

The Effect of Social Media Use on the Academic Achievement of Students at the Faculty of Medicine, Alkhairaat University, Palu

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ARTICLE INFO	ABSTRACT
Article History: Received Accepted Published online	<i>Social media, particularly TikTok and Instagram, plays an important role in improving communication and learning among students. Although it has both positive and negative impacts—such as access to information—unwise use can reduce academic performance. This study aimed to determine the effect of social media use on student academic achievement and how it influences students at the Faculty of Medicine, Alkhairaat University, Palu. This research employed an observational analytic design with a cross-sectional approach to evaluate the effect of social media use on the academic achievement of medical students. A total of 126 pre-clinical students completed questionnaires. The results showed that the data were not normally distributed ($p = 0.001$), so hypothesis testing was carried out using ANOVA for further analysis. Analysis using the Chi-square test showed a significant difference between social media use and academic achievement ($p = 0.034$). Among the 126 respondents, the majority were female, class of 2022, and moderately active users. The mean GPA of male students was 2.83 and that of female students was 2.92. The class of 2021 had the highest average GPA (2.99). The Chi-square test showed a significant difference between categories of social media usage and academic achievement ($p = 0.034$).</i>
Keywords: Social Media Use; Academic Achievement. This is an open access article under the  CC-BY-SA license.	

INTRODUCTION

Social media is a collection of websites and web platforms that allow users to communicate and share information with other network users.¹ According to a survey conducted by the Indonesian Internet Service Providers Association (APJI), the number of internet users in Indonesia in 2024 reached 221,563,479 people, out of a total population of 278,696,200.

A survey based on age showed that most active social media users are Generation Z (born 1997–2012), accounting for 34.40%, followed by Millennials (born 1981–1996) at 30.62%. The three most popular social media platforms are Instagram (85.3% of the population), Facebook (81.6%), and TikTok (73.5%). Generation Z and Millennials have different preferences: Generation Z primarily uses TikTok and Instagram, while Millennials mainly use Facebook. From these data, it can be seen that university students represent the largest group of social media users, and the most popular platforms among them are TikTok and Instagram. Instagram is a photo-sharing platform that allows users to share their lives through photos and videos. It has over 2 billion monthly active users, indicating that users prefer Instagram over Facebook.² Meanwhile, TikTok is a short-video sharing platform that allows users to create and share short videos with other users. TikTok was the most downloaded application in the world in 2022.

Academic achievement is a measure of student success in higher education. It can be influenced by various internal and external factors.

- Internal factors include students' intelligence, psychological and physical conditions, study habits, class attendance, and learning motivation.
- External factors include parental support, the quality of teaching, peer interactions, facilities, and learning media.⁴

Research conducted among medical students in Medan found that the longer students spend using social media for entertainment, the lower

their academic performance scores (Gloria & Akbar, 2019). Meanwhile, research conducted among medical students at Tarumanagara University found that social media can have both positive and negative impacts, depending on how wisely it is used.³

When used correctly, TikTok and Instagram can have positive effects, helping students gain knowledge and thereby improve their academic achievement. On the other hand, improper use of social media may lead to a decline in academic performance.

This study aims to determine the extent to which these factors influence the academic achievement of medical students at the Faculty of Medicine, Alkhairaat University, Palu.

MATERIAL AND METHOD

Research Design

This study employed an observational analytic design with a cross-sectional approach. The objective was to determine the effect of social media use on the academic achievement of students at the Faculty of Medicine, Alkhairaat University, Palu. This design allows researchers to analyze the relationship between variables (social media use and academic achievement) at a single point in time.

Time and Place of Research

The study was conducted at the Faculty of Medicine, Alkhairaat University, located on Jl. Diponegoro No. 39, Palu, Central Sulawesi, Indonesia. The research took place over a defined period during the academic year 2024, encompassing data collection, processing, and analysis stages.

Population and Sample

The study population consisted of all pre-clinical students enrolled at the Faculty of Medicine, Alkhairaat University. The sample included 126 pre-clinical medical students who participated voluntarily by completing structured questionnaires. The sampling technique used was total sampling, meaning all eligible students during the study period were included to provide comprehensive data coverage.

