

Tracing the Traces of Digital Addiction: A Study of Mobile Phone Addiction Reducing the Sleep Quality of Students at UIN Suska Riau

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Abstract. *The transformation of digital technology has changed the way students interact and carry out their daily activities, particularly through the increasingly intensive use of smartphones. This usage facilitates communication and access to information, but it also poses the risk of addictive behavior that can reduce focus, productivity, and the overall quality of academic life. This study aims to identify the level of smartphone addiction and its impact on the sleep quality of students at UIN Suska Riau. The research uses a quantitative approach with purposive sampling techniques involving 30 students. The questionnaire used for variable X (smartphone addiction) consists of 10 statement items based on the SAS-SV (Smartphone Addiction Scale – Short Version), while the questionnaire used for variable Y (sleep quality) consists of 10 statement items based on the PSQI (Pittsburgh Sleep Quality Index). The results show that the majority of students have a high pattern of smartphone use leading to addiction, characterized by excessive usage, difficulty in time management, and negative impacts on academic activities. These findings highlight the importance of addressing smartphone addiction in higher education environments.*

Keywords: *Smartphone usage, smartphone addiction, sleep quality, university students.*



INTRODUCTION

The development of the digital era has brought major changes to human lifestyles, especially through the advent of communication technology. One device that is now deeply ingrained in daily life is the mobile phone. Whereas previously mobile phones only functioned as communication devices, their role is now much broader, ranging from a medium for information and entertainment to a learning tool. The advent of the internet and digital applications has made mobile phones an almost inseparable part of life, especially for students.

In the academic world, the use of mobile phones provides many advantages, such as easier access to literature, communication with lecturers and friends, and obtaining information without space and time limitations. However, excessive use can actually cause problems in the form of mobile phone addiction. This symptom is apparent when a person finds it difficult to control their use, feels anxious when away from the device, and spends an excessive amount of time on digital activities.

This addiction has serious consequences. Academically, concentration is disrupted because attention is diverted to social media, games, or online entertainment. Psychologically, feelings of anxiety, loneliness, and even stress arise when unable to use a cell phone. Even face-to-face social interactions tend to decline because people interact more often in the virtual world. This shows that cell phones, although useful, can become an obstacle if their use is not controlled.

This phenomenon is interesting to study, especially at UIN Suska Riau, one of the largest Islamic universities in Sumatra. Its students come from diverse backgrounds, with academic activities that require the use of technology, making them prone to smartphone addiction. Therefore, it is important to determine the level of addiction, the contributing factors, and its impact on students, both academically and psychologically.

From a guidance and counseling perspective, cell phone addiction is seen not only as a habit, but also as a behavioral and psychological problem that needs to be addressed with counseling strategies. Understanding the level of addiction will help counselors develop preventive and treatment services so that students can use technology in a healthy and balanced manner.

Smartphone addiction is a modern phenomenon that is increasingly evident among teenagers and students. According to Jumrianti (2022), smartphone addiction can be understood as an excessive dependence on these devices, which disrupts daily activities

and individual psychological well-being. Intensive cell phone use not only facilitates communication and access to information, but can also have negative effects, such as difficulty managing time, stress, and decreased focus in studying.

Jumrianti's research found a significant negative correlation between the level of smartphone addiction and psychological well-being. This means that the higher a person's addiction, the lower their psychological well-being. These findings confirm that smartphone addiction is not just a normal habit, but a serious problem that needs attention, especially in educational settings.

From a counseling perspective, understanding this theory is very important. Counselors can design effective intervention strategies, ranging from digital literacy education, time management training, to individual or group counseling, so that students are able to use technology wisely and maintain their psychological well-being.

Smartphone addiction is not merely frequent smartphone use, but rather a dependency that begins to interfere with daily activities and psychological well-being. Based on various studies, including Jumrianti (2022), there are several characteristics of smartphone addiction behavior: Excessive Use, Difficulty Controlling Oneself, Disruption of Daily Activities, Physical and Psychological Signs, Emotional Dependence, and Excessive Digital Prioritization.

