

Social Media Usage and its Effects on the Mental Health of Undergraduate Students in a Nigerian University.

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Abstract

Background: The integration of social media into daily life has had profound implications for mental health, particularly among young adults in academic settings. This study investigates the patterns of social media use, internet addiction, and their association with mental health outcomes among undergraduate students of a federal government owned university in Nigeria.

Materials and Method: A descriptive cross-sectional survey was conducted using a multistage sampling technique across various faculties. A total of 395 students participated, completing a structured questionnaire incorporating the Internet Addiction Test (IAT) and the General Health Questionnaire (GHQ-12).

Results: The study found a high level of awareness and use of social media platforms, with WhatsApp, Instagram, and X being the most frequently used. Moderate internet addiction was significantly associated with poorer mental health ($\chi^2 = 29.670$, $p = 0.001$), as was the perception of social media having a negative impact on academic performance ($\chi^2 = 22.457$, $p = 0.001$). Significant associations were also observed between GHQ scores and variables such as sex and religion.

Conclusion and Recommendations: These findings highlight the need for institutional mental health support and digital wellness initiatives to promote responsible social media use among students.

Keywords: Social media, Internet addiction, Mental health, Undergraduate students, Academic performance

Introduction

The rapid advancement of Information and Communication Technology (ICT) has significantly transformed the global communication, positioning social media as an integral part of daily life. Social media platforms function as virtual communities that facilitate the exchange of ideas, information, and multimedia content like documents, videos, images, and music.¹ With widespread access to internet-enabled devices such as smartphones, tablets, and computers, users engage with these platforms through various applications and web-based software.²

Globally popular social media platforms like Facebook, X (formerly Twitter), Instagram, YouTube, Snapchat, TikTok, WhatsApp, and Telegram are widely used across age groups and regions.³ In Nigeria, social media adoption has grown rapidly, with over 33 million active users.⁴ Usage is particularly high among young people, with nearly 90% of users aged 18 – 29 years.⁵ Nigeria studies consistently identify WhatsApp as the most frequently used platform, with entertainment being the primary motive for engagement.⁶

Social media has significantly reshaped cultural norms and interpersonal communication, particularly among youths. Its benefits include enhanced social connectivity, real-time information dissemination, business promotion, and opportunities for self-expression at relatively low costs. These benefits have positioned social media as a powerful tool for social interaction, education and digital entrepreneurship.⁷ However, alongside these advantages, increasing concerns have emerged regarding its potential adverse effects, particularly on psychological and emotional

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well-being.⁸

Mental health consequences linked to excessive social media use include increased social isolation, stress, sleep disturbances, depression, and anxiety.⁹ Other reported consequences include loneliness, low self-esteem, body image dissatisfaction, suicidal ideation, and self-harm. The extent of these outcomes varies depending on the number of platforms used, duration of use, and the nature of consumed content.¹⁰ For instance, a United State national survey among young adults reported significantly higher odds of anxiety and depressive symptoms among young adults who used multiple social media platforms.¹¹ In contrast, a Nigerian study reported an inverse relationship between internet addiction and anxiety, suggesting possible cultural, contextual, or methodological differences in the observed associations.⁶

Studies exploring the impact of prolonged social media use revealed associations between depressive and anxiety symptoms, emotional stress, and factors such as cyberbullying, exposure to negative comments, and comparison-based dissatisfaction with personal life and self-image.¹² In Nigerian, psychiatric morbidity appears notably prevalent among university students who excessively engage with social media. Studies conducted in Calabar and Enugu reported high prevalence of psychological distress, anxiety, and depression among undergraduates who used social media excessively.^{6,13} Further evidence indicates that nearly half of undergraduate respondents in some Nigerian studies met criteria for social media disorder.¹⁴

As digital connectivity continues to expand, optimizing the benefits of social media while minimizing its harms has become imperative. Given that social media is firmly embedded in modern life, particularly among young people, there is a critical need for strategies that promote healthy and balanced use. Despite growing global evidence, research examining the mental health implications of social media use within the Nigerian context remains limited.

The present study seeks to address this gap by examining social media usage patterns among undergraduate students at the University of Ilorin. It assesses commonly used platforms, the prevalence of social media addiction, and its effects on mental health, as well as the implications for academic performance and associated risk factors. The findings are expected to inform context-specific, evidence-based interventions aimed at safeguarding students' psychological well-being in the digital age.