Data Presentation

The data obtained from questionnaires were processed, tabulated, and analyzed statistically.

Descriptive statistics were used to present demographic characteristics, social media usage categories, and academic performance distributions in frequency tables and percentages.

Normality testing was performed; since data were not normally distributed ($p = 0.001$), further hypothesis testing was conducted using **ANOVA** and **Chi-square tests** to evaluate associations between variables.

Results were presented in **tables** with accompanying narrative explanations to highlight patterns and significant findings.

RESULTS AND DISCUSSIONS

Table 1. Demographic Characteristics of Medical Students

Variable	Category	n	%
Gender	Male	29	23
	Female	97	77
Class Year	2021	36	28.6
	2022	60	47.6
	2023	30	23.8
Social media Use	Very Active	33	26.2
	Moderately Active	92	73.0
	Less Active	1	0.8
Academic Achievement	Good	66	52.4
	Fair	40	31.7
	Poor	20	15.9

The frequency distribution by class year shows that there were 36 respondents (28.6%) from the 2021 cohort, 60 respondents (47.6%) from the 2022 cohort, and 30 respondents (23.8%) from the 2023 cohort. This indicates that students from the 2022 cohort were the most active participants in this study. This may be due to several factors, such as having already gone through the post-pandemic recovery

period and the increased promotion of the medical program by the faculty and university.

The frequency distribution based on social media usage shows that there were 33 respondents (26.2%) who were very active, 92 respondents (73.0%) who were moderately active, and 1 respondent (0.8%) who was less active. These findings reflect a similar trend to previous studies, which show that social media has become an integral part of daily life, especially among young people.

High levels of social media use among students are associated with various factors, including the need to interact and share information. According to research by Jannah and Rosyidiani (2022), most adolescents use social media to communicate and obtain the latest information. Messaging is one of the most frequently performed activities, followed by scrolling, which is also quite high. This indicates that social media functions not only as a communication tool but also as a source of information and entertainment.⁶

Another study by Panjaitan and Pelupessy (2021) emphasized that the more active a person is on social media, the more social interactions occur. However, there are also negative effects of excessive social media use, such as lack of discipline in completing academic tasks and a tendency to cheat. This is consistent with research findings showing that adolescents often focus more on activities on social media than on their academic responsibilities.⁷

From the data obtained, it can be seen that the majority of respondents (73.0%) were in the moderately active category. This shows that even though they were not very active, social media use remains significant in their daily lives. Research by Yulianto (2023) also highlights that excessive social media use can lead to problems such as sleep disturbances and difficulty carrying out daily activities.⁷

The frequency distribution based on academic achievement shows that 66 respondents (52.4%) had good academic performance, 40 respondents (31.7%) had fair performance, and 20 respondents (15.9%) had poor performance. In the context of this distribution, the majority (52.4%) demonstrated good academic performance, indicating that positive factors such as high learning motivation and environmental support

have a strong influence on students' academic performance. Meanwhile, the 15.9% of respondents with poor performance indicate the need to pay more attention to other potential inhibiting factors, such as lack of social support or personal problems.

Table 2. Comparison of Average GPA by Variables

Variable	Category	Mean GPA	P-Value
Gender	Male	2.83	0.117
	Female	2.92	
Class Year	2021	2.99	0.372
	2022	2.80	
	2023	3.00	
Social media Use	Very Active	2.89	0.303
	Moderately Active	2.92	
	Less Active	2.11	

From Table 2, the comparison of average GPA scores by respondent variables among medical students at the Faculty of Medicine, Alkhairaat University, Palu, based on gender, shows that male respondents had an average GPA of 2.83, while female respondents had an average GPA of 2.92, with a p-value of 0.117. Since this value is greater than 0.05, it indicates that there is no significant difference between male and female students' GPA scores at the Faculty of Medicine, Alkhairaat University.

This finding is consistent with an analysis conducted by Yusuf & Elfaki (2022) involving three cohorts of medical students (n = 1,254), which showed only small differences in average GPA between genders across various fields that did not reach statistical significance (p > 0.05). This reinforces the conclusion that minimal variations in GPA are more likely due to individual or environmental factors rather than gender differences.⁹

The comparison of average GPA scores by class cohort shows that students from the 2021 cohort had an average GPA of 2.99, students

from the 2022 cohort had an average GPA of 2.80, and students from the 2023 cohort had an average GPA of 3.00, with a p-value of 0.372. Since this value is greater than 0.05, it indicates that there is no significant difference in GPA among students from the 2021, 2022, and 2023 cohorts at the Faculty of Medicine, Alkhairaat University.

