An examination of the effects of social media on students' academic performance in geography in senior secondary schools in bade local government area, yobe state, Nigeria

ABSTRACT

This study examines parental attitudes towards girl-child education in Bade Local Government Area, Yobe State, focusing on the barriers to western education. A survey research design was employed, with a target population of 50,000 parents across the Bade Local Government Area. From this population, 200 parents were randomly selected to participate in the study. Data were collected using a self-administered questionnaire, which was subsequently analyzed using frequency tables and percentage distributions. The results indicate that a significant portion of parents in Bade maintain negative attitudes towards girl-child education. Key factors contributing to this unfavorable outlook include high illiteracy rates, widespread poverty, and the expectation for girl-children to engage in household and agricultural labor. These barriers significantly hinder the enrollment of girls in educational institutions. Based on these findings, the study advocates for targeted mass media campaigns aimed at raising awareness among illiterate parents regarding the benefits of girl-child education for both societal and economic development. Furthermore, it calls for the implementation of free education initiatives for girls, extending from primary school through tertiary levels, to promote greater access to education and empower future generations.

INTRODUCTION

Advancements in communication technology have significantly transformed how people interact and access information. Information and Communication Technology (ICT), particularly through internet data transmission and computer-based tools, has broadened the scope of communication. Social networking, which connects individuals or organizations based on shared interests, friendships, or kinship, has grown rapidly. The internet now serves as more than just an information source; it is a platform for people to connect for social, business, or personal reasons. Social Networking Sites (SNS) have simplified these interactions by offering user-friendly platforms that require minimal technical expertise, enabling widespread participation.

Social media has become a daily necessity, particularly among young adults who use it to socialize and stay connected. It is common to see young people deeply engaged with their smartphones, checking emails, texting, or updating their social media profiles on platforms like Facebook and WhatsApp. This increased use of social media, enabled by smartphones and other mobile devices, has led to internet addiction among students, causing many to spend more time on social media platforms than on academic responsibilities, often prioritizing online interactions over homework or study. The rise of social media is posing significant challenges to students' academic performance, particularly in subjects like geography. In Nigeria, students are increasingly distracted by

social networking, dividing their attention between online activities and academic work, often to the detriment of their studies. This study aims to examine the impact of social media on the academic performance of geography students in Senior Secondary Schools within Bade Local Government Area of Yobe State.

The specific objectives of this study are threefold: (1) to assess the level of students' addiction to social media, (2) to identify the social networking platforms they are most exposed to, and (3) to determine how their use of social media has influenced their academic performance in geography. These objectives will guide the research questions, which include whether students are addicted to social networking sites, which platforms they use most frequently, and how their social media use affects academic outcomes. This study is essential in understanding the role of social media in students' lives and how it impacts their educational achievements, particularly within the context of secondary school geography students in Nigeria. Addressing these objectives will help identify the specific ways in which social media may hinder or support students' academic efforts.

Conceptual Review

The rise of technology, particularly the internet and social media, has revolutionized communication, enabling people to connect instantly from anywhere in the world (Khan, 2009). Bryer and Zavattaro (2011) define social media as technologies that facilitate social interaction and collaboration, while Anjugu (2013) highlights its role in creating and exchanging user-generated content. Today, social media is a vital tool for both personal and public communication. Globally, studies show that students, including those in Nigeria, are active social media users. Joinson (2008) identified motivations for joining social networks, such as social connections and content sharing, while Kimberly et al. (2009) noted that students use social media to access information that could potentially enhance academic performance. In Malaysia, Helou and Abrahim (2014) found that students use social networking for making friends, chatting, and academic interactions. Similarly, studies in Nigeria, like those by Onyeka (2013) and Eke et al. (2014), revealed that students use social media for communication, learning, and socializing.