Materials and Method

Study Location: The study was conducted at one of the

second generation federal universities in the North-Central geopolitical Zone in Nigeria. There are six geopolitical zones in the country.

Study Design: A descriptive, cross-sectional, multi-stage survey was conducted on the university campus using questionnaires. The sampling process involved multiple stages: faculties and departments were selected through balloting, while levels/classes were purposefully selected from those departments for fair representation from the study population. Simple random sampling method was used to select respondents for the study.

Instruments: The study employed a pro forma questionnaire developed by the researchers to gather data on the participants' socio-demographic characteristics and relevant clinical parameters. To evaluate internet addiction levels, the Internet Addiction Test was administered. This 20-item questionnaire utilized a 5-point Likert scale, ranging from 0 to 5, resulting in a maximum possible score of 100. Higher scores on the test indicated a greater severity of internet addiction. Specifically, scores between 0 and 30 were categorized as normal, 31 to 49 suggested a mild level of addiction, 50 to 79 indicated a moderate level, and scores ranging from 80 to 100 were indicative of severe internet dependence.¹⁵ Finally, the **General Health Questionnaire-12 (GHQ-12)**, a 12-item instrument designed to screen for psychiatric morbidity, was used. This tool has been validated and frequently used within the Nigerian population. A standard cut-off score of ≥ 3 is typically recommended to identify the presence of psychiatric morbidity.

Data Collection: Questionnaires were distributed to each faculty and department proportionally to their student population, as indicated by university registers. To reach the students, their class representatives were contacted. The timing for questionnaire distribution was carefully coordinated based on the students' timetables and academic schedules to minimize disruption. Research assistants were responsible for both the distribution of the questionnaires and the subsequent collection of the completed forms, ensuring a standardized process.

Data Analysis: Data was analysed using SPSS version 21. Frequency table was generated for socio-demographic variables such as age, sex, religion etc. Comparison of socio-demographic characteristics was done using chi-square. Statistical significance was assessed using a two-tailed test at a 5% significance level ($\alpha = 0.05$).

Ethical Issue: Approval for the study was sought and obtained from the Ethics review committee (ERC) of

University of Ilorin Teaching Hospital, Ilorin (ERC/PAN/2022/09/0324). Informed consent of each respondent was also obtained and only those whose consent were gotten were recruited into this study.

Result

Demographic Characteristics of the Study Population

A total of 395 undergraduate students participated in the study. The majority of respondents were aged 21–25 years (60.0%), followed by those aged ≤ 20 years (35.7%) and 26–30 years (4.3%). The mean age of participants was 21.63 ± 2.32 years. Females constituted 69.4% of the study population. Most respondents were single ($n = 381$), with only 14 participants reporting being married. Regarding religious affiliation, 58.5% identified as Christians, while 41.5% were Muslims. Academic level distribution showed that 400-level students formed the largest group (37.5%), followed by 200-level (29.1%), 300-level (20.3%), and 600-level students (2.3%).

More than 95% of participants reported using internet-enabled devices for academic purposes. When asked about the perceived negative impact of social media on academic performance, 67.3% indicated that social media use had no adverse effect, whereas 32.7% believed it negatively affected their academic performance (Table 1).

Relationship between Socio-Demographic Variables and Mental Health Status

The association between socio-demographic characteristics and mental health status was assessed using the General Health Questionnaire (GHQ). GHQ scores were dichotomized into negative (indicating better mental health) and positive (indicating poorer mental health). Age was not significantly associated with GHQ scores ($\chi^2 = 3.619$, $p = 0.304$), although participants aged 21–25 years had the highest proportion of negative scores (73.4%), followed by those aged ≤ 20 years (67.4%) and 26–30 years (56.3%).

A statistically significant association was found between sex and mental health status ($\chi^2 = 12.019$, $p = 0.001$). Female respondents demonstrated a higher proportion of negative GHQ scores (75.9%) compared with males (58.7%), suggesting better mental health among females. Marital status showed no significant association with GHQ outcomes ($\chi^2 = 2.993$, $p = 0.375$), although married participants had a slightly higher proportion of negative scores (78.6%) than single respondents (69.8%).

