



RELATIONSHIP BETWEEN THE INTENSITY OF SOCIAL MEDIA USAGE WITH SLEEP QUALITY

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ABSTRACT

Background: Social media has become a part of human daily life, including students. The high intensity of social media usage can affect various aspects of life, one of which is the quality of sleep. The high intensity of social media usage is thought to be related with poor sleep quality. This study analyzes the relationship between the intensity of social media usage and sleep quality. **Objective:** To know the relationship between the intensity of social media usage with sleep quality in dental students. **Method:** This research was an observational analytic study with a cross-sectional design. The sample was students of the Dentistry Study Program at Faculty of Medicine, University of Diponegoro (n = 79). The intensity of social media usage was measured using the Social Network Time Use Scale and sleep quality was measured using the Pittsburgh Sleep Quality Index. Measurement of dependent and independent variables was done once at a time. **Result:** Among respondents, 34,2% were reported using social media with low intensity, 58,2% with average intensity, and 7,6% with high intensity; and 34,2% of respondents had good sleep quality and 65,8% had poor sleep quality. There was a significant relationship between SONTUS scores and PSQI global scores on respondents with the result of $p = 0.02$ ($p < 0.05$) which indicates that there was a significant linear relationship. Likewise, the relationship between SONTUS scores and gender with the result of $p = 0.03$ ($p < 0.05$) which also indicates a significant relationship between the two. **Conclusion:** The intensity of social media usage has a relationship with sleep quality and gender.

Keywords: The Intensity of Social Media Usage, Sleep Quality, Social Networking Time Use Scale, Pittsburgh Sleep Quality Index

INTRODUCTION

The use of the internet has become a part of everyday life. One of its functions is for communication media, which encourages the emergence of various social media content.¹

Social media is a media in the form of sites and applications involving internet-based technology that is built on three

main elements: content, community and Web 2.0.^{1,2} Social media itself gives positive and negative things to its users.³ One aspect of life that can also be affected due to the high intensity of social media usage is the quality of sleep. Sleep quality is one's satisfaction with the sleep.⁴

The high intensity of social media usage is thought to be related to poor sleep



quality. Several studies have stated the relationship between social media use and poor sleep quality. Based on research conducted by Espinoza, found that 37% of social media users lost their sleep time.⁵

According to Aabid Ali's research, said that medical students have a heavier night time due to the many demands such as, presentation assignments, exam preparation, and extra campus activities that must be completed immediately.⁶ Because of these things, of course, requires them to get good quality sleep as well.⁷

Research of the relationship between the use of social media and sleep quality in medical students in Indonesia still needs to be developed. Therefore, researcher intend to conduct research on the relationship between the intensity of social media usage with the quality of sleep in students, in this study on student respondents in the Dentistry Study Program at the Faculty of Medicine, Diponegoro University (FK Undip) Semarang.

METHOD

This research was conducted in the campus of the Faculty of Medicine, Diponegoro University, Semarang, Central

Java, which was held in May 2019. The type of this research is an observational analytic study with cross-sectional design. This study examined the relationship between the intensity of social media usage and sleep quality. Measurement of dependent and independent variables was done once at a time. The samples were students of the Dental Study Program at the Faculty of Medicine, Diponegoro University, Semarang who met the inclusion criteria as research subjects. The research sample was taken using simple random sampling.

The data used in this study were primary data, the respondents were asked to fill in the Social Networking Time Use Scale (SONTUS) questionnaire to measure the intensity of social media usage and the Pittsburgh Sleep Quality Index (PSQI) questionnaire to measure the quality of sleep.

The collected data will be examined and undergone process of cleaning, editing, coding, tabulating, and data entry. Then the data was analyzed using a computer application. Univariate data analysis results for demographic factors were presented descriptively in the form of frequency and percentage tables.



The analysis between the intensity of social media usage with sleep quality was carried out using the Spearman's rank correlation coefficient bivariate test. And the analysis between demographic factors and the intensity of social media usage and

sleep quality were analyzed using the Spearman's rank correlation coefficient bivariate test.

RESULTS

The characteristics of the research subjects are shown in the following table.

Tabel 1. Characteristic Respondens

Characteristic	N	Percentage
Gender		
Male	35	44,3%
Female	44	55,7%
Class		
2016	13	16,5%
2017	38	48,1%
2018	28	35,4%
Amount of allowance		
<500.000	7	8,9%
500.000 – 1.000.000	16	20,3%
1.000.000 – 2.000.000	43	54,4%
>2.000.000	13	16,5%
GPA		
2,01 – 2,75	18	22,8%
2,76 – 3,50	53	67,1%
3,51 – 4,00	8	10,1%
SONTUS (Social Networking Time Use Scale)		
Low	27	34,2%
Average	46	58,2%
High	6	7,6%
Extremely High	0	0%
PSQI (Pittsburgh Sleep Quality Index)		
Good	27	34,2%
Poor	52	65,8%



That data was not normally distributed because the p value was less than 0.05. Therefore the correlation test in this study used a non-parametric test. Bivariate correlation test between the

intensity of social media usage and sleep quality using the Spearman's rank correlation coefficient test. The results of research data analysis can be seen in the following table.