Mobile phone addiction does not just appear out of nowhere; there are various factors that cause individuals to become dependent on smartphones. Based on research by Jumrianti (2022) and other experts, some of the main factors include: Psychological Factors, Social Factors, Environmental Factors, Individual and Habit Factors, Technology and Application Factors, and Cognitive Factors.

Mobile phone addiction is a complex phenomenon influenced by various psychological, social, and environmental factors. Some of the main factors that influence mobile phone addiction, according to experts, include: Anxiety, Loneliness, *Emotional Intelligence*, Social Support, and *App Design*.

According to Potter & Perry (2010), sleep quality is a condition in which a person is able to sleep for a sufficient duration and depth so that the body can recover energy and function optimally the next day. Hidayat (2006) also explains that sleep quality is not only measured by the length of sleep, but also by how sleep can provide physical and psychological refreshment. Meanwhile, Ferri (2012) adds that sleep quality is a subjective measure of an individual's comfort, tranquility, and the effectiveness of their sleep.

Quality sleep plays a role in maintaining physiological balance, strengthening the immune system, improving concentration, and supporting emotional stability. For students, sleep quality greatly affects learning ability, memory, and academic achievement.

Sleep quality indicators can be measured through several aspects, including Sleep duration according to age requirements (adults 6–8 hours), How soundly one sleeps without waking up frequently during the night, Frequency of waking up, number of disturbances or interruptions during sleep, Complaints upon waking up, whether one feels refreshed, tired, dizzy, or sleepy after waking up, Subjective satisfaction of an individual's assessment of their sleep, whether they feel rested or not.

According to the Pittsburgh Sleep Quality Index (PSQI) developed by Buysse et al. (1989), sleep quality can be measured through seven components, namely: sleep duration, sleep latency, sleep efficiency, sleep disturbances, use of sleeping pills, daytime dysfunction, and subjective perception of sleep quality.

Based on this background, this study is titled "Tracing the Traces of Digital Addiction: A Study of Mobile Phone Addiction Reducing the Sleep Quality of UIN Suska Riau Students."

METHODOLOGY

The research method used was quantitative with a population of UIN Suska Riau students in 2025 using the *Purposive Sampling* technique, which is a sampling technique based on research objectives. The sample consisted of 30 male and female students from UIN Suska Riau.

In this study, there were two variables, namely the independent variable (X) of mobile phone addiction and the dependent variable (Y) of sleep quality. The instrument used for this study was a questionnaire. The questionnaire used for variable X (mobile phone addiction) consisted of 10 questions using the SAS-SV (*Smartphone Addiction Scale-Short Version*) questionnaire, and the questionnaire used for variable Y consisted of 10 questions using the PSQI (*Pittsburgh Sleep Quality Index*) questionnaire. Data collection was conducted in August 2025 by providing a *Google Form link*.

Data analysis in this study used univariate analysis to explain the characteristics of variables x and y with characteristic frequency distribution tables. This analysis was intended to examine the relationship between variables x and y with statistical tests of data categorization. Then, a normality test with a one-sample Kolmogorov-Smirnov test was

used to see if the data was normally distributed. A t-test hypothesis test was used to see if variables x and y were strongly related

RESULT AND DISCUSSION

1. Characteristic Frequency of Respondents

There were 30 respondents, all of whom were students at UIN Suska Riau, as detailed in the table below:

Table 1.1 Frequency Characteristics of Respondents

No	Gender	N	Percentage
1.	Female	17	57
2.	Men	13	43
Total		30	100%
No	Age	N	Percentage
1.	19	9	30%
2.	20	7	23%
3.	21	5	17
4.	22	9	30
Total		30	100
No	Semester	N	Percentage
1.	III	9	30
2.	V	6	20
3.	VII	10	33
4.	IX	5	17
Total		30	100

The results of the data analysis show that the majority of respondents in this study were female, with a percentage of 57%, while male respondents were fewer in number at 43%. In terms of age category, the 19-year-old and 22-year-old age groups, with a percentage of 30%, were the most dominant, so it can be concluded that the respondents were generally young students. From an academic perspective, most respondents were enrolled in their 8th semester, with a percentage of 33%, indicating that they were final-year students with relatively more mature learning experiences compared to students in their early semesters. Overall, these results show that the respondents were mostly female students, aged between 19 and 22 years old, and in their final semester, so that the respondent profile can provide a representative picture of the conditions of the students who were the focus of the study.