Religion was significantly associated with mental health status ($\chi^2 = 8.623$, $p = 0.008$). Muslim

Table 1: Socio-demographic characteristics of the respondents

Variables	Frequency	Percentage
Age group		
≤ 20	141	35.7
21 – 25	237	60.0
26 – 30	16	4.1
≥ 31	1	0.3
Mean \pm SD	21.63 ± 2.32	
Sex		
Male	121	30.6
Female	274	69.4
Marital status		
Single	374	94.7
Married	14	3.5
Divorced	1	0.3
Engaged	6	1.5
Religion		
Christianity	231	58.5
Islam	162	41.0
Others	2	0.5
Level		
100	24	6.1
200	115	29.1
300	80	20.3
400	148	37.5
500	19	4.8
600	9	2.3
Use internet support gadgets		
Yes	377	95.4
No	18	4.6
Current grade		
First class	45	11.4
Second class upper	140	35.4
Second class lower	121	30.6
Third class	41	10.4
Pass	48	12.2
Use of social media affects respondent's performance		
Yes	129	32.7
No	266	67.3

participants exhibited a higher proportion of negative GHQ scores (78.4%) compared with Christians (65.4%). Academic level was not significantly associated with GHQ scores ($\chi^2 = 8.132$, $p = 0.142$), despite 500-level students recording the highest proportion of negative scores (94.7%). Similarly, the use of internet-enabled gadgets for academic support showed no significant association with mental health status ($\chi^2 = 0.464$, $p = 0.496$). Although variations were observed across academic grades, no statistically significant association was identified ($\chi^2 = 6.091$, $p = 0.193$). However, the perceived negative impact of

Table 2: Association between socio-demographics and GHQ

Variables	GHQ		χ^2	p-value
	Negative (%)	Positive (%)		
Age group			3.619	0.304
≤ 20	95 (67.4)	46 (32.6)		
21 – 25	174 (73.4)	63 (26.6)		
26 – 30	9 (56.3)	7 (43.8)		
≥ 31	1 (100.0)	0 (0.0)		
Sex			12.019	0.001
Male	71 (58.7)	50 (41.3)		
Female	208 (75.9)	66 (24.1)		
Marital status			2.993 ^f	0.375
Single	261 (69.8)	113 (30.2)		
Married	11 (78.6)	3 (21.4)		
Divorced	1 (100.0)	0 (0.0)		
Engaged	6 (100.0)	0 (0.0)		
Religion			8.623 ^f	0.008
Christianity	151 (65.4)	80 (34.6)		
Islam	127 (78.4)	35 (21.6)		
Others	1 (50.0)	1 (50.0)		
Level			8.132 ^f	0.142
100	18 (75.0)	6 (25.0)		
200	76 (66.1)	39 (33.9)		
300	59 (73.8)	21 (26.3)		
400	101 (68.2)	47 (31.8)		
500	18 (94.7)	1 (5.3)		
600	7 (77.8)	2 (22.2)		
Use internet support gadgets			0.464	0.496
Yes	265 (70.3)	112 (29.7)		
No	14 (77.8)	4 (22.2)		
Current grade			6.091	0.193
First class	35 (77.8)	10 (22.2)		
Second class upper	102 (72.9)	38 (27.1)		
Second class lower	81 (66.9)	40 (33.1)		
Third class	24 (58.5)	17 (41.5)		
Pass	37 (77.1)	11 (22.9)		
Use of social media affects respondent's performance			22.457	0.001
Yes	71 (55.0)	58 (45.0)		
No	208 (78.2)	58 (21.8)		

social media on academic performance was significantly associated with GHQ scores ($\chi^2 = 22.457$, $p = 0.001$), with poorer mental health reported among those who perceived social media use as detrimental (Table 2).

Relationship between Internet Addiction Levels and Mental Health Status

The relationship between internet addiction levels and mental health status was further examined using GHQ scores categorized as negative or positive. A statistically significant association was observed between internet addiction and mental health status (χ^2

$= 29.670$, $p = 0.001$). Among participants with normal internet use, 84.1% recorded negative GHQ scores, indicating good mental health, while 15.9% had positive scores. In contrast, respondents with mild internet addiction showed reduced mental well-being, with 65.3% reporting negative scores and 34.7% positive scores. The greatest deterioration in mental health was observed among participants with moderate internet addiction, where only 54.0% had negative GHQ scores and 46.0% had positive scores (Table 3). These findings demonstrate a clear gradient, with increasing levels of internet addiction associated with poorer mental health outcomes.

