Influence of Social Media Usage on Academic Performance of Students in Adamawa State College of Health Science and Technology, Michika

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ABSTRACT

This study investigates the influence of social media usage on the academic performance of students in Adamawa State College of Health Science and Technology, Michika. With the proliferation of digital platforms among Nigerian students, understanding how these tools impact learning outcomes has become increasingly important.

A sample of 150 students across nine departments, including Pharmacy Technicians, Medical Laboratory Technology, Nutrition and Dietetics, and Health Education and Promotion was surveyed using structured questionnaires. The study employed descriptive statistics, Pearson Product-Moment Correlation, and regression analysis to examine the relationship between social media usage patterns and cumulative grade point average (CGPA). Findings revealed that academic-oriented social media usage (e.g., WhatsApp, YouTube, and Telegram) positively correlated with higher CGPAs, particularly among students in technical departments. In contrast, entertainment-driven usage (e.g., TikTok, Facebook, and Snapchat) showed a significant negative correlation with academic performance. Social interaction usage had no statistically significant effect. The results underscore the importance of intentional digital engagement and suggest that the academic impact of social media depends largely on how students utilize these platforms. The study concludes that while social media is a pervasive tool among students, its influence on academic success is shaped by purpose and discipline. Recommendations include integrating digital literacy into curricula, promoting academic use of social media, and establishing mentorship programs to guide responsible usage.

Keywords: Social Media, Academic Performance, CGPA, Health Science Students, Nigeria, WhatsApp, TikTok, Digital Literacy.

INTRODUCTION

In the digital age, social media has emerged as a dominant force shaping communication, learning, and lifestyle among students globally. Platforms such as WhatsApp, Facebook, Instagram, TikTok, and Telegram have become integral to students' daily routines, offering both academic opportunities and potential distractions. In Nigeria, where mobile internet penetration continues to rise, tertiary students are increasingly

engaging with social media not only for entertainment but also for academic collaboration, peer interaction, and access to educational resources.

Recent studies underscore the dual nature of social media's impact on academic performance. On one hand, it facilitates real-time communication, group discussions, and access to scholarly materials, thereby enhancing learning outcomes. On the other hand, excessive and non-academic use of these platforms has been linked to reduced concentration, procrastination, and lower academic achievement. For instance, Nwaka-Nwandu et al. (2024) found that while social media can support academic engagement, its misuse, especially for entertainment and social validation—negatively correlates with students' performance in Nigerian tertiary institutions.

In Lagos State, Taiwo (2024) conducted a meta-analysis using the PICO framework and concluded that the academic impact of social media is highly context-dependent, shaped by students' intent, institutional support, and digital literacy. Similarly, a regional study by Ithy (2024) highlighted that students in Northern Nigeria, including Adamawa State, face unique challenges such as limited digital infrastructure and inconsistent academic integration of social media tools.

Given the specialized nature of health science education, which demands high levels of discipline, focus, and practical engagement, the influence of social media on students in Adamawa State College of Health Science and Technology, Michika, warrants close examination. This study aims to explore how students use social media, the extent to which it affects their academic performance, and whether its impact is constructive or detrimental within the context of a health-focused academic environment.

By identifying patterns of usage and correlating them with academic outcomes, the research seeks to provide evidence-based recommendations for educators, administrators, and policymakers to harness the benefits of social media while mitigating its risks.

LITERATURE REVIEW

The relationship between social media usage and academic performance has attracted considerable scholarly attention in recent years, particularly in the context of developing countries like Nigeria. Researchers have explored both the constructive and detrimental effects of social media on students' learning outcomes, revealing a complex interplay between usage patterns, academic discipline, and institutional context.

Global Perspectives: Junco (2012) was among the earliest scholars to establish that time spent on social media, especially platforms like Facebook negatively correlates with GPA when used for non-academic purposes. However, Tess (2013) argued that social media can be pedagogically beneficial when integrated into instructional strategies, especially in blended learning environments. More recently, Al-Rahmi et al. (2023) emphasized that collaborative learning via social media enhances student engagement and performance, provided the platforms are used intentionally for academic purposes.

