

THE RELATIONSHIP BETWEEN BREAKFAST HABITS AND SLEEP QUALITY WITH LEARNING CONCENTRATION OF STUDENTS AT SMAN 10, TANJUNG JABUNG TIMUR

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ABSTRACT

Background: In Indonesia, a country that has been listed as one of the least concentrated due to the lack of economy to provide the necessary food, 40% of the students were found to have no breakfast and 50% of the students were found to have no concentration, affecting 50% of the learning performance. This study was to determine the relationship between the breakfast habits and the quality of sleep with the learning concentration.

Method: This research was conducted in May 2024, the site selected was class XI students of SMAN 10 Tanjung Jabung Timur with cross-sectional design. Subjects were 94 people by filling a questionnaire on breakfast habits, sleep quality and learning concentration. The sampling technique used was the convenience sampling technique. Data analysis employs univariate and bivariate statistical tests, using Spearman correlation.

Result: The results showed that as many as 59.6 per cent of the respondents had good breakfast habits, as many as 57.4 per cent of the respondents had poor sleep quality and 55.3 per cent of the respondents were not concentrated. The results of the correlation test between breakfast habits and study concentration showed a p-value of $0.093 > 0.05$. However, the correlation test between sleep quality and study concentration shows a p-value of $0.004 < 0.05$.

Conclusion: There is no relationship between breakfast habits and study concentration and a significant relationship between sleep quality and study concentration.

Keywords: breakfast habits, sleep quality, study concentration, student

INTRODUCTION

Breakfast plays a very important role for nutritional fulfillment in the morning, more specifically for students who have very busy activities academically. Breakfast is the most important moment in meeting a person's nutritional needs, breakfast can at least provide carbohydrates (45%-65%), protein (10%-25%), and fat (30%). Breakfast is part of the diet and activities which aims to fulfill the daily calories with consume the foods and drinks before 9 am. In Indonesia, it was found that 40% of students did not use themselves for having the breakfast. In Indonesia was recorded only around 26.1% of students having breakfast with only drinking the water and 44.6% get energy intake less than 15% of energy needs per-day. (Dewi *et al.*, 2020).

Beside the breakfasting, sleep quality is also one of the things that needed to be considered. Sleep is a resting time for the body to re-energize. Lack of sleep quality will have a disruptive effect on memory, concentration, and learning. Because of that, it can involve the academic achievement as well (Adelantado *et al.*, 2019).

Learning is very identical with students, because learning is a routine for students every day, either in learning at school or studying independently at home. In fact, currently many students take tutoring in certain places, or bring private teachers at home which aims to deepen the knowledge that has been learned. (Setyani *et al.*, 2018).

In this era of modernization, studying is no longer a preferred routine. This is because there are many things that make students lazy or bored in learning, such as requiring high

concentration, time and energy expended, feelings and compulsion to leave various activities that are fun compared to learning, such as playing cellphones, *online games*, or other activities both positive or negative that come from the surrounding environment. However, the most basic thing about the problems in learning is that it requires high learning concentration. Students are required to stay concentrated until the lesson is over (Setyani *et al.*, 2018).

Research conducted by *UNICEF* in 2017 in America, 50% of students do not concentrate and this affects 50% of learning achievement, in Indonesia itself is included in the list of countries with low concentration levels due to the lack of economy to meet the necessary nutritional needs. (Jeong, 2019).

According to research by Nasrullah *et al.*, (2018) there is a relationship between sleep quality and breakfast habits with learning concentration. This is evidenced by the data obtained by the majority of good sleep quality as many as 50 (100.0%) with good learning concentration and the minority of poor sleep quality as many as 38 people (97.4%) with poor learning concentration. For the minority always used to have breakfast 12 (100.0%) with good concentration and the majority who never had breakfast 7 (25.9%) with good concentration and poor concentration 20 (74.1%).

Hopefully, with this research, students can be more motivated to get used to breakfast and maintain sleep quality so it can become a habit and positively affect health. Based on the problems and various studies above, the researchers are interested in revealing how the relationship between breakfast habits and sleep quality with study concentration among students of grade XI of SMAN 10 Tanjung Jabung Timur.

The purpose of this study was to determine the relationship between breakfast habit and sleep quality with learning concentration of class XI students of SMAN 10 Tanjung Jabung Timur.

METHODS

The research method used was a cross-sectional design. the location chosen was class XI students of SMAN10 Tanjung Jabung Timur. The number of samples was 94 people by filling out a questionnaire of breakfast habits, sleep quality and learning concentration. The sampling technique used was total sampling technique, this research was conducted in May 2024.