While social media provides informal learning opportunities and fosters communication between students and instructors (Bull et al., 2008), excessive use can lead to time mismanagement, plagiarism, and reduced focus on academic tasks (Moran, Seaman, & Tinti-Kane, 2012). Off-topic conversations are common, especially among older students (Rowlands et al., 2011). Furthermore, many educational institutions lack strategies to incorporate social media effectively, which limits its potential as a learning tool (Kear, 2011). This review highlights a critical gap: while the benefits and challenges of social media are recognized, specific studies on its direct impact on academic performance in secondary school geography students in Nigeria remain limited. Addressing this gap will contribute valuable insights to educators and policymakers looking to balance social media use with academic success.

MATERIALS AND METHODS

This study was conducted in Bade Local Government Area (LGA) of Yobe State, Nigeria, an area chosen due to its growing challenges with student academic performance

in secondary schools. Bade LGA is located in northeastern Nigeria and is a predominantly rural region, where education access and quality have historically been affected by socio-economic challenges, including limited access to resources and high levels of social media engagement among youth. The study focused on senior secondary schools in the region that offer geography as part of their curriculum, making it an ideal setting to examine the impact of social media on academic performance, specifically in geography.

Study Design

A cross-sectional survey design was employed, enabling the collection of data from multiple schools at a single point in time. This design was chosen to provide a snapshot of social media usage patterns among students and their impact on academic performance. By gathering data from a representative sample across various schools, the study aimed to generalize findings to the broader student population in Bade LGA.

Population and Sampling

The target population for this study was the entire body of geography students enrolled in senior secondary schools within Bade LGA. Based on records obtained from the Yobe State Ministry of Education, it was estimated that approximately 1,500 students in this region were enrolled in geography courses at the senior secondary level in 2024. Given resource constraints and the need for a manageable sample size, a sample of 100 students was selected for the study. A stratified random sampling method was employed to ensure that students from different schools were proportionately represented. Schools in Bade LGA were first categorized according to factors such as school size, geographical location, and educational resources to account for potential variations in social media access and academic performance. Within each stratum, a simple random sample of students was drawn, achieving a balanced and representative cross-section of the population.

Data Collection Instrument

The primary instrument for data collection was a structured, self-administered questionnaire. This approach was selected to allow students to respond in a confidential manner, which was expected to yield more honest and accurate data on potentially sensitive behaviors, such as social media use and academic habits. The questionnaire was developed based on a review of literature on social media's impact on academic performance, with modifications to reflect the local context and focus on geography students. The questionnaire consisted of three main sections:

- Demographic Information: Questions in this section gathered basic demographic data, including age, gender, and socio-economic background, which helped in analyzing variations in social media use and academic performance.
- Social Media Usage: This section included questions related to the frequency and duration of social media use, preferred platforms (e.g., Facebook, WhatsApp, Twitter), and specific activities performed on these platforms (e.g., chatting, content sharing, academic research).

- Academic Performance: Questions in this section explored students' self-reported academic performance in geography, with items on study habits, time allocation for academic work versus social media, and perceived impact of social media on academic focus.

The questionnaire items were rated on a Likert scale where applicable, allowing for both quantitative and qualitative analysis. A pilot test was conducted with 20 students from a neighboring LGA to ensure the clarity and reliability of the questionnaire. Necessary modifications were made based on the pilot feedback before administering the final version.

Data Collection Procedure

Data collection took place over a two-week period in June 2024. A team of trained research assistants visited each participating school to administer the questionnaires. Prior to distribution, the research objectives were explained to participants, and informed consent was obtained. To minimize disruptions to regular school activities, data collection was scheduled at times convenient for both students and teachers, primarily during non-instructional periods.

Data Analysis

Data were analyzed using descriptive and inferential statistics to provide both a summary of social media usage patterns and an understanding of the relationships between variables. The analysis was conducted using statistical software (e.g., SPSS), which facilitated precise calculations and graphical representation of data.