This aligns with the study by Fauziah (2022) at the Faculty of Medicine, Andalas University (FK Unand), which demonstrated that a major shift to distance learning actually increased the average GPA from 3.27 to 3.38 (p = 0.001). This contrast indicates that significant differences only emerged when there was a systemic intervention, not merely due to variations between academic years.¹⁰

The comparison of average GPA scores by social media usage category among medical students at the Faculty of Medicine, Alkhairaat University, Palu shows that very active social media users had an average GPA of 2.89, moderately active users had an average GPA of 2.92, and less active users had an average GPA of 2.11, with a p-value of 0.303. Since this value is greater than 0.05, it indicates that there is no significant difference in GPA among students with different levels of social media use (very active, moderately active, and less active).

This is supported by a cross-sectional study of 842 medical students, which found that 54.8% of students with a GPA ≥ 4.5 were actually less addicted to social media, and there were no significant differences between gender or academic year in terms of social media use. These findings reinforce that the intensity of social media use does not directly influence academic achievement, but is more likely affected by other factors such as study strategies.¹⁰

Table 3. Effect of Social Media Use on Academic Achievement

Social Media Use	Good n (%)	Fair n(%)	Poor n (%)	p-value
Very Active	14 (42.4%)	10 (30.3%)	9 (27.3%)	0.034

Regular	52 (55.9%)	30 (32.3%)	11 (11.8%)
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Based on Table 3, the significance value for the relationship between social media use and academic achievement was 0.034. Since this value is less than 0.05, it indicates that there is a significant difference in academic achievement between students who are very active on social media and those who are moderately or less active.

Among students who were very active social media users, there were 14 students (42.4%) with good academic performance, 10 students (30.3%) with fair performance, and 9 students (27.3%) with poor performance. Meanwhile, among moderately and less active users, there were 52 students (55.9%) with good academic performance, 30 students (32.3%) with fair performance, and 11 students (11.8%) with poor performance.

Students who were moderately and less active showed a higher proportion of good academic achievement compared to those who were very active social media users. This means that the more active students are on social media, the greater the risk of decreased academic quality, especially among students with high academic workloads, such as those in medical school.

This finding is consistent with research by Syifa (2020), which revealed that excessive use of social media can disrupt the learning process and reduce students' academic performance. Students who spend too much time on social media tend to experience concentration problems, which negatively affect their learning outcomes.¹³

In addition, studies have shown that using social media for entertainment and non-educational activities can negatively impact academic performance. Students who use social media for non-academic purposes are more likely to experience a decline in concentration and study time.¹⁴

CONCLUSION

Medical students at Alkhairaat University access social media (TikTok and Instagram) daily, with a duration of more than 2 hours per day. Students use these platforms both

to search for academic information and for entertainment purposes.

The distribution of respondent characteristics by gender shows that the majority of respondents were female. By class year, most respondents were from the 2022 cohort, and based on academic achievement, the majority were in the "good" category.

The average GPA shows that female students had a higher average GPA compared to male students. By class year, students from the 2023 cohort had the highest average GPA, followed by those from 2021 and 2022. Based on social media usage level, moderately active users had the highest average GPA.

The bivariate analysis of the effect of social media use on the academic achievement of medical students at Alkhairaat University, Palu, concluded that there was a significant difference between very active social media users and moderately or less active users in terms of academic achievement (GPA).

AUTHOR CONTRIBUTIONS

Conceptualization, V.C.C., R.R.R., M.M.; Methodology, V.C.C.; Validation, R.R.R., M.M.; Formal Analysis, V.C.C.; Investigation, V.C.C., Resources, V.C.C.; Data Curation, V.V.V.; Writing-Original Draft Preparation, V.C.C., R.R.R., and M.M.; Visualization, V.C.C. All authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The authors declares that there is no conflict of interest.

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