

The Relationship Between Sleep Quality and Learning Concentration of Grade VIII Students at SMP Negeri 4, Bogor City

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Abstract

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Learning concentration is an important aspect that determines students' success in understanding learning materials. Good concentration enables students to focus their attention on the learning process so that learning objectives can be achieved optimally. One factor presumed to be associated with learning concentration is sleep quality. Good sleep quality plays a role in maintaining cognitive function, memory, and the ability to focus attention. This study aimed to determine the description of sleep quality, learning concentration, and the relationship between sleep quality and learning concentration among eighth-grade students of SMP Negeri 4 Kota Bogor. This study employed a quantitative approach using a correlational method. The population consisted of 351 eighth-grade students, with a sample of 187 students selected through simple random sampling. The instruments used were the Pittsburgh Sleep Quality Index (PSQI) and a learning concentration questionnaire. Data were analyzed using Spearman Rank correlation with SPSS Statistics 25. The results showed that 105 students (56.1%) had poor sleep quality and 82 students (43.9%) had good sleep quality. Meanwhile, 100 students (53.5%) had high learning concentration and 87 students (46.5%) had low learning concentration. The Spearman Rank correlation test showed a correlation coefficient of 0.003 and a significance value of 0.968 ($p > 0.05$). Therefore, there was no significant relationship between sleep quality and learning concentration among eighth-grade students of SMP Negeri 4 Kota Bogor.

Abstrak

Konsentrasi belajar merupakan salah satu aspek penting yang menentukan keberhasilan siswa dalam memahami materi pembelajaran. Konsentrasi yang baik memungkinkan siswa memusatkan perhatian pada proses belajar sehingga tujuan pembelajaran dapat tercapai secara optimal. Salah satu faktor yang diduga berhubungan dengan konsentrasi belajar adalah kualitas tidur. Kualitas tidur yang baik berperan dalam menjaga fungsi kognitif, daya ingat, serta kemampuan individu dalam memusatkan perhatian. Penelitian ini bertujuan untuk mengetahui gambaran kualitas tidur, gambaran konsentrasi belajar, serta hubungan antara kualitas tidur dengan konsentrasi belajar siswa kelas VIII SMP Negeri 4 Kota Bogor. Penelitian ini menggunakan pendekatan kuantitatif dengan metode korelasional. Populasi penelitian berjumlah 351 siswa kelas VIII SMP Negeri 4 Kota Bogor dengan sampel sebanyak 187 siswa yang dipilih menggunakan teknik simple random sampling. Instrumen yang digunakan adalah Pittsburgh Sleep Quality Index (PSQI) untuk mengukur kualitas tidur dan angket konsentrasi belajar menggunakan skala Likert. Analisis data dilakukan menggunakan uji korelasi Spearman Rank dengan bantuan SPSS Statistics 25. Hasil penelitian menunjukkan bahwa sebanyak 105 siswa (56,1%) memiliki kualitas tidur buruk dan 82 siswa (43,9%) memiliki kualitas tidur baik. Sementara itu, sebanyak 100 siswa (53,5%) memiliki konsentrasi belajar tinggi dan 87 siswa (46,5%) memiliki konsentrasi belajar rendah. Hasil uji korelasi Spearman Rank menunjukkan nilai koefisien korelasi sebesar 0,003 dengan nilai signifikansi sebesar 0,968 ($p > 0,05$). Dengan demikian, tidak terdapat hubungan yang signifikan antara kualitas tidur dengan konsentrasi belajar siswa kelas VIII SMP Negeri 4 Kota Bogor.

INTRODUCTION

Education is a crucial tool for developing individual potential. Through education, students acquire a variety of knowledge, skills, attitudes, and values needed in life. The success of the educational process is not only influenced by the quality of instruction provided by teachers, but also by the students' internal state during the learning process.

One factor that plays a crucial role in successful learning is a student's ability to concentrate. Concentration is an individual's ability to focus attention on an object or learning activity for a specific period of time without being easily distracted by other stimuli. Students with good concentration tend to understand material more easily, remember information, and complete academic assignments more optimally than those with poor concentration.

In learning activities, concentration is a crucial aspect because it is directly related to the process of receiving and processing information. When students are unable to focus on the material being studied, the information received is less than optimal, which can affect learning outcomes. Poor concentration can be demonstrated through behaviors such as chatting during class, daydreaming, falling asleep in class, not paying attention to teacher explanations, or being easily distracted by the surrounding environment.

