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MENTAL HEALTH EFFECTS OF SOCIAL MEDIA USE ON STUDENTS AT IGBINEDION UNIVERSITY: PSYCHOLOGICAL, EMOTIONAL, AND BEHAVIOURAL CONSEQUENCES OF DIGITAL INTERACTION

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ABSTRACT

Background: In the digital era, social media is an indispensable tool for communication and academic collaboration among university students. However, the pervasive nature of these platforms has sparked global concerns regarding potential deleterious effects on psychological well-being. This study aimed to investigate the association between social media use and mental health outcomes, including anxiety, depression, low self-esteem, and loneliness, among students at Igbinedion University.

Methods: A descriptive cross-sectional survey was conducted among 162 students recruited from Medicine, Nursing, and Medical Laboratory Science departments. Data were collected via a structured questionnaire on Google Forms, assessing usage duration and mental health symptoms. Data were analyzed using SPSS. Pearson correlation evaluated relationships between social media engagement and mental health variables, with significance set at $p < 0.05$.

Results: Findings showed significant positive correlations between duration of social media use and anxiety ($r = 0.64$, p = 0.001), depression ($r = 0.51$, $p = 0.002$), and loneliness ($r = 0.38$, p = 0.015). Conversely, no significant correlations were observed for low self-esteem ($r = 0.12$, $p = 0.324$) or stress levels ($r = 0.18$, $p = 0.212$). WhatsApp and Instagram were the most frequently utilized platforms.

Conclusion: Increased social media consumption among university students is significantly associated with heightened anxiety, depression, and loneliness. These results emphasise the urgent need for institutional interventions, such as digital literacy workshops and enhanced counseling services, to mitigate the mental health risks of unregulated digital interaction within the university.

Keywords: Social media; depression; anxiety; loneliness; mental health; university students; Nigeria; digital literacy.

Introduction

Social media has become a pervasive aspect of daily life for university students, fundamentally altering patterns of communication, information acquisition, and relationship formation. Platforms such as Instagram, X (formerly Twitter), Facebook, and WhatsApp are now indispensable tools for academic collaboration and peer interaction (1). However, alongside these benefits, the extensive nature of digital engagement has raised global concerns regarding its psychological, emotional, and behavioural consequences.

Research increasingly suggests that excessive or problematic social media use is associated with a range of adverse mental health outcomes, including anxiety, depression, low self-esteem, and sleep disturbances (2,3). University students are particularly vulnerable to these effects due to the unique intersection of academic pressure, developmental transitions, and high online engagement (4,5). While many studies in Western contexts have documented these associations, findings may not be directly applicable to the Nigerian context. In Nigeria, socio-cultural factors, limited mental health literacy, and significant barriers to support services play a critical role in how digital stress is experienced and managed (6).

Despite the rapid growth of social media among Nigerian youth, empirical evidence remains limited regarding its impact on mental well-being within local private institutions. Igbinedion University, Okada, provides a pertinent setting for this investigation. As a premier private institution, it reflects a demographic where digital technologies are widely embraced, yet where institutional mental health awareness and infrastructure may still be evolving to meet digital-age challenges (7).

Recent evidence consistently links excessive use to psychological distress. A 2024 meta-analysis revealed significant correlations between time spent on social media and symptoms of depression and anxiety (8, 9). Problematic use, characterized by compulsive engagement, is specifically associated with elevated scores on the Depression, Anxiety, and Stress Scale (DASS-21) (10). Underlying mechanisms include "social comparison," where idealized online portrayals lead to diminished self-worth, and the "fear of missing out" (FOMO), which triggers anxiety over social exclusion (11, 12). Longitudinal data examined by (13,14), further indicate a complex, bidirectional relationship: while social media use can predict worsening mental health, students experiencing psychological challenges may turn to digital platforms for validation, creating a reinforcing cycle of distress

Furthermore, the "alone together" paradox suggests that while students turn to online spaces to reduce isolation, excessive passive consumption often intensifies feelings of disconnection (15). Behaviourally, this often manifests as "social media fatigue," which correlates with impaired concentration and a significant decline in academic performance (r = -0.17) (16,17). Additionally, night time displacement of sleep by mobile devices has been linked to chronic insomnia and daytime fatigue among undergraduates (8,18).

This study addresses the critical gap in local literature by examining the psychological, emotional, and behavioural implications of social media use specifically among students at Igbinedion University. By situating the research within this unique Nigerian context, the study aims to provide data that can inform culturally sensitive institutional policies, mental health programming, and student support initiatives.

