THE RELATIONSHIP BETWEEN THE USE OF ONLINE GAMES AND SLEEP QUALITY IN STUDENTS OF SMK MUHAMMADIYAH 1 BANJARMASIN

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ABSTRACT

Background: Addictive behavior has greatly increased among adolescents lately, and one of them is the intensity of using online games. Online games have several impacts, such as disturbed sleep quality and can cause various health problems. **Objective:** To determine the relationship between the use of online games and sleep quality among students at the Muhammadiyah 1 Islamic Vocational School, Banjarmasin. **Methods:** This study uses correlation research with a cross-sectional approach. The sample in this study amounted to 60 people with a total sampling. They collected data through questionnaires using online games and sleep quality with the Spearman Rho analysis test. **Results:** The results obtained from this study are the p-value $(0.000) < \alpha$ (0.05), which means there is a relationship between the use of online games and sleep quality in students of SMK Muhammadiyah 1 Banjarmasin. It is essential for school students to reduce the intensity of playing online games, and teachers and health workers need to conduct counseling or health education regarding the impact of online games.

Keywords: Online Game, Sleep Quality, Vocational High School Student

INTRODUCTION

Online games are used to get pleasure but can also be an educational tool (Yudha & Utami, 2022). Online games are a combination of two words from the English language. Game means game and network; when these two words are combined, a new meaning is formed, which is close to the basic meaning of the two words. Online games are a form of video game that is connected to the internet network. Online games are also often called multiplayer online games because they have several players interacting with each other at the same time. This makes online gamers increasingly addicted (Haryanti et al., 2022).

The Ministry of Communication and Information stated that the number of internet users in Indonesia dominates Asia at 22.4%. Indonesia is ranked third in Asia for the number of internet users, namely 55 million people out of Indonesia's 245 million population. The number is increasing, especially for those aged 15-20 and 10-14 years (Hidayat, 2021). Data from the We Are Social report shows 204.7 million internet users in the country as of January 2022. The number increased slightly, 1.0-3 % from the previous year. In January 2021,

the number of internet users in Indonesia was 202.6 million (Annur, 2022).

Behavior Addiction has significantly increased in young teenagers lately, and one of them is the intensity of game use online. Adolescence is a transition from time to time, from childhood to adulthood. During this period, teenagers experience many changes within themselves, both physically and mentally. The development of internet technology spoils teenagers in this era of globalization. Emotional state and Mood swings faced by addicted adolescents using online games can be sadness, depression, fatigue, And worry. Changes in the emotional state of adolescents who are addicted keep playing online games because they Can get pleasure from playing online games (Lestari, 2020).

Sleep is crucial for the body, where it will rest during sleep, and when it wakes up the next day, it will feel refreshed. The following is a classification of sleep needs according to age: babies 0-1 months need 14-18 hours of sleep, babies 1-18 months need 12-14 hours, children 3-6 years need 11-13 hours, children 6-12 years need 10 hours, teenagers 12-18 years need 8-9

hours, while adults 18-40 years need 7-8 hours to sleep (Kemenkes, 2021).

The World Health Organization classifies the habitual behavior of playing online games as a disease in the 11th edition of the International Classification of Diseases (ICD-11). It is characterized by impaired control over play (for example, duration, intensity, frequency, and environment), an increase in the priority of play so that it takes precedence over other life interests, and no consideration of negative consequences (G. & S., 2022).

The use of online games results in several negative and positive impacts. The positive impact of using online games is forming a community, socializing with fellow gamers, and training cooperation (Romdhoni, 2022). Meanwhile, the negative impacts of using online games include several aspects, including health, psychological, academic, social, and economic (Novrialdy, 2019).

The results of a preliminary study conducted at SMK Muhammadiyah 1 Banjarmasin showed that through an interview with one of the teachers, several students had the habit of sleeping at school. Students' sleeping hours vary; some sleep during class time and some during break time. The results of interviews with students at SMK Muhammadiyah 1 Banjarmasin showed that they were sleepy at school because they played online games, where they could play more than five games a day, and the average playing time was more than 3-5 hours. From the results of the questionnaire distributed by researchers to students at SMK Muhammadiyah 1 Banjarmasin, during the last three months, 8 out of 10 students said they were sleepy at school.

Based on the description above, researchers are interested in researching "The relationship between the use of online games and sleep quality among students at SMK Muhammadiyah 1 Banjarmasin".

METHODS

This research uses a correlation research type with a *cross-sectional approach. Cross-sectional* research, also known as cross-sectional data, is a type of observational analysis that only combines data from one population at a time. The *cross-sectional* method is a descriptive and analytical method for writing research papers; the research in question is an example of a quantitative research paper. According to the data, cross-sectional analysis was carried out by conducting surveys, observations, and data collection continuously for one day—data analysis using the *Spearman Rho test*. This study's population were all SMK Muhammadiyah 1 Banjarmasin students, totaling 127 students. The sample in this study was divided into two criteria: inclusion and exclusion. The inclusion criteria in this research are male students who actively play online games.