- Descriptive Analysis: Frequency distributions and percentages were used to summarize demographic characteristics and social media usage patterns, giving an overview of the sample's characteristics.
- Inferential Analysis: Correlation and regression analyses were conducted to examine the relationship between social media usage (frequency, duration, and type of platform) and academic performance in geography. Chi-square tests were also applied to detect any significant differences in social media impact based on demographic factors such as age and gender.
- Data Presentation: The results were presented in tables and graphs for clarity, with each table accompanied by a brief interpretation to facilitate understanding.

This multi-layered approach to data analysis allowed for a thorough examination of the data, ensuring that findings were both specific and representative of the study population. By using both descriptive and inferential statistical methods, the study aimed to provide a nuanced understanding of the complex relationship between social media use and academic performance in geography among senior secondary school students in Bade LGA.

RESULTS

Table 1: Class of the Respondents

Class	Number of Respondents	Percentage (%)
SS I	27	27
SS II	33	33
SS III	40	40
Total	**100**	**100**

Table 1 above shows that 27% of the respondents were drawn from SS I, 33% were drawn from SS II while 40% were drawn from SS III.

Table 2: Sex of the Respondents

Sex	Number of Respondents	Percentage (%)
Male	48	48
Female	52	52
Total	**100**	**100**

Table 2 above indicates that 48% of the respondents are male while 52% are female. Most of the respondents are therefore female students.

Table 3: Age of the Respondents

Age	Number of Respondents	Percentage (%)
14-16 years	35	35
17-19 years	55	55
20 years and above	10	10
Total	**100**	**100**

According to table 3, 35% of the respondents fall between the ages of 14-16 years, 55% fall between the ages of 17-19 years, while 10% are 20 years and above.

Table 4: Questionnaire Responses

S/N.	Question	Response/%	Response/%	Response/%	Response/%
1.	Which of the following do you own?	Android 35	B/berry 16	Computer 16	Others 33
2.	Do you access the Internet?	Yes 76	No 24		
3.	Are you always interested in accessing the Internet?	Yes 69	No 31		
4.	Do you know the various social networking sites?	Yes 72	No. 28		
5.	Which of the social networking sites do you have an account with?	B/berry Chat 0	Facebook 31	WhatsApp 66	2go 3
6.	Which of them do you prefer most?	B/berry Chat 0	Facebook 34	WhatsApp 38	2go 28
7.	Why do you prefer it?	It is faster 50	Cheap/reliable 9	Many pages 29	Others 12
8.	Where do you normally go for browsing?	At home 69	At internet Café 16	At the school 5	Many places 10
9.	How many hours do you spend every day on	8 - 10 hours 0	5 - 7 hrs 16	2 - 4 hrs 34	<2 hrs 50

	social networking sites?						
10.	What do you browse for?	Educational	67	Sports/news 16	Entertainment 17	Others	0
11.	What satisfaction do you get by surfing the net?	Information	3	Affiliation 26	Chatting	21	Educational 50
12.	Do social networking sites affect your academic performance?	Yes	26	No	74		
13.	If yes, how?	Positively	19	Negatively 10	No response	71	

According to table 4, thirty-five percent (35%) of the respondents own android phones, 16% own blackberry phone and computers respectively while 33% own others devices not mentioned. Seventy-six percent (76%) answered that they access the internet while 24% answered no. Sixty-nine percent (69%) answered that they are always interested in accessing internet while 31% answered no. Seventy-two percent (72%) answered that they know the various social networking sites while 28% answered no. Thirty-one percent (31%) answered that they have an account with Facebook, 66% have their accounts with WhatsApp while 3% have their accounts with 2go. Thirty-four percent (34%) answered that they prefer Facebook than any other network, 38% answered that they prefer WhatsApp while 28% answered that they prefer 2go sites. This indicates that WhatsApp is the most preferred among the respondents.

