 5:00 am shows that students' sleep hours are below 7 hours or show poor sleep quality. Insufficient sleep duration is indicated to have a negative impact on student academic performance (Chen et al., 2014).

The average amount of sleep time for students is 5.468 hours, which is below the recommended minimum of 7 hours of sleep a day. In a week, the average student only sleeps 2.83 times. So, they only nap 3 out of 7 days. This finding further corroborates that the average quality of student sleep is poor. Night sleep duration can be linked to academic performance as measured by semester GPA. On average, students' semester GPA was 3.61 out of 4.00, which is a good average.

When associated with the results of the study, in fact there is no correlation between the number of hours of sleep with student achievement. This is in line with the findings of research by (Ahmadi & Omidvar, 2022) which found that there is no relationship between sleep quality and student achievement even though sleepiness affects academics. Research by (Woods et al., 2023) also found that there is no relationship between sleep hours and academic achievement. Students' poor sleep quality does not affect their cognitive function in this case on GPA scores.

The researcher argues that, from the results of testing 24 respondents, it shows that the factor of how long a person sleeps does not affect his academic performance. The average respondent has poor sleep quality, it does not affect the GPA value obtained. The GPA value is still in a good range and average. This means that there are other factors that affect GPA. These factors can come from internal and external to the individual. For this reason, further research should examine other factors that affect learning achievement.

The results obtained contradict the existing theory, namely sleep quality is one of the factors that affect achievement. The condition of lack of sleep duration, especially in college students, can have a negative impact in various aspects such as learning concentration and memory impairment so that it interferes with the learning process (Giannotti et al., 2002) but this does not apply in this study. This is due to the small number of samples, thus affecting the results of the study. Research will improve if the number of samples is increased. In addition, the measurement of learning achievement uses more specific values, for example, the exam scores of certain courses during the month and is associated with the students' sleep time before taking the exam. Another influential factor is the condition of the

respondent when answering questions, whether disturbed by external or internal circumstances so that the answers given are not perfect so that the conditions obtained are different from the theory.

The results of the study can help educational institutions develop policies that support the balance between academic load and student rest time. Educators can use these findings to design evidence-based interventions to improve students' sleep quality and, if possible, improve their academic performance. This study stimulates the need for further research with larger samples and more specific measures of achievement to understand other factors that may influence the relationship between sleep and academic achievement.

CONCLUSION

Based on the test, it can be concluded that the correlation value between sleep duration and GPA is -0.088, this correlation shows a very weak correlation between the two and has a negative sign. The p-value is 0.648, this value > 0.05, it is concluded that there is no relationship between Sleep Duration and Learning Achievement of English Students. Although the results show no significant relationship, it is important for students to pay attention to sleep hours because good quality sleep can improve concentration in carrying out activities.

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