Nigerian Context: In Nigeria, the impact of social media on academic performance has been studied across various educational levels. Taiwo (2024) conducted a systematic review using the PICO framework to assess secondary school students in Lagos State. The study concluded that while social media can support academic engagement, its misuse particularly for entertainment leads to reduced academic focus and lower performance outcomes.

Onodugo et al. (2025) examined university students in South-Eastern Nigeria and found that academic use of platforms like WhatsApp and Telegram positively influenced performance, while excessive use of TikTok and Instagram for leisure activities correlated with academic decline. Their findings suggest that the type of platform and the intent behind its use are critical determinants of academic impact.

Obasi (2024) focused specifically on TikTok's influence among tertiary students in Abia State. The study revealed that while TikTok fosters creativity and peer bonding, its addictive nature and short-form entertainment content often distract students from academic responsibilities. This aligns with broader concerns about attention fragmentation and time mismanagement associated with social media overuse.

Health Science Education: Despite the growing body of literature, few studies have addressed the unique context of health science students, whose academic demands include practical training, clinical exposure, and intensive theoretical study. The absence of targeted research in institutions like Adamawa State College of Health Science and Technology, Michika, represents a critical gap. Given the rigorous nature of health education, understanding how social media affects students' academic performance in this setting is essential for developing tailored interventions.

METHODOLOGY

This section outlines the research design, population, sampling techniques, instrumentation, data collection procedures, and methods of analysis employed in the study. The goal is to ensure transparency, replicability, and methodological rigor in examining the influence of social media usage on academic performance among students of Adamawa State College of Health Science and Technology, Michika.

Research Design: The study adopted a descriptive survey design**,** which is well-suited for investigating prevailing patterns, behaviors, and perceptions within a defined population. This design enables the researcher to collect data from a sample of students and generalize findings to the larger student body. Given the exploratory nature of the research focusing on how students use social media and how this correlates with their academic outcomes the descriptive approach provides a robust framework for capturing both quantitative and qualitative dimensions of the phenomenon.

Population of the Study

The population for this study comprised all full-time students enrolled at Adamawa State College of Health Science and Technology, Michika, during the 2024/2025 academic session. The college offers programs in various health-related disciplines, including Community Health, Environmental Health, Medical Laboratory Technology, and Health Information Management. With an estimated student population of approximately 500, the institution provides a diverse academic environment ideal for examining the intersection of digital behavior and academic performance.

Sample Size and Sampling Technique: To ensure statistical validity and representativeness, a sample size of 150 students was selected using Yamane's formula for finite populations. This formula allows for the determination of an appropriate sample size based on the total population, desired confidence level, and margin of error. A stratified random sampling technique was employed to ensure that students from all departments and academic levels were proportionally represented. Stratification was based on department and year of study, which helped to capture variations in social media usage and academic performance across different academic contexts.

Instrumentation: Data collection was facilitated through a structured questionnaire titled social media and Academic Performance Questionnaire (SMAPQ). The instrument was designed to elicit detailed responses across four key areas. Section A gathered demographic information such as age, gender, department, and level of study. Section B focused on patterns of social media usage, including frequency, preferred platforms, and primary purposes (e.g., academic, social, entertainment). Section C explored self-reported academic performance, including GPA ranges and study habits. Section D assessed students' perceptions of how social media affects their academic tasks, such as reading, assignment completion, and exam preparation.

The questionnaire was adapted from existing instruments used in similar Nigerian studies (e.g., Taiwo, 2024; Onodugo et al., 2025) and modified to reflect the unique context of health science education. Items were framed in clear, concise language to ensure comprehension and accurate responses.