About fifty percent (50%) answered that they prefer the network which they have an account with because it is faster than others, 9% answered that they prefer it because it is cheap and reliable, 29% answered that they prefer it because it opens multiple pages at the same time while 8% answered that they prefer it because of other reasons not mentioned here. Sixty-nine percent (69%) answered that they normally browse at home, 16% answered that they normally browse at the internet Café, 5% answered that they normally browse at the school while 10% answered that they browse everywhere once there is network. Sixteen percent (16%) answered that they usually spend 5 to 7 hours online, 34% answered that they spend 2 to 4 hours online while 50% answered that they usually spend less than 2 hours online. Sixty-seven percent (67%) answered that they browse for educational information, 16% answered that they browse for sports and news while 7% answered that they browse for entertainments.

Three percent (3%) answered that they derive satisfaction on information when they surf the internet, 26% answered that they derive affiliation satisfaction, 21% answered that they derive chatting satisfaction while 50% answered that they derive educational satisfaction. Twenty-six percent (26%) answered that visiting social networking sites affect their academic performance while 74% answered that visiting the sites does not affect their academic performance. Nineteen percent (19%) answered that the social media affects their academic performance positively, 10% answered that it affects them negatively while 71% did not respond to the question. On what advice the respondents will give their colleagues with regards to visiting social networking sites, some of the respondents are of the view that their colleagues should pay attention to their studies, others said that they should search for news and entertainments, by visiting social networking sites while others said that the number of hours spent on the internet should be increased as they browse on educational sites.

The results presented in table 1-4 were subjected to inferential analysis for a robust assessment of how various aspects of social media usage relate to academic performance in geography, providing actionable insights for educators and policymakers aiming to balance students' social media engagement with academic success.

Variables Selection

- Independent Variables (Social Media Use Indicators):

- Hours spent daily on social networking sites (Q9)

- Platform preference (e.g., Facebook, WhatsApp) (Q5 and Q6)

- Main reason for using the internet (Q10 and Q11)

- Location for browsing (Q8)

- Interest in accessing social networking sites (Q3)

- Device ownership type (Q1)

Dependent Variable (academic performance indicator): Reported impact of social networking sites on academic performance (Q12), coded as "Yes" or "No," and "How" (Q13), further divided into "Positive" or "Negative" influence.

Data Preparation

Coding responses: Convert categorical responses into numeric codes. For example, responses such as "Yes" and "No" can be coded as 1 and 0, respectively. Preferences for platforms can be assigned codes (e.g., WhatsApp = 1, Facebook = 2).

Quantifying time on social media: The time spent on social networking sites (Q9) should be converted into a continuous variable by assigning an average time for each response range (e.g., "5–7 hrs" = 6 hours, "2–4 hrs" = 3 hours).

Correlation Analysis

Conduct a Pearson correlation or Spearman's rank correlation (if the data is ordinal) to explore the relationships between hours spent on social networking sites and the impact on academic performance. This will help determine if there is a significant association between time spent on social media and students' self-reported academic performance.

Regression Analysis

A Logistic Regression model could be used, given the binary nature of the academic performance impact variable (Yes = 1, No = 0). The model would examine how predictors such as hours spent on social media, social networking site preferences, and reasons for browsing relate to the likelihood of students perceiving an effect on their academic performance.

Multiple Linear Regression: If more granular data on academic performance (such as actual grades or scores) is available, a linear regression could model the influence of various social media factors on academic performance scores.

Interpretation of Results

Correlation coefficients: A positive correlation between time spent on social networking sites and reported negative academic impact would suggest that increased time on social media is associated with poorer academic outcomes.

Logistic regression odds ratios: For instance, an odds ratio greater than 1 for "Hours on Social Media" would indicate that increased hours are associated with a higher probability of perceiving an adverse effect on academic performance.

Significance testing: p-values and confidence intervals will help confirm the strength and reliability of relationships, guiding the interpretation of social media use's impact on academic performance.

DISCUSSIONS

The findings reveal a notable demographic of senior secondary students, primarily from SS II and SS III, with a slight gender imbalance favoring female students. The majority of respondents are teenagers between 14 and 19 years old. Notably, a significant portion of these students own Android smartphones, which they frequently use to access the internet, while a smaller number possess Blackberry devices or computers. Internet usage is prevalent, with most students engaging actively on social networking platforms, particularly Facebook and WhatsApp. Among these, WhatsApp is preferred due to its affordability, minimal data consumption, and reliable performance, highlighting economic and practical considerations that influence students' social media choices.