Table 3: Association between socio-demographics and level of internet addiction

Variables	Level of internet addiction				χ^2	p-value
	Normal (%)	Mild (%)	Moderate (%)	Severe (%)		
Age group					13.933 ^f	0.279
≤ 20	52 (36.9)	50 (35.5)	39 (27.7)	0 (0.0)		
21 – 25	102 (43.0)	88 (37.1)	46 (19.4)	1 (0.4)		
26 – 30	9 (56.3)	6 (37.5)	1 (6.3)	0 (0.0)		
≥ 31	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)		
Sex					1.413 ^f	0.742
Male	46 (38.0)	47 (38.8)	28 (23.1)	0 (0.0)		
Female	118 (43.1)	97 (35.4)	58 (21.2)	1 (0.4)		
Marital status					10.665 ^f	0.969
Single	154 (41.2)	138 (36.9)	81 (21.7)	1 (0.3)		
Married	6 (42.9)	4 (28.6)	4 (28.6)	0 (0.0)		
Divorced	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)		
Engaged	3 (50.0)	2 (33.3)	1 (16.7)	0 (0.0)		
Religion					10.020 ^f	0.166
Christianity	91 (39.4)	94 (40.7)	46 (19.9)	0 (0.0)		
Islam	72 (44.4)	49 (30.2)	40 (24.7)	1 (0.6)		
Others	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)		
Level					30.729 ^y	0.001
100	11 (45.8)	7 (29.2)	6 (25.0)	0 (0.0)		
200	45 (39.1)	37 (32.2)	33 (28.7)	0 (0.0)		
300	28 (35.0)	29 (36.3)	22 (27.5)	1 (1.3)		
400	63 (42.6)	61 (41.2)	24 (16.2)	0 (0.0)		
500	10 (52.6)	8 (42.1)	1 (5.3)	0 (0.0)		
600	7 (77.8)	2 (22.2)	0 (0.0)	0 (0.0)		
Use internet support gadgets					4.201 ^f	0.612
Yes	163 (41.6)	142 (36.2)	86 (21.9)	1 (0.3)		
No	1 (33.3)	2 (66.7)	0 (0.0)	0 (0.0)		
Current grade					11.441 ^y	0.492
First class	21 (46.7)	15 (33.3)	9 (20.0)	0 (0.0)		
Second class upper	55 (39.3)	55 (39.3)	29 (20.7)	1 (0.7)		
Second class lower	43 (35.5)	43 (35.5)	35 (28.9)	0 (0.0)		
Third class	22 (53.7)	14 (34.1)	5 (12.2)	0 (0.0)		
Pass	23 (47.9)	17 (35.4)	8 (16.7)	0 (0.0)		
Use of social media affects respondent's performance					30.015 ^f	0.001
Yes	30 (23.3)	57 (44.2)	42 (32.6)	0 (0.0)		
No	134 (50.4)	87 (32.7)	44 (16.5)	1 (0.4)		

Awareness and Usage of Social Media Networks

Participants demonstrated high awareness of various social media platforms. WhatsApp was the most widely recognized platform (92.7%), followed by Twitter (90.6%) and TikTok (87.1%). Other platforms with high awareness included Facebook (79.7%), Telegram (72.9%), Instagram (72.7%), and YouTube (63.3%), while awareness was lower for LinkedIn (54.7%) and Snapchat (54.9%).

In contrast, active usage was more selective. WhatsApp was the most frequently used platform (89.1%), followed by Instagram (64.1%), Twitter (56.2%), and Facebook (52.2%). Despite high awareness, TikTok had a relatively low usage rate (24.1%). Usage of Snapchat (15.7%), Telegram (11.6%), YouTube

(10.1%), and LinkedIn (8.1%) was limited, with Reddit recording the lowest usage rate (1.0%).