Methods

Study Design and Setting

A descriptive cross-sectional survey was conducted among undergraduate students at the College of Health Sciences, Igbinedion University, Okada, Nigeria. This setting was selected as it represents a diverse cohort of health professional trainees in a private Nigerian tertiary institution.

Study Population and Sample Size

The target population comprised 1,652 students across three departments: Medicine (n = 483), Nursing Science (n = 599), and Medical Laboratory Science (n = 404). The minimum sample size was determined using Cochran's formula:

$$n = \frac{Z^2 p(1-p)}{d^2}$$

n = Where Z = 1.96 (95% confidence level), p = 0.87 (estimated social media penetration) (1), and d = 0.05 (margin of error). The initial sample of 175 was adjusted using finite population correction to 159. Accounting for a 10% non-response bias, the final

target sample was 177. A total of 162 valid responses were retrieved, yielding a response rate of 91.5%.

Sampling Technique

A multistage sampling technique was employed to ensure representativeness:

Stage 1: The College of Health Sciences was purposively selected from the university's seven colleges.
Stage 2: The School of Basic Medical Sciences was randomly selected from the three schools within the College.
Stage 3: Students within the constituent departments (Medicine, Nursing, and Medical Laboratory Science) were stratified by academic level (100–600 level).
Stage 4: A proportional allocation method was used to select participants from each stratum to reflect the departmental population size.

Instrument and Variables

Data were collected using a structured, self-administered electronic questionnaire (Google Forms). The instrument consisted of three primary sections:

Sociodemographic Characteristics: Age, gender, department, and academic level.

Social Media Usage Patterns: Primary platforms used and average daily duration. Usage was categorized as Low (<1 hour/day), Moderate (1–2 hours/day), and High (3 hours/day).

- Psychometric Assessment: Validated scales were used to measure mental health indicators:
- Depression: Patient Health Questionnaire-9 (PHQ-9).
- Anxiety: Generalized Anxiety Disorder-7 (GAD-7).
- Loneliness: UCLA Loneliness Scale (Version 3).
- Self-Esteem: Rosenberg Self-Esteem Scale (RSES).
- Stress: Perceived Stress Scale (PSS-10).

Data Analysis

Quantitative data were exported to and analyzed using IBM SPSS Statistics version 26.0. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize respondent characteristics. Pearson's correlation coefficient (r) was utilized to evaluate the strength and direction of the association between social media duration and mental health scores. Statistical significance was set at $p < 0.05$.

Ethical Considerations

This study followed established ethical principles for research involving human participants. Data were collected using an online questionnaire that began with an introductory section explaining the purpose of the study, the voluntary nature of participation, and assurances of confidentiality and anonymity. Participants were informed that they could choose not to participate or discontinue their involvement at any time before submitting their responses without any penalty. Submission of the completed questionnaire was taken as implied consent to participate in the study. No personally identifiable information was requested from the respondents. All responses were handled with strict confidentiality and were used solely for academic research purposes. The data were securely stored on a password-protected device, and findings were presented only in aggregated form to ensure that individual participants could not be identified.

Results

Tale 1: Demographic Information of Respondents

Demographic Category	Frequency (n)	Percentage (%)
Age, years		
18–22	120	74.1
23–27	32	19.8
28–32	8	5.0
≥33	2	1.2
Total	162	100.0
Gender		
Male	75	46.3
Female	87	53.7
Total	162	100.0
Year of Study		
100 Level	55	33.9
200 Level	52	32.1
300 Level	39	24.1
400 Level	10	6.2
500 Level	6	3.7
Total	162	100.0

