

Negative influence of social media on student learning outcomes SMAN 4 Medan

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Abstract

This study aims to analyze the negative influence of social media on the learning outcomes of students at SMAN 4 Medan. The rapid development of information and communication technology has made social media an inseparable part of students' daily lives. However, its excessive use has raised concerns about its adverse effects on academic performance. This research employed a quantitative descriptive method with a purposive sampling technique, involving 33 students who actively use social media. Data were collected through questionnaires and interviews, then processed and analyzed using SPSS version 27. The validity and reliability tests confirmed the feasibility of the research instruments. Classical assumption tests, including normality and homogeneity tests, indicated that the data met the necessary criteria for parametric analysis. The hypothesis was tested using a partial t-test, resulting in a t-count of 5.507, which exceeded the t-table value of 2.048, with a significance value of $0.000 < 0.05$. These results confirm that the negative influence of social media has a significant and measurable effect on students' learning outcomes. The findings reveal that excessive social media usage causes distractions, decreases concentration, and reduces study time, thereby negatively impacting students' academic achievements. It is recommended that educational institutions, teachers, and parents increase awareness and control over students' use of social media to minimize its detrimental effects on learning.

Keywords: social media, learning outcomes, negative influence, adolescents, senior high school

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1. Introduction

Insight or understanding is a fundamental cognitive factor in assessing student learning, as it determines the nature and quality of the learning process (Baharudin & Wahyuni, 2015: 25). Meanwhile, talent represents an individual's inherent ability, which plays a crucial role in shaping one's learning cycle and academic potential (Baharudin & Wahyuni, 2015: 31). When students are aware of the importance of learning outcomes, they are more motivated to enhance their efforts. Students who value their achievements will strive to improve their learning performance beyond previously attained results (Haq, 2018: 205).

However, current trends show that many students are increasingly distracted by mobile phone use, particularly through social media and entertainment applications. As found in previous studies, students tend to spend more time engaging with online platforms rather than focusing on their studies, which negatively affects their academic performance (Marini, 2019). Excessive use of electronic media not only reduces study time but also impacts students' concentration, discipline, and overall learning outcomes.

In today's era of globalization, the rapid advancement of science and technology has significantly transformed communication and information exchange. The widespread use of digital platforms such as YouTube, Instagram, Facebook, WhatsApp, Google, and Wikipedia has made information access faster and easier. This phenomenon has created what is referred to as a "global public sphere" or *Weltoffentlichkeit* (Najamudin, 2019). Although this development brings numerous benefits, it also raises concerns regarding its potential negative impacts, particularly on students' social interactions and learning focus.

Social media can be a double-edged sword — while it facilitates communication, collaboration, and access to knowledge, it also contributes to distraction, addiction, and reduced academic engagement. Many students have become overly dependent on social media, blurring the boundaries of real-world social interaction and academic responsibility.

Therefore, a deeper understanding of the use of social media in educational contexts is essential. Through effective utilization, educators can transform social media into a learning tool that promotes interactive, collaborative, and contextually relevant educational experiences (Hew & Cheung, 2014). Furthermore, educational institutions must develop appropriate policies and management strategies to mitigate the negative impacts of social media while maximizing its potential to support student learning.

2. Research Design and Method

This study aims to identify and analyze the negative impact of social media on the learning outcomes of Senior High School students. The object of this research is students who actively use social media within the school environment, focusing on its negative effects on students' learning concentration, study time, and academic achievement.

The research was conducted at SMAN 4 Medan, located at Jl. Gelas No. 12, Sei Putih Tengah, Medan Petisah, Medan City, North Sumatra. This location was chosen because the school has a relatively high number of active social media users among its students, making it suitable for research focusing on the influence of social media on learning outcomes. Additionally, the school provides adequate facilities and a representative learning environment for conducting the study.

The data sources used in this research consisted of primary and secondary data. Primary data were obtained directly from respondents through questionnaires and interviews with students who met the sample criteria. Meanwhile, secondary data were collected from students' academic records, literature, journals, reference books, and other relevant supporting sources related to the research topic.

The population in this study was all students of SMAN 4 Medan who actively use social media, totalling 33 students. The sample consisted of 33 students, selected using a purposive sampling technique. This technique was applied because not all students use social media intensively or experience its impact on their academic performance. The sampling criteria included students who actively use social media, have used it for at least the past six months, and were willing to participate as respondents in this study.