Discussion

This study explored the relationship between social media use, internet addiction, and mental health outcomes among Nigerian undergraduate students. The findings revealed that the majority of participants were aged 21–25 years (60.0%), consistent with previous studies indicating that young adults are the most active users of social media.¹⁶ This age group is commonly described as digital natives because they readily adopt digital technologies and are deeply engaged in online social environments and platforms such as WhatsApp, Instagram, and Twitter.¹⁷

Over 95% of respondents reported using internet-compatible devices for academic purposes. This underscores the increasing integration of digital technologies into the academic activities of Nigerian undergraduates and reflects trends reported across sub-Saharan Africa, where digital platforms increasingly support learning, research, and collaboration.¹⁸ Although awareness of social media platforms was generally high, usage levels varied considerably across platforms. High awareness further supports the notion of digital nativity among these students and underscores the importance of social media in their daily routines.¹⁹

WhatsApp emerged as both the most widely known (92.7%) and most frequently used (89.1%) platform, consistent with studies identifying it as the dominant medium for interpersonal communication, academic collaboration, and group coordination among Nigerian tertiary students.²⁰ In contrast, platforms such as TikTok and X (formerly Twitter) demonstrated a mismatch between awareness and usage. Despite high levels of awareness (87.1% and 90.6%, respectively), their usage rates were substantially lower (24.1% and 56.2%, respectively). This finding contradicts the expectation, supported by some studies, that higher awareness leads to greater usage.²¹ The discrepancy suggests that awareness alone is insufficient to drive engagement. Factors such as perceived relevance, data consumption, platform complexity, content preferences, or regulatory and institutional constraints may influence actual use.²²

Regarding academic performance, 67.3% of respondents reported that social media use had no adverse effect on their studies, while only 32.7% perceived a negative impact. This contrasts with some existing literature that emphasizes the detrimental effects of social media on academic outcomes.²³ The finding may reflect a shift in students' patterns of social media engagement, from predominantly social interactions to more purposeful academic and intellectual use. Platforms such as WhatsApp, Telegram, and Facebook are increasingly employed to share academic materials, communicate with peers and lecturers, and coordinate group study activities.²⁴ The widespread academic use of internet-compatible devices therefore presents an opportunity for higher institutions to formally integrate social media and mobile technologies into teaching and learning processes.

This study also examined the association between socio-demographic variables and mental health status. Gender was found to be statistically significant, with female students exhibiting better mental health

outcomes, as indicated by lower GHQ scores, compared with their male counterparts. Although this appears inconsistent with studies reporting higher psychological distress among female university students, the difference may be explained by greater help-seeking behavior among females. Such behavior may facilitate earlier access to support services, more effective coping strategies, and stronger social support networks.²⁵

Students' perceptions of the impact of social media on academic performance were significantly associated with psychiatric morbidity. Respondents who believed that social media negatively affected their academic performance were more likely to have higher GHQ scores, indicating poorer mental health. This finding aligns with studies linking problematic social media use to psychiatric conditions such as anxiety, sleep disturbances, and depressive symptoms.²⁶ Excessive social media engagement may reduce time available for academic tasks, disrupt sleep patterns, and increase exposure to cyberbullying or unhealthy social comparisons, all of which are associated with adverse mental health outcomes.²⁷

A statistically significant association was also observed between levels of internet addiction and mental health status. As the severity of internet addiction increased, mental health outcomes worsened. Participants with normal internet use exhibited the most favorable outcomes, with 84.1% recording negative GHQ scores, indicative of good mental health. In contrast, those with mild and moderate internet addiction reported higher proportions of positive GHQ scores (34.7% and 46.0%, respectively), suggesting increased psychological distress. These findings align with earlier studies documenting a negative association between problematic internet use and mental health outcomes, including anxiety, depression, and social dysfunction.²⁸

Internet addiction, particularly when driven by social media use, may disrupt sleep, impair interpersonal relationships, and increase vulnerability to cyberbullying, all of which contribute to poor psychological well-being.²⁹ From another perspective, internet addiction may represent a maladaptive coping strategy for underlying stressors. Rather than alleviating distress, excessive internet use may intensify psychological difficulties and perpetuate a cycle of dependence and mental health decline.

The findings of this study are particularly relevant in the context of increasing digital penetration in Nigerian higher institutions and the limited availability of structured mental health interventions addressing internet-related behaviors. There is a clear need for

early identification and timely intervention for students exhibiting problematic internet use. Universities should consider implementing digital literacy initiatives and mental health services that promote healthy and balanced internet habits. Incorporating routine screening for internet addiction into student health assessments may facilitate early detection of at-risk individuals and enable prompt psychological support.

The major limitation of this study is its cross-sectional design, which precludes causal inferences. Longitudinal studies are recommended to better elucidate the directionality and underlying mechanisms linking internet addiction and mental health outcomes among undergraduate students.

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