

The Impact of Social Media Usage on the Academic Achievement of Vocational High School Students in South Sulawesi (Case Study at SMK Negeri 10 Makassar)

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ABSTRACT

This research aims to determine whether there is an influence of social media usage on students' academic achievement. The research design used is a survey through a quantitative research approach. Data collection techniques include questionnaires and documentation. The independent variable in this study is the usage of social media, and the dependent variable is academic achievement (report grades for the even semester of the academic year 2021/2022). The research was conducted in Vocational High Schools in South Sulawesi from October to December 2022. The research subjects are students in Vocational High Schools in South Sulawesi in classes XI TKJ 1, 2, and 3, totaling 77 students selected randomly. Research data were obtained from the questionnaire and analyzed using descriptive and inferential statistical analysis. The results of the research indicate that social media usage and academic achievement fall into the moderate category, and there is an influence of social media usage on students' academic achievement. This is evident through a simple linear regression test, where the significant value is $<$ the probability value of 0.05 or $0.028 < 0.05$, and the test of the X to Y model summary, where the correlation value (R) is 0.251. Additionally, the coefficient of determination (R Square) is 0.063, meaning that the influence of the independent variable (Social Media Usage) on the dependent variable (Academic Achievement) is 6.3%. Furthermore, it is also evidenced by the results of the negative t-test analysis, where the calculated t-value $<$ the tabulated t-value, indicating a negative influence.

Keywords: *Impact, Social media, Academic achievement.*

1. INTRODUCTION

In the present time, the rapid development of science and technology occurs every day, influencing the progress of information and communication. The emergence of the internet is one form of communication resulting from technological advancements. The rapidly growing internet facilities are now utilized effectively, enabling the swift dissemination of information through social media platforms such as Instagram, YouTube, WhatsApp, Twitter, TikTok, and Google. These social media platforms have captured the attention of the younger generation, with almost all young people incorporating social media into their daily lives.

Social media is a term used to integrate, share information, and utilize web-based messaging [1]. It cannot be denied that students in schools today often

prefer accessing social media using the internet via their smartphones rather than opening and learning the study materials shared by teachers in school, whether online or offline [2]. Indonesia, the fourth most populous country, is indeed a nation that extensively uses various social media platforms, although not all of them are utilized by the Indonesian population. However, it is undeniable that with the development of social media, education has also evolved, and currently, there are many educational activities involving social media [3].

In 2017, social media, as part of the internet, reached 87.13% in the category of frequently accessed services [4] (Indonesia Internet Service Providers Association, 2017). Social media can be used by various groups of people, and one of the groups that extensively utilizes social media is teenagers, with a percentage of 75.50% [4] (Indonesia Internet Service Providers Association,

2017). When using social media, teenagers, especially those in middle adolescence, often use it to satisfy their curiosity about various things. Teenagers frequently use social media because it is popular among their peers. Findings from Andarwati's research indicate that in SMAN 9 Yogyakarta, especially in grade XI, the use of social media is quite high [5]. Furthermore, other studies also show that more than half of the teenage respondents (50.6% or 43 individuals) at the high school level are also classified as heavy users of social media [6].

The use of social media among students in Vocational High Schools in South Sulawesi can be considered quite intensive [7]. According to the results of the conducted observations, students are almost never without their mobile phones, which they bring to school. In the mornings, before the teachers start their lessons, many students engage in creating content using TikTok, opening Instagram, updating WhatsApp statuses, and so on. These observations suggest that most students tend to use social media during their free time rather than seeking or studying learning materials before the teachers start teaching [8].

In Vocational High Schools (SMK) in South Sulawesi, some students, during online learning sessions, do not participate through Zoom to listen to the given materials. However, when it comes to attendance, many students use WhatsApp, and there are numerous names of students present. This may indicate that some students are less interested in attending classes, even though they have plenty of time to access social media. Students in Vocational High Schools in South Sulawesi often use social media platforms such as Facebook, TikTok, WhatsApp, and Instagram primarily for entertainment purposes rather than for academic learning materials.

Social media can be allowed for students as long as it can be utilized to find useful information and used in their learning. It's okay for entertainment, but with parental control and in a reasonable amount [9]. Currently, almost all students often use social media, but many use it not for learning purposes but to seek other information. The most detrimental consequence in the education world due to social media is reducing students' awareness in learning and can affect their academic achievement.