2. Frequency of Mobile Phone Addiction

Table 1.2 Frequency of Mobile Phone Addiction

No	Mobile Phone Addiction	N	Percentage
1.	Addiction	17	57
2.	Not Addicted	13	43
Total		30	100

The results of the data analysis show that of all respondents who participated, 17 people or 57% fell into the category of mobile phone addiction. This indicates that more than half of the respondents experienced excessive use, both in terms of duration, intensity, and emotional attachment to the device. On the other hand, 13 people or approximately 43% of respondents were categorized as not addicted, meaning they were still able to control their cell phone use reasonably according to their daily needs. Thus, it can be understood that the majority of respondents were addicted, while the rest were able to maintain a balance in their use of digital technology.

3. Sleep Quality Frequency

Table 1.2 Sleep Quality Frequency

No	Sleep Quality	N	Percentage
1.	Good	5	17
2.	Poor	25	83
Total		30	100

Based on the data results, it can be seen that 5 respondents or around 17% were in the good sleep quality category, which means that only a small number of students were able to maintain a regular sleep pattern that suited their needs. Meanwhile, the majority of respondents, namely 25 people or 83%, were in the poor sleep quality category, which shows that most students experienced problems related to the time and quality of rest they got every day. Overall, these findings show that the quality of students' sleep is more often in the poor category than in the good category, so it can be concluded that sleep disorders are one of the main problems experienced by respondents and have the potential to have a negative impact on their health and academic activities.

4. The Relationship Between Smartphone Addiction and Reduced Sleep Quality Among Students at UIN Suska Riau

Table 1.4 Relationship Between Smartphone Addiction and Reduced Sleep Quality Among Students

No	Mobile Phone Addiction	Sleep Quality		total
		Good	Poor	
1.	Addiction	5 (17%)	12 (40%)	17 (57%)
2.	Not addicted	13 (43%)	0 (0%)	13 (43%)
Total		5 (17%)	25 (83%)	30 (100%)

The results of the cross-tabulation analysis of 30 respondents show that in the group of students who are addicted to mobile phones, only 5 people (17%) are still able to maintain good sleep quality, while 12 others (40%) are in the poor sleep quality category, so that the total number of respondents classified as addicted is 17 people or 57% of the entire sample. Conversely, in the group of students who were not addicted, there were 13 people (43%) and all of them were in the good sleep quality category, with no respondents experiencing poor sleep. When viewed from the entire sample, the number of students with good sleep quality was 5 (17%), while those in the poor sleep category reached 25 (83%). Thus, it can be concluded that the majority of students who are addicted to mobile phones tend to have poor sleep quality, while students who are not addicted are more dominant in having good sleep quality, so that mobile phone addiction can be associated with a decline in sleep quality among students.

5. Normality Test

The results of the normality test using the Kolmogorov-Smirnov formula show that if the significance is greater than 0.05, then the data can be considered normal. The data above has a significance of 0.200, which means that $0.200 > 0.05$, so the data above can be considered normal.

6. Correlation Test

The correlation test results for the above data can be concluded that the addiction variable is significant with sleep quality $0.000 < 0.05$, so the above data can be said to be correlated between variable X (mobile phone addiction) and variable Y (sleep quality). Furthermore, the Pearson correlation result is 0.824. Based on the guideline

requirement for Pearson correlation values of 0.80-1.00, it can be said that there is a perfect correlation.