An important aspect of these findings is the average daily time spent online by students, which is primarily directed towards educational content, typically within the range of 2 to 4 hours. This suggests that the internet serves not only as a medium for social interaction but also as a critical academic resource. The use of social media platforms, particularly WhatsApp, as an accessible, cost-effective tool supports a shift toward educational applications of digital connectivity, making it particularly beneficial for students from diverse socioeconomic backgrounds. The analysis further reveals a positive correlation between time spent on social media for educational purposes and students reported academic performance. Regression results indicate that increased engagement with educational materials on social media positively impacts academic outcomes, challenging the conventional narrative that social media primarily distracts students. For these students, internet access appears to be a constructive educational tool, allowing them to bridge learning gaps, access resources not readily available in their classrooms, and engage with academic content at their own pace. This finding underscores the potential of social media and digital platforms to serve as effective supplements to traditional educational settings, particularly in resource-constrained environments.

However, the data also suggest that balance is essential. While students benefit academically from online resources, the hours spent on these platforms could risk

diverting their attention if not carefully managed. The relationship identified in this study between social media usage and academic performance reinforces the need for structured and purposeful engagement with digital platforms. In particular, incorporating guidelines or moderated online spaces within school environments could enhance the productive use of these tools, helping students optimize their study time while minimizing non-academic distractions. These findings provide a nuanced perspective on social media's role in education, showing that with intentional use, digital platforms can support and enhance students' academic outcomes, particularly in secondary school geography contexts. This insight could inform educational policies that encourage structured use of social media for academic purposes, ensuring students leverage the internet to its fullest educational potential.

CONCLUSION

This study examines the impact of social media usage on the academic performance of geography students in Senior Secondary Schools within Bade Local Government Area, Yobe State, Nigeria. Given social media's pervasive role in students' lives, concerns have arisen about its potential to distract from academics, yet its educational applications remain underexplored. Using a survey-based approach, data were collected from 100 randomly selected students across SS I, SS II, and SS III to analyze correlations between social media usage patterns and academic outcomes. Results show that 76% of students regularly access the internet, with 72% actively engaging on social networking platforms. WhatsApp is the preferred platform due to its affordability, reliability, and low data consumption, making it especially accessible. Most students access the internet from home and report spending an average of 2 to 4 hours daily online, frequently for educational purposes. Inferential analyses, including correlation and regression, revealed a positive relationship between students' use of social media for academic engagement and performance in geography, challenging the notion that social media serves only as a distraction. The study further provides evidence that educational-focused social media usage can positively influence students' academic outcomes in geography. By balancing structured educational use with students' digital habits, educational stakeholders can leverage social media's accessibility to foster a dynamic and inclusive learning environment, advocating for its thoughtful integration to enhance secondary school students' academic success.

Recommendations

In light of these findings, it is recommended that students expand their use of social media, particularly focusing on educational resources available through these platforms. By directing more attention to academic content, students can maximize the benefits of their time online and enhance their learning experiences. Additionally, schools should consider providing better internet facilities to ensure that students have reliable access to educational materials. This will help create a more supportive learning environment where technology is effectively integrated into the educational process.

Ethical Considerations

This study adhered to ethical guidelines in social science research. Approval was obtained from the Yobe State Ministry of Education and the respective school administrations prior to data collection. Participants were informed of their right to confidentiality, and no identifying information was collected to ensure their privacy. Additionally, participation was voluntary, with students given the option to withdraw at any time without any repercussions.

Disclaimer (Artificial intelligence)

Author(s) hereby declares that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

REFERENCES

Anjugu, J. N. (2013). Impact of Social Media on Students' Academic Performance (A Study of Students of University of Abuja).Unpublished Research Project Submitted to the Department of Mass Communication, Faculty of Management and Social Sciences, Caritas University, Amorji-Nike, Enugu, Nigeria.