According to an unstructured interview with a teacher and class guardian from one of the TKJ classes in South Sulawesi regarding learning achievement or report card grades, it was found that there are several students in the TKJ class whose grades are relatively low compared to their classmates. Learning achievement is the outcome of the learning process obtained after completing the learning activities [10]. Additionally, grades are also one form of learning achievement, and achieving academic success requires maximum effort. Furthermore, there needs to be a mechanism in the learning activities to organize the environment around the students to foster development and encourage them to learn. If students

cannot actively and attentively participate in the learning process and lack focus, achieving the learning objectives may become challenging [11].

There are quite a few negative impacts if students are not wise in using social media in real life, especially if it already affects the field of education [12]. Students may become lazy in studying, excessively open applications unrelated to lesson materials, emulate negative behaviors observed on social media in their social lives, and so on. Such behaviors can decrease students' interest in attending classes and lead to a decline in their academic achievements.

What usually happens is that when students no longer like a certain subject, their interest in learning decreases, and they turn to accessing their social media purely for entertainment. If this happens and results in a decline in student performance without any sense of regret, it can lead to addiction, and students may not want to stay away from social media. Additionally, social media can make students excessively engaged in chatting, forgetting the time, and becoming lazy to write in books, relying more on gadgets. However, such behaviors depend on the students' personalities. If students use social media more wisely, especially for educational purposes, they can experience positive effects such as improved report card grades, becoming intelligent students in class, participating in school competitions, and more.

Based on the background provided, the title of this research is, "The Influence of Social Media Usage on the Academic Achievement of Vocational High School Students in South Sulawesi (A Case Study at SMK Negeri 10 Makassar)."

2. METHODS

2.1. Research Design

In this study, a description of the current condition of the research subjects or objects is presented based on facts in the field. Meanwhile, the method used is the survey method.

2.2. Population

The population in this study consists of all students in the XI TKJ class at Vocational High Schools in South Sulawesi, totaling 96 students.

2.3. Sample

The sampling in this study used probability sampling, ensuring that each element has an equal chance of being selected as a sample [13]. Simple random sampling is employed in this research, where each member of the population has an equal chance of being selected as a sample [14]. The technique used to determine the sample size is the Slovin formula, as shown below:

$$n = \frac{N}{N(d)^2 + 1}$$

- n = Sample size
- N = Population size
- d = Precision (set at 5% with a 95% confidence level) [15].

Through the Slovin formula, the total number of samples in the study can be calculated as follows:

$$n = \frac{96}{96(0,05)^2 + 1} = \frac{96}{1,24} = 77,419 = 77$$

The sample size in the above study is 77, obtained from the calculation of the population size. The sampling for each TKJ class uses the Proportional Sample Allocation formula [10].

$$ni = \frac{Ni}{N} \times n$$

- ni = Sample size according to stratum
- Ni = Population size according to stratum
- n = Total sample size
- N = Total population size

Through the Proportional Sample Allocation formula, the sample size for each TKJ class can be calculated and presented in the following table:

Table 1. Population, Subpopulation, and Research Sample

No.	Name of Subpopulation	Amount of Subpopulation	Total Sample
1.	XI TKJ 1	31	25
2.	XI TKJ 2	32	26
3.	XI TKJ 3	33	26
TOTAL		96	77

2.4. Data Collection Technique

In this study, the data collection methods used are questionnaires distributed to students of class XI TKJ, documentation through student report card grades, and observation.

2.5. Data Analysis Technique

To ensure the validity and reliability of a questionnaire to be used, validity and reliability testing is conducted. In addition, data analysis will use descriptive

techniques and hypothesis testing through simple linear regression, as well as testing for normality, linearity, and homogeneity.

3. RESULT AND DISCUSSION

In this study, data is obtained through the use of a questionnaire that measures the variable of social media usage (x) and the dependent variable, which is academic achievement, in the research sample consisting of 77 students.

3.1. Data Description

3.1.1. The Results of Descriptive Statistical Analysis

Table 2. Descriptive Statistical Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Intensitas Media Sosial	77	44	78	60.9870	6.89297
Prestasi Belajar	77	63	95	84.1039	5.46179
Valid N (listwise)	77				

Source: Data Processing Results 2023 (SPSS 22)

Based on the Descriptive Test results, the data distribution obtained by the researcher can be described as follows:

- a. Variable of Social Media Usage (X): from the above data, it can be seen that the minimum value is 44, the maximum value is 78, with an average of 60.9870 and a standard deviation of 6.89297.
- b. Variable of Learning Achievement (Y): from the above data, it can be seen that the minimum value is 63, the maximum value is 95, with an average of 84.1039 and a standard deviation of 5.46179.