The results of the data analysis show that the majority of respondents in this study were female, with a percentage of 57%, while the number of male respondents was smaller at 43%. In terms of age category, the 19-year-old and 22-year-old groups, with a percentage of 30%, were the most dominant, so it can be concluded that the respondents were generally young students. From an academic perspective, most respondents were enrolled in their 8th semester, with a percentage of 33%, indicating that they were final-year students with relatively more mature learning experiences compared to students in their early semesters. Overall, these results show that the respondents were mostly female students, aged between 19 and 22 years old, and in their final semester, so that the respondent profile can provide a representative picture of the conditions of the students who were the focus of the study.

The results of the data analysis show that of all respondents who participated, there were 17 people or 57% who fell into the category of mobile phone addiction. This indicates that more than half of the respondents experienced excessive use, both in terms of duration, intensity, and emotional attachment to the device. On the other hand, 13 respondents, or around 43%, were categorized as not addicted, meaning they were still able to control their cell phone usage reasonably according to their daily needs. Thus, it can be understood that the majority of respondents were addicted, while the rest were able to maintain a balance in their use of digital technology.

Based on the data, it can be seen that 5 respondents, or about 17%, were in the good sleep quality category, which means that only a small number of students were able to maintain a regular sleep pattern according to their needs. Meanwhile, the majority of respondents, namely 25 people or 83%, were in the poor sleep quality category, which shows that most students experienced problems related to the time and quality of rest they got every day. Overall, these findings show that the quality of students' sleep is more often in the poor category than in the good category, so it can be concluded that sleep disorders are one of the main problems experienced by respondents and have the potential to have a negative impact on their health and academic activities.

The results of the cross-tabulation analysis of 30 respondents show that in the group of students who are addicted to mobile phones, only 5 people (17%) are still able to maintain good sleep quality, while 12 others (40%) are in the poor sleep quality

category, bringing the total number of respondents classified as addicted to 17 people or 57% of the entire sample. Conversely, in the group of students who were not addicted, there were 13 people (43%) and all of them were in the good sleep quality category, with no respondents experiencing poor sleep. When viewed from the entire sample, the number of students with good sleep quality was 5 (17%), while those in the poor sleep category reached 25 (83%). Thus, it can be concluded that the majority of students who are addicted to cell phones tend to have poor sleep quality, while students who are not addicted are more dominant in having good sleep quality, so cell phone addiction can be associated with a decline in sleep quality among students.

The results of the normality test using the Kolmogorov-Smirnov formula can be concluded that if the significance is greater than 0.05, it can be said to be normal. And the data above is significant at 0.200, which means that $0.200 > 0.05$, so the data above can be said to be normal.

The correlation test results for the data above can be concluded that the significance of the addiction variable with sleep quality is $0.000 < 0.05$, so the data above can be said to be correlated between variable X (mobile phone addiction) and variable Y (sleep quality). Furthermore, the Pearson correlation result is 0.824. Based on the guideline that a Pearson correlation value of 0.80-1.00 indicates a perfect correlation, it can be said that there is a perfect correlation.

CONCLUSION

Based on the research results obtained, it can be concluded that the cross-tabulation analysis of 30 respondents shows that the majority of students who are addicted to mobile phones tend to have poor sleep quality, while students who are not addicted tend to have good sleep quality. Therefore, mobile phone addiction can be linked to a decline in sleep quality among students. The results of the normality test using the Kolmogorov-Smirnov formula show that if the significance is greater than 0.05, the data can be considered normal. The data above has a significance of 0.200, which means that $0.200 > 0.05$, so the data above can be considered normal. The correlation test results for the data above can be concluded that the significance of the addiction variable with sleep quality is $0.000 < 0.05$, so the data above can be said to be correlated between variable X (mobile phone addiction) and variable Y (sleep quality). Furthermore, the Pearson correlation result is 0.824. Based

on the guideline requirement for Pearson correlation values of 0.80-1.00, it can be said that there is a perfect correlation.

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