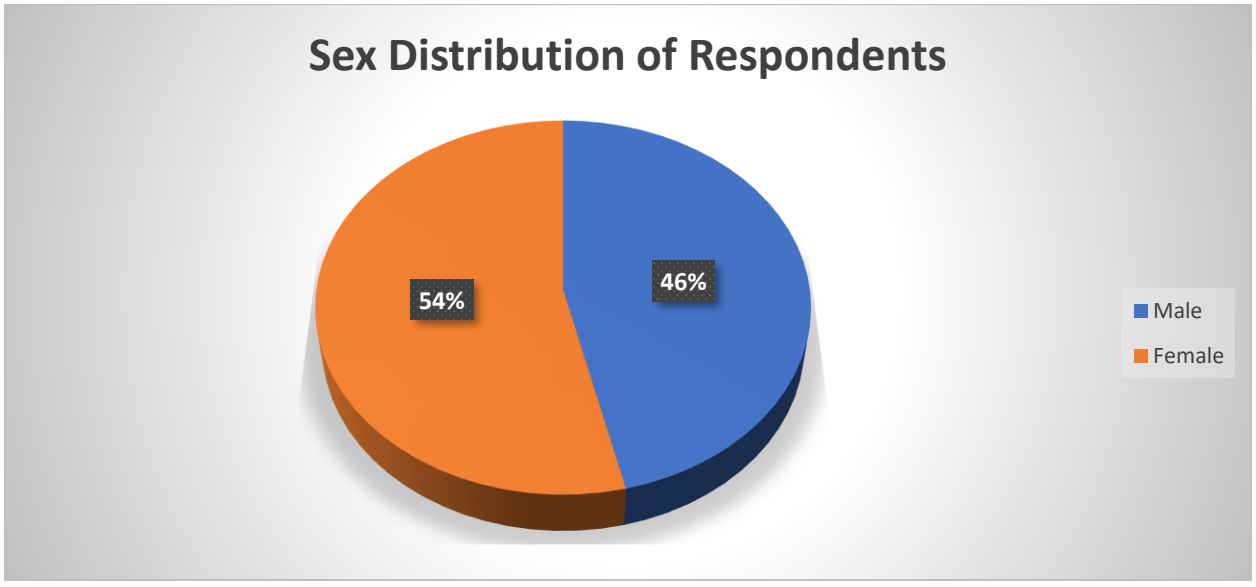

Fig. 1. The distribution of the respondents by sex

Table 2: Respondents' Characteristics of Social Media Usage

Question	Response	Frequency (n)	Percentage (%)
Time Spent Daily	Less than 1 hour	22	13.6
	1–2 hours	62	38.3
	≥3 hours	78	48.1
Frequency of Checking Daily	Less than 5 times	42	25.9
	5–10 times	61	37.7
	≥10 times	59	36.4
Content Engagement	Entertainment	120	74.1
	News & Current Events	80	49.4
	Academic Content	40	24.7
	Social Interactions	90	55.6
	Other	6	3.7

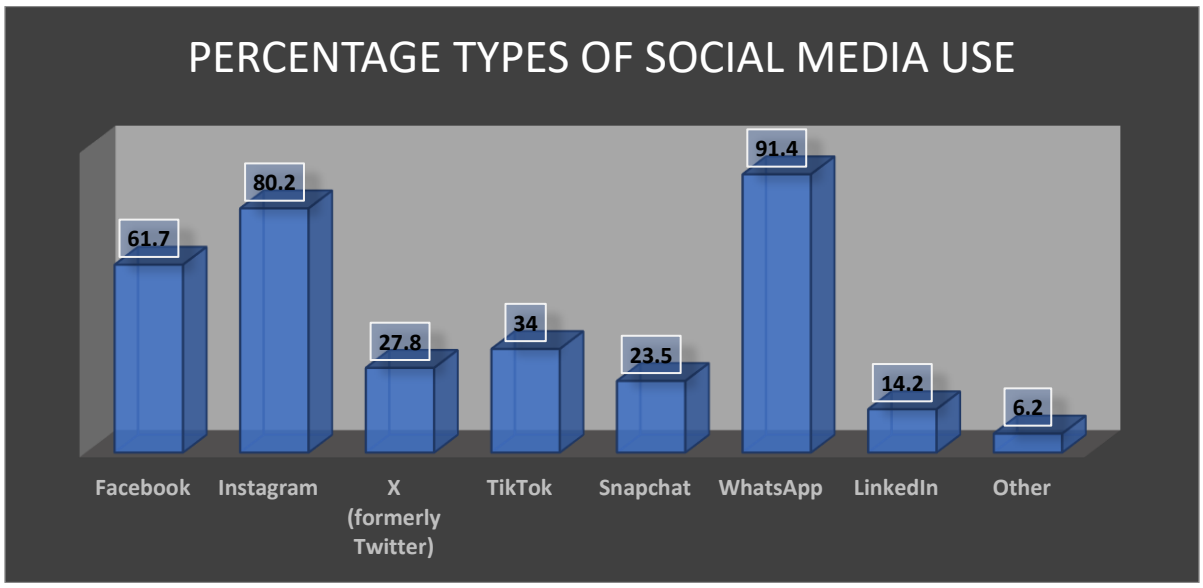

Fig 2: Frequency of Use of Social Media as Percentages

Table 3: Specific Mental Health Issues Linked to Social Media Usage

Question	**Response**	**Frequency (n)**	**Percentage (%)**
How often do you feel anxious or stressed after using social media?			
	Never	15	9.3
	Rarely	39	24.1
	Sometimes	55	34.0
	Often	34	21.0
	Always	19	11.7
Total		**162**	**100.0**
Does social media affect your sleep patterns?			
	No	44	27.2
	More alert	49	30.2
	More tired/trouble sleeping	69	42.6
Total		**162**	**100.0**