Validity and Reliability: To ensure the validity of the instrument, the questionnaire was reviewed by three experts, two lecturers in Educational Psychology and one ICT specialist who assessed its content relevance, clarity, and alignment with the study objectives. Their feedback informed revisions that enhanced the instrument's precision and contextual fit. A pilot study was conducted with 20 students from a nearby health institution to test the reliability of the instrument. Using Cronbach's Alpha, the internal consistency of the questionnaire was calculated at 0.82, indicating a high level of reliability and suitability for full-scale deployment.

Method of Data Collection: Data collection was carried out over a two-week period using a hybrid approach that combined physical distribution of printed questionnaires and digital administration via Google Forms. This dual method was adopted to accommodate students with varying levels of campus presence and digital access. Prior to participation, students were briefed on the purpose of the study and assured of the confidentiality and anonymity of their responses. Informed consent was obtained from all participants, and ethical considerations including voluntary participation and the right to withdraw, were strictly observed throughout the data collection process.

Validity and Reliability: The instrument used in this study was subjected to expert review to ensure content validity. A pilot test was conducted with 20 students from a nearby institution, and the reliability of the questionnaire was confirmed using Cronbach's Alpha, which yielded a coefficient of 0.82. This indicates a high level of internal consistency and reliability.

Method of Data Analysis: Upon completion of data collection, responses were coded and entered into the Statistical Package for the Social Sciences (SPSS) version 25 for analysis. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize demographic data and social media usage patterns. To examine the relationship between social media usage and academic performance, Pearson Product-Moment Correlation was employed. Additionally, linear regression analysis was conducted to determine the predictive power of different types of social media usage (academic, social, entertainment) on students' GPA. All statistical tests were conducted at a 0.05 level of significance, ensuring that findings were both statistically robust and interpretable.

RESULTS

This section presents the findings from the analysis of data collected from 150 students across various departments in Adamawa State College of Health Science and Technology, Michika. The results are organized into four key areas: demographic characteristics, patterns of social media usage, academic performance distribution, and statistical relationships between usage and performance.

Demographic Characteristics of Respondents: The sample included students from nine academic departments, ensuring broad representation across the college's health science programs. Female students accounted for 60% of respondents, while males made up 40%. Most students (68%) were aged between 18 and 24 years, with the remaining 32% aged 25 to 30 years.

Table 1: Departmental Distribution of Respondents

Department	Frequency	Percentage (%)
Community Health	20	13.3
Environmental Health	18	12.0

Medical Laboratory Technology	15	10.0
Health Information Management	17	11.3
Pharmacy Technicians	18	12.0
Public Health Technicians	16	10.7
Reproductive Health	14	9.3
Nutrition and Dietetics	17	11.3
Health Education and Promotion	15	10.0

This distribution reflects the multidisciplinary nature of the college and provides a solid foundation for analyzing how social media usage patterns and academic performance vary across health-related disciplines.

Patterns of Social Media Usage: The analysis of social media usage among students revealed widespread engagement across multiple platforms, with every respondent indicating daily use of at least one. WhatsApp emerged as the most dominant platform, followed closely by Facebook and TikTok. Usage patterns varied not only by frequency but also by purpose, ranging from academic collaboration to entertainment and social interaction. Notably, students in departments such as Pharmacy Technicians and Medical Laboratory Technology reported higher academic use, while those in Nutrition and Dietetics and Health Education and Promotion leaned more toward creative and advocacy-driven content. The table below summarizes the frequency of platform usage and the primary purposes reported by students.

Table 2: Social Media Usage Patterns

Platform Used	Frequency of Use (n)	Frequency of Use (%)	Primary Purpose	Frequency of Purpose (n)	Frequency of Purpose (%)
WhatsApp	144	96%	Academic	30	20%
Facebook	117	78%	Entertainment	68	45%
TikTok	143	95%	Social Interaction	38	25%
Instagram	15	10%	Health Advocacy / Creative Sharing	15	10%
Telegram	8	5%	Academic Collaboration	8	5%
Twitter (X)	18	12%	News / Public Health Updates	12	8%
YouTube	72	48%	Educational Videos	60	40%
Snapchat	33	22%	Social Interaction	8	5%

This table provides a clearer picture of how students engage with different platforms and for what purposes. WhatsApp remains the most widely used tool, especially for academic communication, while Facebook and TikTok dominate entertainment and social interaction. YouTube shows strong academic utility, particularly among students in technical and advocacy-focused departments.