Tabel 2. Bivariat Correlation Between Variabel

Variable	The Intensity of Social Media Usage		
	<i>p</i>	Correlation Coefficient	N
Sleep Quality	0,02*	0,22	79

* Statistical correlation with the Spearman's test rank correlation coefficient is significant ($p < 0.05$)

Bivariate analysis using the Spearman's rank correlation coefficient showed a significance value (p) of 0.023. These results indicated that the relationship between the independent variable and the dependent variable was significant because p is considered significant if it is less than 0.05.

Bivariate analysis between demographic factors and the intensity of social media usage and sleep quality using the Spearman's rank correlation coefficient test. The results of the research data analysis can be seen in the following table.

Tabel 3. Intensity of Social Media Usage

Variable	Intensity of Social Media Usage		
	<i>p</i>	Correlation Coefficient	N
Gender	0,03*	0,25	79
Amount of allowance	0,25	-0,13	79
GPA	0,95	-0,01	79

* Statistical correlation with the Spearman's test rank correlation coefficient is significant ($p < 0,05$)

Tabel 4. Sleep Quality

Variable	Sleep Quality		
	<i>P</i>	Correlation Coefficient	N
Gender	0,33	0,11	79
Amount of Allowance	0,54	-0,07	79
GPA	0,89	-0,01	79

* Statistical correlation with the Spearman's test rank correlation coefficient is significant ($p < 0,05$)



Bivariate analysis using Spearman's rank correlation coefficient showed significant results between the intensity of social media usage and gender.

DISCUSSION

There is a significant relationship between the intensity of social media usage and sleep quality can be confirmed. Researcher's data also shows that as expected, the intensity of social media usage has a linear relationship to sleep quality.

Several studies have stated the relationship between social media usage and poor sleep quality.⁸ One of the studies conducted by Espinoza, found 37% of subjects of social media users lost their sleep time.⁵

There are three mechanisms that might explain that the use of social media can affect sleep quality.⁹ First, exposure to bright light, as emitted by cellphones screen, suppresses melatonin secretion, delays sleep onset, and interferes sleeps.^{10,11,12} Melatonin production is very sensitive to shortwave or blue light which is usually emitted by LED-equipped media.^{10,13}

The second mechanism is called sleep displacement. Electronic media usage is an unstructured activity that does not have a predetermined starting or ending point. Therefore, it is more likely to have time displacement^{14,15}, which mainly occurs when it has become a habit before going to sleep.^{16,17}

Third, sleep can also be influenced by content in the media. There are a lot of violent and sexual content in the media.^{18,19} Exposure to those content can cause arousal, fear and stress reactions.^{23,24,25} The increased stimulation and stimulation caused by this exposure may be related to sleep difficulties or poor sleep quality.⁹

The significant relationship between the intensity of social media usage with demographic factors, such as the amount of allowance, and the GPA, cannot be confirmed. While a significant relationship between the intensity of social media usage with gender can be confirmed.

According to the data obtained, female respondents had an average intensity of social media usage that was higher than male respondents. This is consistent with previous research which stated that women tend to use social media more often.²³ The significant relationship



between the intensity of social media usage and gender is also in line with previous research.²⁴

The analysis result of the relationship between the intensity of social media usage with the amount of allowance and the GPA showed insignificant results. This may be due to other factors that were not controlled in this study, such as cognitive factors, the ability to use media, health, and age which are also included in other factors that influence the intensity of social media usage.²⁵

The relationship between sleep quality and demographic factors (gender, amount of allowance, and GPA) did not show significant results. This might occur due to several other factors that can indeed affect the quality of sleep besides those three things. Various internal factors that can affect sleep quality include illness, stress, social, lifestyle, and sleep habits. In addition, external factors such as the living environment also have an influence on sleep quality.²⁶

Also, because the respondents are students, various academic activities such as college assignments can also affect their sleep schedule. Some of the above are factors that were not controlled in this

study, so that those factors can affect the accuracy of the study. In addition, the assessments conducted in this study that only used questionnaires or non-invasive tools causes uncertainty about the results obtained.

CONCLUSIONS AND SUGGESTIONS

Conclusion

The intensity of social media usage has a significant linear relationship with sleep quality. Which the higher the SONTUS score, PSQI score also has a significant increase. In addition, there is a significant relationship between the intensity of social media usage with demographic factors such as gender.

Suggestion

Future research can be carried out using more objective instruments to measure sleep quality such as using polysomnography.

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