3.1.2 Data Categorization

As for the categorization of the variable "use of social media" (X) and "Learning Achievement" (Y), according to the data categorization guidelines, it is presented in Table 3.

Table 3. Categorization Guidelines

KATEGORI	RUMUS
SANGAT RENDAH	$X \leq MI - 1,8SDI$
RENDAH	$MI - 1,8SDI < X \leq MI - 0,6SDI$
SEDANG	$MI - 0,6SDI < X \leq MI + 0,6SDI$
TINGGI	$MI + 0,6SDI < X \leq MI + 1,8SDI$
SANGAT TINGGI	$MI + 1,8SDI < X$

Source: Saifuddin Azwar, 2021

Note:

- MI = Mean Ideal
- SDI = Standar Deviasi Ideal

Table 4. Categorization of Social Media Usage

No	Rentang Nilai	Jumlah Siswa	Kategori	Presentasi
1	< 48	4	Sangat Rendah	5,2%
2	48 - 57	17	Rendah	22,1%
3	57 - 65	38	Sedang	49,4%
4	65 - 74	15	Tinggi	19,5%
5	> 74	3	Sangat Tinggi	3,9%

Source: Results of Data Processing 2023 (SPSS 22)

From the table, there are 5.2% or 4 students with a very low category of social media usage, 22.1% or 18 students in the low category, 49.4% or 38 students in the moderate category, 19.5% or 15 students in the high category, and 3.9% of students in the very high category.

Table 5. Categorization of Learning Achievement

No	Rentang Nilai	Jumlah Siswa	Kategori	Presentasi
1	< 74	4	Sangat Rendah	5,2%
2	74 - 81	15	Rendah	19,5%
3	81 - 87	39	Sedang	50,6%
4	87 - 94	18	Tinggi	23,4%
5	> 94	1	Sangat Tinggi	1,3%

Source: Results of Data Processing 2023 (SPSS 22)

From the table, there are 5.2% or 4 students with a very low level of learning achievement, 19.5% or 15 students in the low category, 50.6% or 39 students in the medium category, 23.4% or 18 students in the high category, and 1.3% or 1 student in the very high category.

3.2 Prerequisite Test Analysis

3.2.1 Data Normality Test

The normality test is applied to ensure whether the distribution of the data to be analyzed is normal or not. The normality test was conducted using the SPSS application and the Kolmogorov-Smirnov test at a significance level of 5%.

- If the significance (sig) > 0.05, it means H_0 is accepted, and the data is normally distributed.
- If the significance (sig) < 0.05, it means H_0 is rejected, and the data is not normally distributed.

Table 6. The result of the normality test

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		77
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	5.28658537
Most Extreme Differences	Absolute	.086
	Positive	.073
	Negative	-.086
Test Statistic		.086
Asymp. Sig. (2-tailed)		.200 ^{c,d}
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Source: Results of Data Processing 2023 (SPSS 22)

Based on the normality test results in Table 6, where the impact of the use of social media on learning achievement obtained a Kolmogorov-Smirnov value of 0.200, this result shows that the data on the use of social media is normally distributed because the Kolmogorov-Smirnov value > the significance level of 5%, which is 0.05. Thus, it can be concluded that the data on the use of social media for learning achievement is normally distributed.

3.2.2 Linearities test

The purpose of the linearity test is to determine whether there is a significant linear relationship between the dependent variable and the independent variable. If the significance value for linearity is ≤ 0.05 , it can be assumed that there is a linear relationship between the independent and dependent variables.

Table 7. The result of Linearities test

ANOVA Table						
		Sum of Squares	df	Mean Square	F	Sig.
Prestasi Belajar *	Between Groups (Combined)	798.502	27	29.574	.987	.503
Intensitas Media Sosial	Linearity	143.122	1	143.122	4.775	.034
	Deviation from Linearity	655.380	26	25.207	.841	.678
	Within Groups	1468.667	49	29.973		
	Total	2267.169	76			

Source: Results of Data Processing 2023 (SPSS 22)

According to the table, the linearity value for variable X to Y is $0.034 < 0.05$, so the independent variable, the use of social media, and the dependent variable, academic achievement, have a linear relationship.

3.2.3 Homogenates Test

Homogeneity test serves to determine whether the objects under study have the same variance. The criterion used for conducting this homogeneity test is if the Levene statistic is significant (sig > 0.05), it can be stated that the data is homogeneous.