Concentration is influenced by various factors, both internal and external. Internal factors include physical condition, psychological condition, learning motivation, learning interest, health, and sleep quality. Meanwhile, external factors include the learning environment, family support, the teaching methods used by teachers, and the students' social environment.

One internal factor often associated with concentration ability is sleep quality. Sleep is a basic human need that serves to restore physical and mental health after daily activities. Adequate and quality sleep can help maintain cognitive function, improve memory, improve mood, and support an individual's ability to focus. According to Buysse et al. (1989), sleep quality is an individual's assessment of their sleep experience, including sleep duration, sleep latency, sleep efficiency, sleep disturbances, use of sleeping medication, and disruptions to daytime activities. Good sleep quality is characterized by feeling refreshed upon waking, experiencing no significant sleep disturbances, and being able to carry out daily activities well.

During adolescence, sleep quality often declines due to biological changes, academic demands, social media use, and the habit of using electronic devices before bed. Many adolescents stay up late because they are working on schoolwork, playing with gadgets, or accessing social media, resulting in reduced sleep time. This condition can potentially lead to fatigue, daytime sleepiness, and decreased concentration.

Various previous studies have shown a relationship between sleep quality and students' cognitive abilities. Research conducted by Shah et al. (2023) showed that sleep quality is significantly associated with learning concentration levels. Other studies have also found that students with poor sleep quality tend to have difficulty focusing during learning. Previous research relevant to the title "The Relationship Between Sleep Quality and Learning Concentration in Eighth-Grade Students at SMP Negeri 4, Bogor City" includes Soenjaya and Tjandra's (2025) study, which examined eighth- and ninth-grade students at SMP Islam Al-Azhar 4, Kemandoran, and found a significant relationship between sleep quality and student concentration. Research by Halimatunnisa' et al. (2025) on students at SMA Kristen 1 Tomohon also showed that sleep quality is strongly associated with learning concentration, suggesting that students with poor sleep quality tend to experience decreased focus while studying. Furthermore, Desnissa and Sidarta's (2023) study of high school students in Serang examined the relationship between sleep quality and screen time and learning concentration, although the results showed no significant relationship. All three studies are relevant because they all examine sleep quality as a factor that can influence students' ability to maintain attention during the learning process. Therefore, this study is important because it focuses on eighth-grade students at SMP Negeri 4 Kota Bogor, providing a specific perspective on the relationship between sleep quality and learning concentration in junior high school students.

However, the results of this study on the relationship between sleep quality and learning concentration in junior high school students are not clear. and learning concentration still show mixed findings. Therefore, further research is needed to determine whether sleep quality is related to learning concentration in eighth-grade students of SMP Negeri 4 Kota Bogor. Based on this description, this study aims to describe students' sleep quality, learning concentration, and the relationship between sleep quality and learning concentration in eighth-grade students of SMP Negeri 4 Kota Bogor.

RESEARCH METHODS

This study employed a quantitative approach with a correlational method. The correlational method was used to determine whether there is a relationship between sleep quality as the independent variable (X) and learning concentration as the dependent variable (Y). The study was conducted at SMP Negeri 4 Bogor City. The study population consisted of 351 eighth-grade students. The sample size of 187 students was determined using a probability sampling technique with simple random sampling, ensuring that each member of the population had an equal opportunity to be included in the study sample. The instrument used to measure sleep quality was the Pittsburgh Sleep Quality Index (PSQI) developed by Buysse et al. (1989). This instrument

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measures seven components of sleep quality: subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleeping medication, and daytime activity disturbances.

Meanwhile, the learning concentration instrument used a Likert-scale questionnaire structured based on aspects of learning concentration. Each statement was given four alternative answers indicating the respondent's level of agreement. Data were analyzed using descriptive statistics to describe the condition of each research variable. Next, a normality test and Spearman Rank correlation test were carried out using the SPSS Statistics 25 program to determine the relationship between sleep quality and learning concentration.

RESULTS AND DISCUSSION

Sleep Quality Variable Value Categorization Table

Score	Category
≤5	Good
>5	Poor

It can be seen that respondents with scores below 5 have good sleep quality, while those with scores above 5 have poor sleep quality. The results of the sleep quality categorization are presented as follows:

Kategori Kualitas Tidur

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	baik	82	43.9	43.9	43.9
	buruk	105	56.1	56.1	100.0
	Total	187	100.0	100.0	

Table 1 shows that the majority of students (105 students) reported poor sleep quality, while 82 (43.9%) reported good sleep quality. These results indicate that more than half of the respondents experienced poor sleep quality. This condition can be influenced by various factors, such as using gadgets before bed, sleeping late, academic activities, and environmental factors. Changes in sleep patterns are quite common during adolescence, potentially impacting students' sleep quality.