RESULTS AND DISCUSSION

RESULTS

1. Normality Test

Table 1. Testing the normality of breakfast habits, sleeping quality and studying concentration

	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Breakfast Habits	.219	94	.000
Sleep Quality	.138	94	.000
Learning Concentration	.159	94	.000

Based on the results of the normality test of the *Kolmogorov-Smirnov* statistical test, the significant value of breakfast habits, sleep quality and learning concentration is 0.000 (<0.05) which means that the data is not normally distributed, so the statistical test must use the Spearman correlation test.

2. Respondent Characteristics

Based on the characteristic data in this study, it shows that most of the subjects are female with 49 respondents (52%), all respondents are grade XI students who are divided into 3 classes XI F1, XI F2 and XI F3, with the most aged 17 years with 73 respondents (78%). As can be seen in table 2.

Table 2. Frequency Distribution of Characteristics Based on Gender, class and age

	Category	N	(%)
Sex	Male	45	48
	Female	49	52
	Total	94	100
Class	XI F1	32	34
	XI F2	31	33
	XI F3	31	33
	Total	94	100
Age	16 years	18	19
	17 years	73	78
	18 years	3	3
	Total	94	100

3. Univariate Analysis

Table 3. Distribution of Students Breakfast Habits

Breakfast Habits	N	(%)
Good	56	59,6
Less	38	40,4
Total	94	100

Based on table 3, it was shows that out of 94 respondents who have good breakfast habits as many as 56 students (59.6%), and who have less breakfast 38 students (40.4%).

Table 4. Distribution of Students Sleep Quality

Sleep Quality	N	(%)
Good	40	42,6
Bad	54	57,4
Total	94	100

Table 4 shows that out of 94 respondents who have good sleep quality as many as 40 students (42.6%) and who have poor sleep quality 54 students (57.4%).

Table 5. Distribution of Students Learning Concentration Overview

Learning Concentration	N	(%)
Concentration	42	44,7
No concentration	52	55,3
Total	94	100

Table 5 shows that out of 94 respondents, 42 students (44.7%) were concentrated and 52 students (55.3%) were not concentrated.

4. Bivariate Analysis

Table 6. Relationship between Breakfast Habits and Concentration of Learning of Class XI Students of SMAN 10 Tanjung Jabung Timur

Breakfast Habits	Concentrate on Learning				Total		P value
	Concentration		No Concentration		N	%	
	N	%	N	%			
Good	25	44,6	31	55,3	56	100	0,093
Less	17	44,7	21	55,2	38	100	
Total	42	44,6	52	55,3	94	100	

On the basis of table 6, the results of 94 respondents of good breakfast habits with a total of 56 students, most of them did not have concentration, namely 31 students (55.3%). And less breakfast habits with a total of 38 most of them do not concentrate, namely 21 students (55.2%).

The significance value or p-value is 0.093. Because the p-value is $0.093 > 0.05$, it means that there is no significant relationship between breakfast habits and concentration in learning.

Based on table 7, the results obtained from 94 respondents of good sleep quality 40 students with a large number have

concentrated, namely 24 students (60%). And poor sleep quality with a total of 54 students mostly did not concentrate, namely 36 students (66.7%). the significance value or p is 0.004, because the *p-value* of $0.004 < 0.05$, it means that there is a significant relationship between sleep quality and concentration of learning class XI students of SMAN 10 Tanjung Jabung Timur.

Table 7. Relationship Between Sleep Quality and Concentration of Learning Class XI Students of SMAN 10 Tanjung Jabung Timur

Sleep Quality	Concentrate on Learning				Total		P value
	Concentration		No Concentration		N	%	
	N	%	N	%			
Good	24	60	16	40	40	100	0,004
Less	18	33,3	36	66,7	54	100	
Total	42	44,6	52	55,3	94	100	

DISCUSSION

Overview of Students' Breakfast Habits

In this study, it was found that most students had good breakfast habits totaling 56 students (59.6%). The results of this study are in line with those conducted by (Intan, 2015) which states that breakfast habits in the good category are above 50%. This research is also in line with that conducted by (Zebua, 2021) which states that students' breakfast habits are in the good category as many as 89 respondents (53.6%), 46 respondents (27.7%), and 31 respondents (18.7%) in the poor category.

This shows that the habit of eating breakfast before activities has been followed by most of our society. This is good news, given its important benefits, which provide 15%-30% of daily calorie needs, if the breakfast menu meets the requirements, namely containing 55-65% carbohydrates, 12-15% protein, 24-30% fat (Risksdas, 2018).