In contrast, the exclusion criteria in this research are students who were not present when the research was conducted. In this research, the researcher used a *purposive sampling technique*. According to Sugiyono, 2017 in (Nadhira, 2022), *purposive sampling* takes data sources with specific considerations. The instruments of this research are an online game usage questionnaire and a sleep quality questionnaire.

RESULTS
Univariate Analysis
Respondent Characteristics

Table 3. 1Age Characteristics of Respondents

Respondent characteristics	Frequency	%
1. Age		
a. 16 years	21	36.0%
b. 17 years	23	38.3%
c. 18 years	16	26.7%
Total	60	100%
2. Class		
a. 10	28	46.7%
b. 11	32	53.3%
Total	60	100%

Table 3.1 shows the distribution of respondents based on age and class. The most respondents were 17 years old, namely 23 people (38.3%). Based on class, most respondents were in class 11, totaling 32 people or 53.3%.

Online Game Usage Rate

The following is the level of online game use researchers found when conducting research at SMK Muhammadiyah 1 Banjarmasin.

Table 3.2 Frequency level of online game use

Use of Online Games	Frequency	%
Tall	8	13.4%
Currently	27	45%
Low	25	41.6%
Total	60	100%

Table 3.2 shows that online game usage is mainly at a medium level, namely 27 people or 41.6%.

Sleep Quality

The following is the level of students' sleep quality that researchers obtained when conducting research at SMK Muhammadiyah 1 Banjarmasin.

Table 3.3 Frequency of sleep quality levels

Sleep Quality	Frequency	%
Good	26	43.4%
Bad	34	56.5%
Total	60	100%

Table 3.3 shows that 34 people, or 56.5% of students' sleep quality, is primarily poor.

Bivariate Analysis

Correlation between online game use and sleep quality.

Table 3.4 Correlation between the use of online games and sleep quality among students at SMK Muhammadiyah 1 Banjarmasin

Use of Online Games	Sleep Quality				Total	
	Bad		Good			
	F	%	F	%	F	%
Tall	7	11.7	0	0.0	8	13.4
Currently	15	25	12	20.0	27	45
Low	11	18.3	14	23.3	25	41.6
Total	34	56.7	26	43.3	60	100%
Sperm Rho, $p = 0.000$, r : 0.475						

Table 3.4 shows that the p-*value is* (0.000) while α is (0.05), so it can be concluded that the p-value *is* smaller than the Cronbach alpha value or ($p < α$). From the analysis above in this study, H1 was accepted, meaning there is a relationship between the use of online games and sleep quality among students at SMK Muhammadiyah 1 Banjarmasin.

DISCUSSION

Use of Online Games

The data in this study were taken from class 10 and class 11, of which there are several age classifications from these two classes, namely respondents in their early teens (early youth) numbering 0 (0%). In contrast, respondents in their middle teens (middle youth) were 60 people. (100%), Furthermore, respondents in their late teens were (0%). The results of this research also show that respondents with the habit of using online games with high criteria were eight people (13.4%), respondents with medium criteria were 27 people (45%), and respondents with low criteria were 25 people (41.6%).

The development of new thinking skills characterizes middle adolescence. So, the phenomenon of interest and independence in the role of society begins to emerge. Teenagers tend to be more interested in playing online games, and as this interest grows, teenagers spend more and more time playing online games (Habibi, 2021).

Several factors make online game users feel dependent on online games daily; these factors come from internal and external factors. Things that are included in internal factors include a strong desire supported by curiosity, a feeling of addiction that arises from frequently playing online games, boredom, and a lack of self-control. Likewise, external factors include a less controlled environment, a lack of good social relationships, and parental assistance (Irawan, 2021).

The intensity of using online games more than four times/week and the playing duration of more than 4 hours/day will cause a dependency effect, making online game users continue to play online games (Lestari, 2018).

From several theoretical statements above, the researcher concludes that as teenagers get older, their thinking patterns will increase. During adolescence, a person will seek self-pleasure in various things, including positive and negative things. Just like playing online games, teenagers will have fun when playing online games because online games can not only be played with their closest friends but can also be played with people they do not know or even all over the world. Teenagers addicted to online

games feel more interested and challenged when they are in the gaming world because of their curiosity. Online games not only allow you to access chat while playing, but you can also take notes, which makes the gaming world even more exciting.

Sleep Quality

The research results found that the number of respondents experienced good sleep quality was 26 (43.4%). In comparison, 34 respondents (56.5%) experienced poor sleep quality. These respondents came from 2 classes, namely class 10 and class 11. Of the 60 respondents, there were several age classifications, namely respondents in their early teens (early youth), numbering 0 (0%), and respondents in their middle teens (middle youth) 60 people (100%), and respondents in their late teens (late youth) amounted to (0%).

Sleep quality measures how a person facilitates sleep and maintains sleep. The duration of dreams and discomfort can describe sleep quality during or after waking up (Dahroni et al., 2019).

Teenagers' sleep quality is poor because they play too many online games, which makes teenagers experience sleep deprivation. Players who cannot manage their time when playing online games can experience irregular sleep, affecting teenagers' sleep quality (Habibi, 2021).