Do you feel dissatisfied with yourself after seeing social media posts?			
Never	23	14.2	
Rarely		42	26.0
Sometimes		58	35.8
Often		25	15.4
Always		14	8.6
Total		**162**	**100.0**
Do you compare yourself to others on social media?			
Never		13	8.0
Rarely		32	19.8
Sometimes		61	37.7
Often		44	27.2
Always		24	14.8
Total		**162**	**100.0**
Have you experienced mental health concerns due to social media use?			
Anxiety	104	64.2	
Depression		83	51.2
Low Self-Esteem		97	60.1
Stress		104	64.2
Loneliness		61	37.7
Does social media affect your academic performance?			
No		26	16.0
Distracts from studies		94	58.0
Affects grades		35	21.6
Helps stay informed		16	9.9

Note: Respondents could select more than one option, so percentages do not total 100%.

Table 4: Correlation between Times Spent on Social Media and Mental Health Indicators

Mental Health Indicator	Correlation Coefficient (r)	p-value
Anxiety	0.64	0.001
Depression	0.51	0.002
Low Self-Esteem	0.12	0.324
Stress	0.18	0.212
Loneliness	0.38	0.015

Correlation Analysis

Discussion

Demographic Details

The findings of this study provide a critical snapshot of the digital lived experiences of health sciences students at Igbinedion University. The demographic profile, where 74.1% of participants were aged 18–22, indicated that the sample is primarily composed of Gen Z undergraduates in their formative university years. This developmental stage is characterized by increased neuroplasticity and a high sensitivity to social feedback, making this cohort particularly susceptible to the psychological undercurrents of digital interaction (19). The near-equal gender distribution (53.7% female; 46.3% male) ensures that the observed trends are not skewed by gender-specific usage patterns, providing a balanced representation of the student body.

Patterns of Social Media Engagement

Engagement levels were remarkably high, with nearly half of the respondents (48.1%) spending three or more hours daily on social media, and 18.5% exceeding five hours. This intensity of use is reflected in the frequency of access; over 74% of students checked their accounts more than five

times daily. WhatsApp (91.4%) and Instagram (80.2%) emerged as the dominant platforms, which is consistent with recent Nigerian data suggesting these apps are the primary vehicles for both social coordination and visual self-presentation (12). Notably, while entertainment content drove the highest engagement (74.1%), academic content lagged significantly at 24.7%, suggesting that for most students, social media remains a leisure-oriented space rather than a supplemental educational tool.

Mental Health and Academic Implications

The psychological toll of this high engagement is evident, with 66.7% of respondents reporting feelings of anxiety or stress "sometimes" or "always" after use. This supports the "social comparison" theory, where 79.7% of participants admitted to comparing their lives with others online. This tendency often results in upward social comparison, leading to the reported 51.2% prevalence of depressive symptoms and 60.1% for low self-esteem (20,21).

Sleep disruption was another significant behavioural consequence, affecting 42.6% of the sample. Late-night screen exposure likely disrupts circadian rhythms through blue light emission and psychological overstimulation, mirroring findings that link nocturnal social media use to poor sleep hygiene (22). Furthermore, the 58.0% of students reporting academic distraction emphasised a conflict between digital habits and educational goals. This multitasking cost is known to reduce cognitive load capacity, potentially explaining why 21.6% of students perceived a negative impact on their grades (23, 24).

Correlation between Time Spent on Social Media and Mental Health Indicators

The correlation analysis revealed a strong positive relationship between time spent on social media and anxiety (r=0.64, p<0.01), reinforcing the conclusion that increased digital immersion is a significant predictor of heightened state anxiety (2). Moderate correlations with depression (r=0.51, p<0.01) and loneliness (r=0.38, p<0.05) further validate the social media paradox, where high connectivity masks a lack of deep, emotionally fulfilling social support (25,13).

Interestingly, the lack of significant correlation with low self-esteem (r=0.12) and stress (r=0.18) suggests that these variables may be moderated by "offline" factors. This implies that students with robust face-to-face support systems or higher personal resilience may be shielded from the self-esteem erosion typically associated with social media, even when usage is high (15,16).

Limitations

This study is constrained by its cross-sectional design, which precludes the establishment of temporal or causal pathways. The reliance on self-reported data may also be subject to social desirability bias. Furthermore, as a single-center study at a private institution, the results may not be fully generalizable to the broader Nigerian public university population, where socioeconomic stressors and digital access may differ.