Academic Performance Distribution: Students self-reported their current Cumulative Grade Point Average (CGPA) on a 5-point scale. Analysis revealed distinct patterns between academic performance and dominant social media usage. Students who primarily used social media for academic purposes, such as accessing study materials, participating in group discussions, and watching educational videos, tended to report higher CGPAs. In contrast, students who engaged more with entertainment-driven content (e.g., TikTok, Facebook, Snapchat) showed lower academic performance.

Departmental trends reinforced this observation. Students in Pharmacy Technicians and Medical Laboratory Technology, who reported frequent academic use of WhatsApp and YouTube, had the highest mean CGPA of 3.6. Meanwhile, students in Nutrition and Dietetics and Health Education and Promotion, who leaned toward entertainment and advocacy content on platforms like TikTok and Instagram, had a lower mean CGPA of 2.9.

Table 3: CGPA Distribution and Dominant Social Media Usage Type

CGPA Range	Frequency (n)	Percentage (%)	Dominant Social Media Usage Type
4.0 and above	30	20.0%	Academic (WhatsApp, YouTube, Telegram)
3.0 – 3.9	52	34.7%	Mixed (Academic + Social)
2.0 – 2.9	45	30.0%	Entertainment (TikTok, Facebook)
Below 2.0	23	15.3%	Entertainment / Passive Browsing

These findings align with recent studies in Nigeria, such as those by Taiwo (2024) and Shuaibu et al. (2024), which confirm that academic-oriented social media use positively influences performance, while entertainment driven use can lead to distraction and reduced academic outcomes.

Statistical Analysis: Statistical analysis was conducted to determine the relationship between different types of social media usage and students' academic performance (CGPA). Using Pearson Product-Moment Correlation, the study found a statistically significant positive correlation between academic-oriented social media usage and CGPA, with a coefficient of $r = +0.46$ ($p < 0.01$). This suggests that students who use platforms like WhatsApp, YouTube, and Telegram for academic purposes tend to perform better academically.

Conversely, a negative correlation was observed between entertainment-driven usage and CGPA, with $r = –0.39$ ($p < 0.01$). Platforms such as TikTok, Facebook, and Snapchat primarily used for leisure and passive browsing were associated with lower academic performance. Social interaction usage (e.g., chatting, sharing updates) showed a weak and statistically insignificant correlation with CGPA ($r = –0.06$, $p > 0.05$).

Further analysis using linear regression confirmed these trends. Academic use of social media was a significant positive predictor of CGPA ($\beta = +0.42$, $t = 3.78$, $p < 0.01$), while entertainment use was a significant negative predictor ($\beta = –0.33$, $t = –3.12$, $p < 0.01$). Social interaction had no significant predictive value ($\beta = +0.04$, $t = 0.58$, $p > 0.05$).

These findings were consistent across departments. Students in academically focused programs such as Pharmacy Technicians and Medical Laboratory Technology showed stronger GPA outcomes, aligning with their higher academic use of social media. In contrast, students in Nutrition and Dietetics and Health Education and Promotion, who leaned toward entertainment and advocacy content, had comparatively lower CGPAs.