The Overview of Student's Sleep Quality

In this study, it was found that most students had poor sleep quality, totaling 54 students (57.4%). The results of this study are in line with (Clariska *et al.*, 2020) obtained the results of poor sleep quality amounted to 84 respondents with a percentage of 91.3%

while good sleep quality amounted to 8 respondents with a percentage of 8.7%. This research is in line with that conducted by Sofiyya (2015) which states that adolescents whose sleep is less than 7-8 hours can cause poor sleep quality and if their sleep is more than 7-8 hours then their sleep quality is good.

Psychological and physical health can be disrupted due to lack of sleep. While seen from a psychological point of view, lack of sleep can cause individuals to be difficult to concentrate, slow to receive stimuli, and lethargic or changes in psychological mood (Handayani 2022). Adolescents aged 12-18 years require 8-9 hours of sleep per day. When a person reaches adulthood, they tend to require 7-8 hours of sleep per day (Robotham, 2011).

Overview of Student Learning Concentration

In this study, it was found that most students were not concentrated, totaling 52 students (55.3%). The results of this study are in line with (Rafika, et al., 2018) that most of the respondents, namely as many as (60%) respondents with a category of poor learning concentration level and (40%) with good concentration. This research is also in line with research (Pitaloka, 2015) on the ability of learning concentration of students of the Riau University Nursing Science Study Program, the results of the research obtained from 100 respondents, the majority of respondents had a low level of learning concentration ability, namely (63%), who had high learning concentration (37%).

Concentration is the ability of each individual to focus the mind on a particular object or activity without regard to other objects that are not related to the activity. (Rafika *et al.*, 2018).

The Relationship between Breakfast Habits and Student Learning Concentration

In this study conducted with the Spearman rank test, the results showed a P value of 0.093 where the value was > 0.05 , this

indicates that there is no meaningful or significant relationship between breakfast habits and student learning concentration. The results of this study are not in line with research (Safaryani *et al.* 2017), with the same topic, at Karangayu 02 Semarang Elementary School with the results there is a significant relationship between breakfast habits and learning concentration, with a p value of $-0.006 < \alpha 0.005$. This study is also not in line with research conducted by (Purnawinadi, 2020) which shows there is a relationship between breakfast habits and learning concentration.

Breakfast has an important role for physical conditions to start activities in the morning, if someone skips breakfast it can cause glucose levels in the body to decrease as a result of disruption of glucose transport as brain nutrition resulting in the brain becoming glucose deficient and can affect learning concentration, Breakfast in the morning can fill carbohydrates that are useful for increasing blood sugar levels. Normal blood sugar levels can cause a person's concentration level to be better and can be more optimal in carrying out daily activities (Munif, 2021).

Relationship between sleep quality and study concentration

In this study conducted with the Spearman rank test, the results obtained a P value of 0.004 where the value is < 0.05 , this shows that there is a significant relationship between sleep quality and learning concentration. This is in line with research from (Masyeni, 2010) which obtained the results there is a relationship between sleep quality and student learning concentration with a value of $p=0.004$. This study is also in line with research (Feriani, 2020) showing there is a relationship between sleep quality and student learning concentration. in the study mentioned factors that affect sleep quality include physical, psychosocial, and environmental conditions as well as sleep disturbances experienced at night such as

cold, snoring, waking up because you want to urinate. Poor sleep quality will have an impact on learning concentration because the body will be easily tired, lethargic and easily sleepy.

In addition, this is also in line with research conducted by (Ponidjan *et al.*, 2022) which shows the results of a significant relationship between learning concentration and sleep quality. In this study, sleep has benefits for adolescents, namely to repair brain cells and during sleep there is a production of growth hormone around 75%. The theory that poor sleep will have an impact on a person's ability to carry out daily activities. In addition, sleep can also affect a person's concentration, poor sleep quality can cause a person's memory or concentration to decrease both in terms of learning or remembering something, so to get good concentration, you must pay attention to sleep patterns and sleep quality in order to concentrate well (Gustiawati, 2020).

CONCLUSION

Based on the results of research and discussion, it is found that most students have a good breakfast habit, a total of 56 students (59.6%), and sleep quality, most students have a poor sleep quality, a total of 54 students (57.4%), while for learning concentration, most students are not concentrated, 52 students (55.3%). Spearman rank statistical test of breakfast habits with learning concentration obtained the results of P value of 0.093 where the value is >0.05 , this indicates that there is no meaningful relationship between breakfast habits with learning concentration of students in class XI SMAN 10 Tanjung Jabung Timur, while the results of Spearman rank sleep quality with learning concentration obtained the results of P value of 0.004 where the value is <0.05 , this indicates that there is a meaningful relationship between sleep quality with

learning concentration of students in class XI SMAN 10 Tanjung Jabung Timur.

It is hoped that future researchers can develop research related to breakfast habits in adolescents, especially in schools in the region because in that location there is still rarely any research related to the importance of breakfast.

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