Table 8. The Result of Homogenates Test

Test of Homogeneity of Variances			
Prestasi Belajar			
Levene Statistic	df1	df2	Sig.
1.236	18	48	.273

Source: Results of Data Processing 2023 (SPSS 22)

3.3 Hypothesis Testing

3.3.1 Simple Linear Regression Analysis

The simple linear regression analysis is used in this study to test the hypothesis. The hypothesis to be tested in this study is:

Ha: The use of social media has a negative effect on the learning achievement of Vocational High School students in South Sulawesi.

Table 9. Simple Linear Regression Analysis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	96.246	5.435		17.709	.000
	X	-.199	.089	-.251	-2.248	.028

a. Dependent Variable: Y

Source: Results of Data Processing 2023 (SPSS 22)

Through the results of simple linear regression test in table 11, the constant value (a) is obtained as 96.246, while the coefficient of regression for the use of social media is -0.199 with the regression equation:

$$Y = 96,246 - 0,199X$$

The equation can be interpreted as the constant value of 96.246 representing the consistent value of the variable learning achievement as 96.246. The regression coefficient X of -0.199 indicates that each 1% increase in the use of social media causes a decrease of 0.199 in the learning achievement value. The negative value of the regression coefficient implies that the direction of the influence of variable X on Y is negative. The significance value of $0.028 < 0.05$ is the basis for decision-making in the simple linear regression test, indicating that the variable use of social media influences learning achievement.

As for the comparison of the calculated t-value in the table above with the t-table determined through the degrees of freedom using the formula:

$$df = N - K - 1 (77 - 1 - 1 = 75),$$

The obtained result shows that the calculated t-value $< t$ -table or $-2.248 < -1.992$. The negative symbol on the calculated t-value indicates a negative influence of variable X on variable Y. For a clearer comparison of the t-test, you can refer to the t-test curve in the image below.

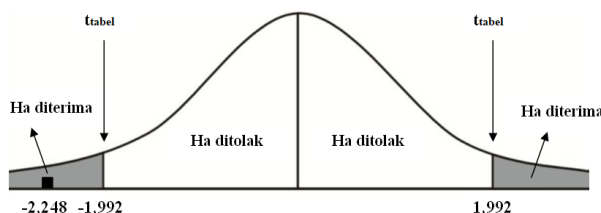


Figure 1. t-Test Curve

Table 10. Results of Model Summary X to Y

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.251 ^a	.063	.051	5.32171

a. Predictors: (Constant), x

Based on the description of the results of the simple linear regression test table above, the correlation coefficient (R) is 0.251. Additionally, the output provides a coefficient of determination (R Square) of 0.063. This means that the use of social media as an independent variable on academic performance as the dependent variable is 6.3%, and the remaining percentage is influenced by other variables not examined in this study. The significance value obtained from SPSS testing, as shown in table 11, is 0.028, which is less than the probability value of 0.05 ($0.028 < 0.05$). Therefore, Ha is accepted, indicating that the use of social media affects students' academic performance.

Based on the above considerations, it can be concluded that the hypothesis Ha is accepted, meaning that the use of social media has a negative impact on students' academic performance. Academic performance tends to decrease with an increase in social media usage, and vice versa. This conclusion is supported by research conducted by Ela Permatasari, where her study found that an increase in social media usage led to a decrease in students' academic performance, while their academic performance improved with a decrease in social media usage [9].

4. CONCLUSION

Based on the obtained research results, the following conclusions can be drawn:

- The intensity of social media usage in Vocational High Schools (SMK) in South Sulawesi is in the moderate category, with 27 out of 77 students, accounting for a total percentage of 49.4%.
- The academic performance of SMK students in South Sulawesi is in the moderate category, with a percentage of 50.6%.
- A negative influence of social media usage on the academic performance of SMK students in South Sulawesi is identified. This implies that academic performance tends to be low when the intensity of social media usage is high, and vice versa.

AUTHOR CONTRIBUTION

The authors Mustari Lamada, Massikki, and Nur Irfani Angreany contributed fully to coordinating, analyzing, and writing this research.

ACKNOWLEDGEMENT

This research could run smoothly thanks to the assistance from various parties. Therefore, the researcher expresses gratitude to SMK Negeri 10 Makassar as the research institution, Universitas Negeri Makassar as the institution of the authors, and the committee of PAPTEKINDO.

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