Poor quality sleep will cause a pale face, puffy eyes, a weak body, and a decreased immune system, making it easy to get sick. Meanwhile, from a psychological perspective, lack of sleep will cause changes in mental mood so that sufferers will become lethargic, slow to deal with stimuli, and have difficulty concentrating (Azizah, 2018).

From the explanation of the theory above, researchers believe that teenagers have poor sleep quality because they spend too much time playing online games, which causes a lack of sleep. Teenagers can still not regulate the time they spend playing online games, which can cause irregular sleep and affect their sleep.

The Relationship Between Online Game Use and Sleep Quality

The results of this study show that of the 60 respondents who were addicted to online games according to their categories, they harmed the quality of teenagers' sleep.

Spearman rank statistical test obtained a significance figure or probability value (0.000) or lower than the significance standard, namely 0.05 ($p < \alpha$). This means that H1 is accepted and H0 is rejected, so it can be concluded that there is a relationship between the use of online games and sleep quality among students at SMK Muhammadiyah 1 Banjarmasin.

The Pearson Product correlation coefficient value for sleep quality was 0,475, meaning that the correlation between the variables of online game use and sleep quality was 0.475 or quite strong because, according to the guidelines for the strength of the relationship, the results were between 0.26 and 0.50.

The results of using online games were obtained through a questionnaire distributed by researchers with a total of 6 questions and a range of categories: high (>76%), medium (56-75%), and low (<56%). From the results obtained, 25 out of 60 students experienced mild addiction, 27 out of 60 students experienced moderate addiction, and 8 out of 60 students experienced high addiction.

The quality of students' sleep in this study was measured through categories in a questionnaire consisting of 18 items from 6 assessment components. This category is if the respondent's answer is ≤ 5, then the respondent's sleep quality is good; if the respondent's answer is > 5, then it is said that the respondent's sleep quality is good-Bad. From the categorization of the sleep quality questionnaire, 34 out of 60 students experienced poor sleep quality, and 26 out of 60 students experienced good sleep quality.

The phenomenon of online games causes teenagers to become addicted or habitual to these games, thereby disrupting sleep patterns. Sleep quality is related to the total amount of sleep, how good the sleep feels, and whether a person gets enough NREM and REM sleep. One of the routines of teenagers nowadays is playing online games; if you play online games for too long, it will affect a person's sleep quality. Research conducted by Javaheri and Cleveland 2008 at Arini (2013) from Case Western Reserve School of Medicine, which was conducted on 238 teenagers regarding decreased sleep quality, showed a decrease in sleep hours of more than 2-4 hours which was caused by one factor, namely playing online games. Teenagers

are more likely to use their time to enjoy playing online games than to rest. Teenagers who are addicted to playing online games have problems with sleep quality and sleep duration, where their sleep quality is worse, and sleep duration is shorter compared to teenagers who do not have an addiction to online games. The results of research conducted by Shindi (2013) regarding the relationship between the frequency of playing online games and fulfilling sleep needs stated that there was a relationship between the frequency of playing online games and fulfilling sleep needs, where the higher the level of frequency of playing online games, the less fulfilled the need for sleep (Irman & Morika, 2022).

Based on the description above, playing online games can affect sleep quality in teenagers. Meanwhile, teenagers who are used to playing online games find it increasingly challenging to manage rest time and will spend more time just playing online games, so they forget to rest or sleep. This has implications for mental health, reduced stamina, reduced learning speed, risk of injury, depression, lack of concentration, and even fatigue. Teenagers who initially play online games to relieve boredom from previous activities become addicted.

CONCLUSION

Based on the results of the analysis and discussion, a conclusion can be obtained that:
1. There is a very significant relationship between the use of online games and sleep quality among students at SMK Muhammadiyah 1 Banjarmasin. This is shown by the Correlation Coefficient value of 0.475 and a significance value of 0.000 or <0.001.
2. From the results of the distribution of online game use questionnaires, from a calculation of 100% of students, there were 13.4% of students who experienced high addiction, 45% moderate addiction, and 41.6% low addiction.
3. From the results of distributing sleep quality questionnaires with a calculation of 100%, 43.4% of students experienced good sleep quality, and 56.5% experienced poor sleep quality.

Based on descriptive statistical analysis, data was obtained that the relationship between online games and sleep quality among students at SMK Muhammadiyah 1 Banjarmasin was relatively strong. Thus, the hypothesis, which stated that there was a relationship between the use of online games and the quality of sleep among students at SMK Muhammadiyah 1 Banjarmasin, was accepted as accurate.

SUGGESTIONS

Based on the research results, researchers provided suggestions to several parties, including:
1. For Educational Institutions
   Input material specifically to add references in the teaching and learning process regarding the relationship between the use of online games and sleep quality in students.
2. For Researchers
   The results of this research serve as teaching material for researchers to determine the relationship between the use of online games and sleep quality. During the research, researchers can also implement the theories and knowledge gained during lectures in the community sector.
3. For Further Researchers
   The results of this research can be used as evaluation material regarding the relationship between online game use and sleep quality. The researcher hopes that if anyone continues this research, they can carry out developments related to efforts to improve sleep quality in adolescents and try to add or replace the variables that the researcher used in this research.

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