Implications for Nursing

The findings of this study have profound implications for nursing practice, particularly within the domains of Mental Health Nursing, School Health Nursing, and Nursing Education.

Nurses in university clinics must move beyond traditional assessments. The strong correlation between social media duration and anxiety suggested that a "Digital History" should be a standard component of nursing assessments. Nurses should be trained to screen for signs of "Digital Fatigue" or "Social Media-Induced Anxiety" when students present with vague somatic complaints such as headaches, chronic fatigue, or sleep disturbances.

Nursing professionals are uniquely positioned to act as bridge-builders between technology and health. Since students often turn to social media for validation due to loneliness, nurses can facilitate Social Prescribing, directing students toward tangible, face-to-face peer support groups or campus activities that replace passive digital scrolling with active emotional connection.

The reported 42.6% prevalence of sleep disruption underlines the need for nurse-led health education. Nurses should advocate for Digital Hygiene protocols, educating students on the physiological impact of blue light on melatonin production and the importance of tech-free zones before sleep to mitigate the risk of chronic insomnia.

Conclusion

This study provides critical empirical evidence on the mental health implications of social media use among students at Igbinedion University, Okada. The findings demonstrate that increased duration of social media engagement is significantly associated with heightened levels of anxiety, depression, and loneliness, though not with low self-esteem or

stress within this sample. The notable positive correlations for anxiety (r = 0.64) and depression (r = 0.51) underscore a clinically meaningful pattern: as students spend more time on platforms such as WhatsApp and Instagram, their vulnerability to internalizing mental health symptoms appears to rise correspondingly.

These results align with growing global evidence that while social media facilitates connection and academic collaboration, its unregulated use may paradoxically foster emotional distress and social isolation. The absence of significant associations with self-esteem and stress suggests that the psychological mechanisms underlying social media's impact may be selective, warranting further investigation into mediating factors such as usage patterns (e.g., passive vs. active consumption), online social comparison, sleep disruption, and fear of missing out (FoMO).

From a practical standpoint, these findings carry urgent implications for Igbinedion University and similar tertiary institutions across Nigeria. The mental health burden associated with excessive digital interaction cannot be overlooked. Consequently, the following evidence-based recommendations are proposed:

1. Digital literacy and wellness workshops integrated into orientation programs or general studies curricula, teaching students self-regulation strategies, healthy online boundaries, and critical awareness of social media's psychological effects.
2. Enhanced on-campus counseling services equipped to screen for and address social-media-related anxiety, depression, and loneliness, with outreach targeting high-usage disciplines such as Medicine, Nursing, and Medical Laboratory Science.
3. Institutional policies promoting "digital detox" initiatives, designated screen-free periods, or campus-based social engagement alternatives to counterbalance virtual interaction with face-to-face connection.
4. Longitudinal and qualitative research to establish causal pathways and contextual understanding of how specific social media behaviors influence mental health trajectories over time.

Ultimately, while social media remains an integral tool for modern academic life, it’s potential to undermine student psychological well-being demands proactive, multi-level intervention. By fostering a digitally aware and mentally resilient campus culture, Igbinedion University can lead in balancing technological engagement with holistic student health a necessity for academic success and lifelong well-being in Nigeria's evolving digital landscape.

Recommendations

Based on the evidence gathered at Igbinedion University, the following actions are recommended to mitigate the negative mental health outcomes of social media use:

Igbinedion University management should integrate Digital Mindfulness and Literacy into the General Studies (GST) curriculum. These workshops should focus on the "Social Comparison" paradox, teaching students to critically evaluate online content and recognize the difference between "curated reels" and "real-life" experiences.

Given that over 50% of respondents reported symptoms of depression and anxiety, the university should strengthen its counseling services. This includes the establishment of a "Digital Wellbeing Hotline" or anonymous peer-support platforms where students can discuss digital stressors without fear of stigma.
Academic departments should encourage the use of social media for collaborative learning rather than pure entertainment. Through the shifting usage toward academic interaction, the university can help students transform social media from a source of anxiety into a tool for professional development.

The university should implement "Unplugged" initiatives, such as designated tech-free social spaces or "No-Screen" hours in hostels, to encourage face-to-face social functioning and reduce the "alone together" phenomenon among the 100 and 200-level cohorts.

It is recommended that further longitudinal studies be conducted across various private and public Nigerian universities. This will help determine if the lack of correlation between social media and self-esteem is unique to the private university demographic or a broader national trend influenced by local cultural resilience.

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