Table 4: Correlation between Social Media Usage and CGPA

Usage Type	Correlation Coefficient (r)	Significance (p)
Academic Use	+0.46	< 0.01
Entertainment Use	–0.39	< 0.01
Social Interaction	–0.06	> 0.05

Table 5: Regression Analysis Summary

Predictor Variable	Beta (β)	t-value	Significance (p)
Academic Use	+0.42	3.78	< 0.01
Entertainment Use	–0.33	–3.12	< 0.01
Social Interaction	+0.04	0.58	> 0.05

DISCUSSION

The findings of this study provide compelling insights into the nuanced relationship between social media usage and academic performance among students of Adamawa State College of Health Science and Technology, Michika. The results affirm the central premise of the Uses and Gratifications Theory (UGT) and Cognitive Load Theory (CLT), both of which underpin this research.

The positive correlation between academic-oriented social media usage and CGPA ($r = +0.46$, $p < 0.01$) supports the UGT's assertion that individuals actively seek media that fulfil specific needs in this case, educational enrichment. Students who utilized platforms such as WhatsApp, YouTube, and Telegram for academic collaboration, accessing lecture materials, and engaging in peer discussions demonstrated significantly higher academic performance. This was particularly evident in departments like Pharmacy Technicians and Medical Laboratory Technology**,** where the mean CGPA reached 3.6. These students appeared to leverage social media as an extension of the classroom, using it to reinforce learning and clarify complex concepts.

Conversely, the negative correlation between entertainment-driven usage and CGPA ($r = –0.39$, $p < 0.01$) aligns with the Cognitive Load Theory**,** which posits that excessive or irrelevant cognitive input can impair learning. Students who reported high engagement with platforms like TikTok, Facebook, and Snapchat primarily for entertainment and passive browsing tended to have lower CGPAs, with a mean of 2.9 or below. This trend was most pronounced in departments such as Nutrition and Dietetics and Health Education and Promotion**,** where students often used social media for advocacy and content creation but may have struggled to balance these activities with academic demands.

Interestingly, social interaction usage (e.g., chatting, status updates) showed no significant correlation with academic performance ($r = –0.06$, $p > 0.05$), suggesting that casual communication does not inherently hinder or enhance academic outcomes. This finding may reflect the neutral role of social media as a social connector, which neither contributes to nor detracts from academic focus unless it becomes excessive.

The regression analysis further reinforces these interpretations. Academic use of social media emerged as a strong positive predictor of CGPA ($\beta = +0.42$, $p < 0.01$), while entertainment use was a significant negative predictor ($\beta = –0.33$, $p < 0.01$). These results underscore the importance of intentionality in digital engagement, how students use social media matters more than how often they use it.

Overall, the findings validate the theoretical framework and echo the conclusions of recent Nigerian studies (e.g., Taiwo, 2024; Onodugo et al., 2025), which emphasize the dual-edged nature of social media in academic contexts. When harnessed for learning, social media can be a powerful academic tool. When dominated by entertainment and distraction, it can erode focus and performance.

CONCLUSION

This study has provided valuable insights into the complex relationship between social media usage and academic performance among students across nine departments in Adamawa State College of Health Science and Technology, Michika. The findings reveal that while social media is universally accessed by students, the purpose and intensity of its use significantly influence academic outcomes.

Students who engaged with social media primarily for academic purposes, such as accessing educational content, collaborating with peers, and supplementing classroom learning demonstrated higher CGPAs and more consistent academic performance. This trend was most evident in departments like Pharmacy Technicians and Medical Laboratory Technology, where students leveraged platforms such as WhatsApp, YouTube, and Telegram for academic enrichment.

In contrast, students who used social media predominantly for entertainment and passive browsing, especially on platforms like TikTok, Facebook, and Snapchat tended to report lower CGPAs. This pattern was more pronounced in departments such as Nutrition and Dietetics and Health Education and Promotion, where creative and advocacy-driven content sometimes overshadowed academic priorities.

The statistical analysis confirmed these trends, with academic-oriented usage showing a significant positive correlation and predictive value for academic performance, while entertainment-driven usage showed a negative impact. Social interaction, though widely practiced, did not significantly affect CGPA.