Data collection techniques were conducted using two methods: questionnaires and interviews. The questionnaire contained a series of closed-ended questions using a five-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree." The instrument was developed based on indicators relevant to the research variables. Additionally, structured interviews were conducted to gather more in-depth information about students' experiences regarding their use of social media and its effects on their learning outcomes.

Measurement of variables in this study was carried out based on indicators for each variable. The independent variable (X) is the negative impact of social media, measured through five indicators: students' understanding of social media, understanding of the negative effects of using social media,

ease of access to social media, the level of distraction to learning concentration due to social media, and obstacles to learning caused by it. The dependent variable (Y) is students' learning outcomes, measured through five indicators: the possibility of improved learning outcomes, ease of understanding material, benefits of learning outcomes, availability of learning facilities, and the burden or difficulty of tasks faced by students.

Table 1. Variable Measurement Indicators

Research Variable	Measurement Indicator
Independent Variable (X)	Negative influence of social media
Dependent Variable (Y)	Learning outcomes

Source: Data Processed (2025)

Data Analysis Methods

The method applied to analyze the data in this study consists of two steps, namely the Classical Assumption Test and the Hypothesis Test. The Classical Assumption Test is carried out to ensure that the data meets the criteria required in the regression analysis, so that the estimation results can be considered valid and reliable. Meanwhile, the Hypothesis Test is carried out to assess the magnitude of the influence of the independent variables on the dependent variables in the regression model that has been created. The following is an explanation of each test:

Classical assumption test

Data normality test

According to Nursalam (2020), a normality test is conducted to ensure that the research data follows a normal distribution pattern, as normally distributed data will produce more accurate and reliable statistical analyses. The normality test is typically applied before performing parametric tests such as regression or t-tests. Its purpose is to identify the distribution pattern of data within a single variable that will be used for analysis. Data that meets the normal distribution requirement is considered more valid in supporting the research model. In this study, the tool used for the normality test was the Kolmogorov-Smirnov test.

Homogeneity of variance test

The homogeneity test aims to determine whether the independent variable (X) has equal variance across all groups of the dependent variable (Y). In a homogeneity test, it is essential to ensure that the independent variable maintains a consistent variance within each group of the dependent variable. This test was conducted using SPSS software to perform the homogeneity test, and the results were analyzed as follows: if the p-value is less than 0.05, the variances between the data groups are considered different. Conversely, if the p-value is greater than 0.05, the variances between the data groups can be considered equal or homogeneous.

Hypothesis testing

Partial test (t-test)

The Partial Test (t-test) is used to determine the effect of each independent variable (X) on the dependent variable (Y) individually (partially), assuming that other variables remain constant (Sugiyono, 2017). This test is carried out by maintaining other variables in a fixed condition.

This study puts forward two conflicting hypotheses: 1. The null hypothesis (H_0) suggests that the use of QRIS does not have a significant positive impact on consumer satisfaction ($\beta_1 \leq 0$). 2. The alternative hypothesis (H_1) states that the use of QRIS has a significant positive impact ($\beta_1 > 0$). The testing process is

Table 2. Normality Test One-Sample Kolmogorov-Smirnov Test Result

N		33
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	1.52900899
Most Extreme Differences	Absolute	.090
	Positive	.076
	Negative	-.090
Test Statistic		.090
Asymp. Sig. (2-tailed) ^c		.200 ^{c,d}

Table 3. Homogeneity Test Results

Levene Statistic	df1	df2	Sig.
0.319	1	31	.576

Source: Data Processed (2025)

carried out using the one-tailed test method at a significance level of 5%. The criteria for decision making are determined as follows: 1. If the significance value > 0.05 : H_0 is accepted (no significant effect). 2. If the significance value < 0.05 : H_0 is rejected (there is a significant effect).

3. Results and Discussion

Statistical Result

Classical assumption test results

Data normality test

A classical assumption test was conducted to ensure that the data met the necessary requirements before being analyzed parametrically. One of the tests performed was the normality test, using the Kolmogorov-Smirnov method. The normality test serves to verify whether the data distribution follows a normal pattern. In this study, the Kolmogorov-Smirnov method was applied, which stipulates that if the significance value (sig.) is less than 0.05, the data is considered not normally distributed, while a significance value greater than 0.05 indicates that the data meets the criteria for a normal distribution. The results of this test will determine whether parametric statistical methods can be used in the subsequent analysis.