Average results per Sleep Quality Aspect

Aspect	Total Average	Percent
Subjective Sleep Quality	188	16,32%
Sleep Latency	218	18,92%
Sleep Duration	88	7,64%
Sleep Efficiency	68	5,90%
Sleep Disturbances	238	20,66%

Sleeping Medication Use	7	0,61%
Daytime Dysfunction	345	29,95%
Total	1.152	100%

Based on the analysis of sleep quality aspects using the Pittsburgh Sleep Quality Index (PSQI), the aspect with the highest percentage was daytime dysfunction at 29.95%, followed by sleep disturbances at 20.66%, sleep latency at 18.92%, and subjective sleep quality at 16.32%. Meanwhile, sleep duration at 7.64% and sleep efficiency at 5.90% had relatively low percentages. The use of sleeping pills was the aspect with the lowest percentage, at 0.61%. These results indicate that students' sleep quality problems are more often characterized by disturbances experienced during the day.

Table 2. Distribution of Student Learning Concentration

kategori konsentrasi belajar

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	rendah	87	46.5	46.5	46.5
	tinggi	100	53.5	53.5	100.0
	Total	187	100.0	100.0	

Based on Table 2, it is known that the majority of students (100 students) had a high level of concentration in learning, while 87 students (46.5%) were in the low category. This finding indicates that although the majority of students had poor sleep quality, their ability to focus during the learning process was still in the fairly good category. This indicates that concentration in learning is not only influenced by sleep quality, but also by various other factors that support the student's learning process.

Table 3. Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		187
Normal Parameters ^{a, b}	Mean	.0000000
	Std. Deviation	9.72469093
Most Extreme Differences	Absolute	.057
	Positive	.057
	Negative	-.048
Test Statistic		.057
Asymp. Sig. (2-tailed)		.200 ^{c, d}

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.
- d. This is a lower bound of the true significance.

The results of the normality test show a significance value of 0.200, which means that the research data is normally distributed.

Linearity Test Results

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Y * X	Between Groups	976.352	11	88.759	.935	.508
	Linearity	1.849	1	1.849	.019	.889
	Deviation from Linearity	974.504	10	97.450	1.026	.423
Within Groups		16615.445	175	94.945		
Total		17591.797	186			

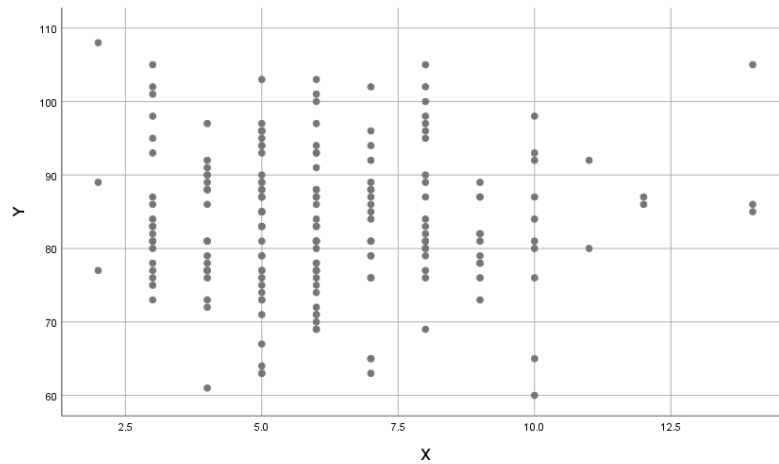
Based on the results of the linearity test, the significance value for Deviation from Linearity was 0.423 ($p > 0.05$). These results indicate that there is no deviation from the linear relationship between sleep quality and learning concentration. Thus, the relationship between the two variables can be stated as linear.

Table 4. Spearman Rank Correlation Test Results

			Correlations	
			X	Y
Spearman's rho	X	Correlation Coefficient	1.000	.003
		Sig. (2-tailed)	.	.968
		N	187	187
	Y	Correlation Coefficient	.003	1.000
		Sig. (2-tailed)	.968	.
		N	187	187

Based on Table 4, the correlation coefficient value is 0.003 with a significance value of 0.968. Because the significance value is greater than 0.05, the alternative hypothesis (H_a) is rejected and the null hypothesis (H_0) is accepted. Thus, there is no significant relationship between sleep quality and learning concentration of eighth-grade students at SMP Negeri 4 Kota Bogor.