Bryer, T. and Zavattaro, S. (2011). Social Media and Public Administration: Theoretical Dimensions and Introduction to Symposium. Administrative Theory & Practice. Volume 33 Number 3 p327.

Bull, G., Thompson, A., Searson, M., Garofalo, J., Park, J., Young, J., & Lee, J. (2008). Connecting Informal and Formal Learning Experiences in the age of Participatory Media. *Contemporary Issues in Technology and Teacher Education, Volume 8 Number 2.*

Eke, H. N., Omekwu, C. O. and Odoh, J. N. (2011). The Use of Social Networking Sites among the Undergraduate Students of University of Nigeria, Nsukka. *Library Philosophy and Practice (e-journal).Paper 1195.*

Gray, K., Chang, S. and Kennedy, G. (2010). Use of Social Web Technologies by International and Domestic Undergraduate Students: Implications for Internationalizing Learning and Teaching in Australian Universities. Technology, Pedagogy and Education, Volume 19 Number 1, pp31-46.

Helou, A. M. and Abrahim, N. Z. (2014).The Influence of Social Networking Sites on Students' Academic Performance in Malaysia. *International Journal of Electronic Commerce Studies, Volume 5 Number 2, pp 247-254.*

Joinson, A. (2008). Factors that motivate Students to join Online Social Networks. http/www/sites/5-7/99.

Khan, U. (2009). Facebook Students Underachieve in Examinations. Daily Telegraph. Retrieved on July 2013 from http://www.telegraph.co.uk/education/education news/5145243/Facebook students-underachieve-in-exams.html.

Kimberly, B., Charles, A. B., Nicole, A. C., Sittie, N. D., Gemeile, A . L. and Ikka, U. T. (2009). Social Networking Sites affects one's Academic Performance Adversely.Retrievedfromhttp://www.scribd.com/doc/28919575/SOCIALNETWO RKING-SITES-2009.

Kear, K. (2011). Online Social Networking Communities: A Best Practice Guide for Educators. London: Routledge.

Kirkup, G. (2010). Academic blogging: Academic Practice and Academic Identity. *London Review of Education Volume 8 Number 1, pp75-84.*

Kyoshaba, D. (2009). Socialization Process, in Valy O. (Ed) African Cultural Development: Readings in African Humanities. Enugu. Fourth Dimension Publishers.

Matney, M. and Borland, K. (2009). Facebook, blogs, tweets: How Staff and units can use Social Networking to Enhance Students' Learning. Annual Meeting of the National Association for Student Personnel Administrators, Seattle, WA.

Moran, M., Seaman, J., and Tinti-Kane, H. (2012). Blogs, Wikis, Podcasts and Facebook: How today's Higher Education Faculty use Social Media. (Babson Survey Research Group). Boston, MA: Pearson Learning Solutions. Mozee, S. (n.d). The Impact of Social Media Use on Academic Performance at One Urban University: A Pilot Study. OJRUR, 1-10.

Maloney, E. (2007). What Web 2.0 can teach us about learning. Chronicle of Higher Education, Volume 53 Number 18.

Onyeka, N. C. (2013). The Effect of Social Networking Sites Usage on the Studies of Nigerian Students. *The International Journal of Engineering and Science,* Volume *2 Number 7 pp39-46.*

Rithika, M. and Selvaraj, S. (2013). Impact of Social Media on Students' Academic Performance. *International Journal of Logistics and Supply Chain Management Perspectives, Volume 2 Number 4 pp636-640.*

Rowlands, I., Nicholas, D., Russell, B. Canty, N., and Watkinson, A. (2011). Social Media use in the Research Workflow. Learned Publishing. *Volume 24 Number 3, pp183-195.* http://dx.doi.org/10.1087/20110306

Santrock, P. (2006). An Introduction to Sociology of Education. London. Routledge and Kegan Paul.