The results of the Kolmogorov-Smirnov normality test, as presented in Table 2, show a 2-tailed significance value of 0.200. Since this value is higher than the predetermined significance level of 0.05, it can be concluded that the data in this study are normally distributed and meet the normality criteria required for the subsequent parametric statistical analyses.

Homogeneity of Variance Test

Technically, this test is performed by comparing the obtained significance value (p-value) from the test results with the established significance level (α), which is set at 0.05. If the obtained significance value is greater than 0.05 ($p > 0.05$), it can be concluded that the variances between the data groups are homogeneous. Conversely, if the significance value is less than 0.05 ($p < 0.05$), the variances between the data groups are considered not homogeneous.

Based on the results of the homogeneity test shown in Table 3, it can be concluded that the variance of the data between the Negative Impact of Social Media variable and the Learning Outcomes variable is homogeneous. This is indicated by the significance value of 0.576, which is higher than the threshold of 0.05. Therefore, the assumption of variance homogeneity has been met, and the data are eligible for further parametric statistical analysis.

Table 4. Partial Test Results (T-Test)

Model		Unstandardized	Standardized	t	Sig.
		Coefficients	Coefficients		
		B	Std. Error	Beta	
1	(Constant)	1.395	1.765		.790 .435
	Negative_influence_of_social_media	.182	.033	.703	5.507 .000

Source: Data Processed (2025)

Hypothesis test results

Partial Test (t-Test)

The hypothesis test in this study was conducted to determine the influence of the independent variable on the dependent variable. One of the tests used is the t-test, a statistical method employed to identify whether the independent variable has a significant effect on the dependent variable. This test was performed by comparing the calculated t-value (t-count) with the t-table value at a degree of freedom of 28, which was obtained from the total sample of 33 minus the number of independent variables and one. At a significance level of 5%, the t-table value used was 2.048. If the significance value obtained from the test is less than 0.05, the independent variable is considered to have a significant effect on the dependent variable. Conversely, if the significance value is equal to or greater than 0.05, the effect is considered not significant. This analysis is essential to determine the extent to which the independent variable contributes to changes in the dependent variable.

Based on the statistical analysis presented in Table 4.9, it can be concluded that there is a significant influence of the negative impact of social media (X) on learning outcomes (Y). This is evidenced by two indicators: First, the calculated t-value (t-count) reached 5.507, which is clearly higher than the t-table value of 2.048 ($5.507 > 2.048$). Second, the significance value obtained was 0.000, which is far lower than the predetermined alpha level of 0.05 ($0.000 < 0.05$).

These two findings consistently indicate that the negative impact of social media has a measurable and significant effect on students' learning outcomes. There is a statistically significant relationship between the two variables. Thus, the hypothesis stating that there is a negative effect of the negative impact of social media on learning outcomes is accepted. The results of this study reinforce the assumption that the negative influence of social media negatively affects students' academic performance in a measurable way within the context of this research.

Discussion

Based on the data evaluation collected from 33 students at SMAN 4 Medan, this study revealed that the partial test (t-test) produced a t-count value of 5.507, which is greater than the t-table value of 2.048, with a significance level of $0.000 < 0.05$. This indicates that the negative impact of social media has a significant and adverse effect on learning outcomes.

According to the research findings, the majority of students stated that social media has a negative impact on their learning outcomes. Social media is considered very easy to access and use, causing students to spend more time on entertainment activities through social media than on studying. The ease of access makes it difficult for students to limit their usage time, leading to a decrease in study focus.

Moreover, excessive use of social media also causes concentration disturbances during the learning process. Students tend to pay more attention to notifications and content on social media than to the study materials, both during independent learning and classroom instruction.

On the other hand, although social media can serve as an additional source of information, without proper control, it is often used for purposes that are not beneficial to the learning process. This results in decreased learning motivation and lower academic achievement among students.

4. Conclusions

Based on the analysis conducted using the partial test (t-test), the calculated t-value was 5.507, which is greater than the t-table value of 2.048, with a significance level of $0.000 < 0.05$. The data were collected through questionnaires distributed to 33 students who actively use social media at SMAN 4 Medan. From these findings, it can be concluded that the negative impact of social media significantly affects students' learning outcomes. This is evidenced by the increase in distractions, a decline in learning concentration, and a reduction in study time due to excessive social media use. Students find social media easily accessible and an attractive source of entertainment, often choosing to spend more time on these platforms rather than studying. As a result, the learning process is disrupted, academic performance decreases, and students' academic motivation weakens.

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