Scatter Plot Diagram of the Relationship between Sleep Quality and Learning Concentration



Based on these results, the data points are spread evenly and do not show any extreme outliers. Thus, the Spearman correlation test results which show that there is no significant relationship between sleep quality and study concentration are thought to reflect the actual data conditions, not caused by distorted data.

DISCUSSION

The study results show that the majority of students experience poor sleep quality. This finding illustrates that sleep quality remains a major issue for adolescents. Sleep quality issues in adolescents are generally caused by the biological changes of puberty, which cause adolescents to tend to go to bed later, while school schedules require them to wake up earlier, resulting in reduced sleep duration. Furthermore, late-night device use, social media activity, gaming, schoolwork pressure, and academic stress can delay bedtime and reduce sleep quality. If these conditions persist, students can experience daytime sleepiness, decreased attention span, and difficulty concentrating on learning activities. During adolescence, various biological and psychological changes occur that can affect individual sleep patterns. Furthermore, technological developments also influence adolescent sleep habits, particularly through late-night use of devices and social media.

Although the majority of students experience poor sleep quality, the study results show that the majority of students have high levels of concentration in their studies. This finding suggests that students are still able to participate in the learning process quite well despite experiencing less than optimal sleep quality. The correlation test results showed no significant relationship between sleep quality and student concentration. A correlation coefficient of 0.003 indicates a very weak relationship, while a significance value of 0.968 indicates that the relationship is not statistically significant. This finding indicates that student learning concentration is likely

influenced by other factors not examined in this study. These results align with several previous studies that showed no significant relationship between sleep quality and learning concentration. Yusi Nur Asri et al. (2025), Sunbanu et al. (2021), Cristyanti et al. (2023), Yulistiani et al. (2023), and Ita Wijayanti (2023) all found that sleep quality was not significantly related to learning concentration.

These similar results indicate that sleep quality is not always a direct determinant of student learning concentration. This is reinforced by Muhibbin Syah (2001), who explained that learning concentration is not directly related to sleep quality but is rather influenced by internal factors such as student interest, motivation, and ability, as well as external factors such as the learning environment and learning methods. In line with this, Nana Sudjana (2009) stated that learning concentration is the result of the interaction of various factors and therefore cannot be explained by a single variable. This opinion is supported by Woolfolk (2016), who explained that learning concentration is not directly related to sleep quality but is rather influenced by motivation, emotional state, learning strategies, and a classroom environment that supports the learning process. Furthermore, Slavin (2014) stated that a student's ability to participate in the learning process is determined by a combination of initial abilities, motivation, and the quality of the learning and learning environment.

Based on this theory, the lack of a significant relationship in this study could be due to the multifactorial nature of learning concentration. This means that learning concentration is influenced by various interacting factors, making the effect of sleep quality statistically insignificant. However, research has shown different results, such as that of Handayani (2022), who found a relationship between sleep quality and learning concentration, where good sleep quality contributes to improved cognitive function, particularly memory and attention.

These differences in results can be explained by differences in respondent characteristics, the research environment, and the variety of factors influencing learning concentration. Thus, the results of this study confirm that sleep quality does not have a direct relationship with learning concentration in the context of this study because variations in student learning concentration are more likely influenced by other factors that are not directly measured. This indicates that poor sleep quality is not always accompanied by low levels of student learning concentration. This study provides an empirical overview of sleep quality and learning concentration in eighth-grade students at SMP Negeri 4 Kota Bogor and examines the relationship between these two variables in the context of the school environment. In addition, the results show that most students have poor sleep quality but still have high learning concentration, thus providing useful information. It is

interesting to understand other factors that may have a greater influence on students' learning concentration.

CONCLUSION

Based on the research results, it can be concluded that most eighth-grade students at SMP Negeri 4 Kota Bogor have poor sleep quality. However, most students still show a high level of learning concentration. The Spearman Rank correlation test results show a correlation coefficient of 0.003 with a significance value of 0.968. This value indicates that there is no significant relationship between sleep quality and students' learning concentration. This finding means that sleep quality is not the only factor that determines the high or low level of student learning concentration. Learning concentration is likely more influenced by other factors, such as learning motivation, learning interest, learning environment, learning methods, and family support. Therefore, students still need to maintain good sleep patterns, while guidance and counseling teachers and future researchers need to pay attention to other factors that play a role in improving student learning concentration.

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