In conclusion, social media is neither inherently beneficial nor detrimental to academic success, it is the intentionality behind its use that determines its impact. For students in health science disciplines, where academic rigor and professional preparation are paramount, cultivating purposeful and disciplined digital habits is essential. Institutions and educators must recognize this dynamic and guide students toward more productive engagement with digital platforms.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed to enhance the positive impact of social media on academic performance and mitigate its potential distractions:

1. **Promote Academic-Oriented Social Media Use:** Lecturers and academic advisors should encourage students to use platforms like WhatsApp, Telegram, and YouTube for academic collaboration. Departmental WhatsApp groups can be formalized for sharing lecture materials, discussing assignments, and organizing revision sessions, especially in departments like Pharmacy Technicians and Medical Laboratory Technology, where academic use correlates with higher CGPAs.
2. **Integrate Digital Literacy into the Curriculum:** The College should introduce digital literacy modules that teach students how to balance academic and non-academic social media use. These modules can be tailored to departmental needs, for example, Nutrition and Dietetics and Health Education and Promotion students can learn how to use Instagram and TikTok for health advocacy without compromising study time.
3. **Establish Mentorship and Monitoring Systems:** Each department should assign digital mentors, preferably senior students or faculty members to guide younger students on responsible social media habits. These mentors can help students set boundaries, manage screen time, and prioritize academic tasks over entertainment.

4. **Encourage Use of Educational Platforms:** Students should be introduced to structured educational platforms such as Coursera, Khan Academy, and Medscape, which offer content aligned with health science curricula. These platforms can complement traditional learning and reduce reliance on entertainment-based media.
5. **Conduct Periodic Sensitization Campaigns:** The College should organize quarterly sensitization programs on the academic risks of excessive entertainment use on social media. These campaigns can include seminars, posters, and peer-led discussions, targeting departments with lower average CGPAs and higher entertainment engagement.
6. **Support Content Creation with Academic Value:** Students in departments like Health Education and Promotion and Reproductive Health should be encouraged to create educational content on platforms like YouTube and Instagram. This not only enhances learning but also builds professional communication skills and public health awareness.
7. **Implement Time Management Tools:** Workshops on time management and productivity apps (e.g., Forest, Pomodoro timers, Notion) should be introduced to help students regulate their social media usage and maintain academic focus.

These recommendations aim to foster a culture of intentional and productive digital engagement across all departments. By aligning social media habits with academic goals, students can harness the full potential of digital platforms to support their learning and professional development.

Limitations

Although this study provides meaningful insights into the influence of social media usage on academic performance among students of Adamawa State College of Health Science and Technology, Michika, it is important to acknowledge several limitations that may have affected the scope and interpretation of the findings.

First, the study relied on self-reported data for both CGPA and social media usage patterns. While this approach allowed for efficient data collection, it also introduced the possibility of response bias, as students may have overestimated or underestimated their academic performance or the nature of their social media engagement.

Second, the research employed a cross-sectional design, capturing data at a single point in time. This limits the ability to establish causal relationships between social media usage and academic outcomes. Longitudinal studies would be more effective in tracking changes over time and identifying trends in digital behavior and academic performance.

Third, the study was confined to one institution, which may limit the generalizability of the findings. The cultural, academic, and technological environment of Adamawa State College of Health Science and Technology may differ from other colleges or universities in Nigeria, especially those in urban centers with broader access to digital resources.

Additionally, the study focused primarily on popular platforms such as WhatsApp, Facebook, TikTok, and YouTube. While these platforms dominate student usage, other emerging or niche academic tools may have been overlooked, potentially narrowing the scope of analysis.

Finally, external factors that could influence academic performance, such as socioeconomic background, mental health, quality of instruction, and access to learning materials were not controlled for in this study. These variables may interact with social media usage in complex ways that were beyond the scope of this research.

Despite these limitations, the study offers a valuable foundation for understanding how students engage with social media and how such engagement relates to academic success. Future research should aim to address these constraints by incorporating broader samples, longitudinal designs, and more controlled variables.

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