

Exploring the Mental Health Effects of Social Media Usage among Undergraduates: Evidence from Ogun State, Nigeria

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ABSTRACT

Background: The growing popularity of social media among Nigerian youth comes with several concerning implications, including its strong association with adverse mental health outcomes such as anxiety, depression, low self-esteem, and addictive behaviors.

Objective: This study generally examined the mental health effects of social media usage among undergraduates in Ogun State, Nigeria, exploring how digital engagement influences psychological well-being in this specific demographic population.

Methods: The study examined the mental health effects of social media through a cross-sectional survey conducted among 395 participants selected using multistage sampling techniques to ensure representative coverage across undergraduate institutions in Ogun State, Nigeria. To identify significant predictors of mental health outcomes, regression analysis was systematically conducted, examining the relationship between social media usage patterns and psychological well-being indicators. Additionally, ANCOVA analysis was employed to explore both direct and indirect relationships among the study variables while controlling for potential confounding factors. Statistical significance was established at $p \leq 0.05$, ensuring rigorous evaluation of all findings and minimizing the likelihood of Type I errors in the interpretation of results.

Results: The findings suggest a weak association between social media use duration and negative mental health outcomes ($p=0.052$); psychological influence from social media use significantly predicts poorer mental health outcomes ($\beta = 0.636$, $p < .001$), accounting for over 40% of the variance ($R^2 = 0.404$) and significant differences were noted in social media usage across academic levels ($F(4, 388) = 3.15$, $p = 0.014$), with higher usage reported among 300L students implying that increased academic stress or social validation pressures may occur as students advance academically.

Conclusions: This underscores the pressing need for institutional mental health policies that go beyond monitoring screen time to addressing the psychological dimensions of social media use among university students.

Key words: Mental health, social media usage, undergraduates, psychological influence. Word count: 289

INTRODUCTION

Over the past decade, social media platforms such as WhatsApp, Instagram, Snapchat, and X (formerly Twitter) have emerged as integral components of student life globally. Among undergraduates, especially in developing countries like Nigeria, social media has become a primary channel for socialisation, academic interaction, and

self-expression (Keles *et al.* 2020). The proliferation of smartphones and affordable data plans has further intensified access to these platforms, making social media use a pervasive phenomenon in higher education settings. While these platforms offer various psychosocial and educational benefits, there is mounting concern about their potential adverse effects on mental health outcomes such as anxiety, depression, emotional fatigue, and loneliness (Huang, 2017). In the Nigerian context, private universities often provide students with unrestricted internet access and strong digital infrastructure, which may lead to more intensive social media use. However, these environments also foster high academic expectations, competitive peer dynamics, and increased exposure to online content, all of which may influence students' psychological well-being (Okon *et al.*, 2021). Despite this, there remains a significant gap in empirical evidence on how social media use patterns relate to mental health among Nigerian undergraduates, particularly in private universities where digital engagement may be more intense and nuanced.

Several studies have examined both the positive and negative effects of social media usage on the mental health of young adults (Twenge, Joiner *et al.* 2018; Ezeaka *et al.*, 2025). However, there seems to be a sustained concern for its negative mental health outcomes observed in terms of anxiety, depression, low self-esteem and addiction. This study is situated within this context and seeks to explore the link between social media engagement and mental health outcomes in a private university in Ogun State, Nigeria. It builds on growing global literature suggesting that frequent and unregulated social media use may correlate with poor psychological health, either by promoting unhealthy social comparison, fostering cyberbullying, or increasing screen time and sleep disruption (Shensa *et al.*, 2018). In response to this concern, the present study adopts a descriptive cross-sectional design and employs psychometrically validated instruments to assess students' social media behavior, emotional states, and self-reported mental health conditions.

Understanding these relationships is essential for guiding institutional policies on digital literacy and student support services. This study, therefore, offers context-specific data that can inform the development of mental health interventions, educational campaigns, and behavioral guidelines for healthier social media engagement among young adults in Nigerian universities. Therefore, the study generally examined the mental health effects of social media usage among undergraduates in Ogun State, Nigeria. It specifically investigated the

1. knowledge of social media usage effect among undergraduates
2. attitude of undergraduates toward social media usage
3. psychological influence of social media usage among undergraduates
4. mental health outcomes observed by undergraduates on social media usage

The following hypotheses were tested:

Ho1: There is no association between duration of social media use and mental health outcomes among undergraduates

Ho2: There is no predictive role of psychological influence on mental health among undergraduates

Ho3: There is no variation in social media use by academic level among undergraduates

Social Media usage and mental health outcomes

Social media use among young people has continued to attract academic interest, mostly due to the changes it has made to everyday activities and human contact. Social media use has had a significant negative influence on identity development, self-expression, and user wellbeing. Long-term usage of this platform has been connected to a number of problems, including addiction, sleep deprivation, and even privacy concerns, according to Kinsella and Chin (2024). Das *et al.* (2025) discovered a strong correlation between using social media for more than four hours a day and increased probabilities of anxiety and depression in young adults. Furthermore,

social vices that thrive online include click-forming, bullying, sexual experimentation, and even criminality. Furthermore, Akafa et al (2024) affirm that young people are deeply engrossed in the use of social media like Facebook, Instagram, Snapchat and TikTok with significant effect on their cognitive and emotional development.

In a 2019 study titled "Screens, Teens, and Psychological Well-Being," Orben and Przybylski found no conclusive evidence of a negative relationship between teenage well-being and digital-screen involvement as evaluated throughout the day, especially before bed. According to Twenge and Campbell's (2018) population-based study, there is a correlation between children's and teenagers' screen usage and poorer psychological health. Furthermore, the impact of social media use on psychological and subjective well-being was investigated by Zhang et al. (2023) using a mediated testing technique among college students. The study found a positive correlation between students' psychological and subjective well-being and their use of social media, with online social support and cyberbullying acting as moderators. The study further highlights the importance of discerning mechanisms moderating the mediated paths linking social media usage by young adults to their psychological and subjective well-being. Their findings highlighted an association between more hours of screen time and lower well-being of children ages 2 to 17 even though this was larger for adolescents than for children. It also revealed that high users of screen show less curiosity, self-control and emotional stability with both high and low screen users reporting anxiety or depression symptoms.

In a related study focused on a systematic review of 11 full-text publications on the impact of social media on the mental health of adolescents and young adults by Khalaf et al (2023), these studies demonstrated a modest but statistically significant association between social media use and depression symptoms. The studies established a connection between higher social media usage and worse mental health conditions including an increased risk of internalising and externalising difficulties especially among female adolescents.

Comparing social media use among adolescents with or without mental conditions, Fassi et al (2025) also reinforced a connection between social media use and mental health conditions. In this study, adolescents with mental health conditions reported spending more time on social media and were less happy about the number of online friends than adolescents without conditions. They also found differences in social media use by condition type such that adolescents with internalising conditions reported spending more time on social media, engaging in more social comparison and, experiencing greater impact of feedback on mood, alongside lower happiness about the number of online friends and lower honest self-disclosure. In contrast, those with externalising conditions only reported higher time spent. The findings of this study emphasise the need to consider diverse adolescent mental health profiles in policy and clinical practice.

Feng et al (2025) explored the relationship between mental health, social media addiction and academic burnout among Chinese college students. A Bridge Expected Influence results showed that depression is consistently the most central node, playing a critical role in a network connecting social media addiction, academic burnout and, psychological stress. It further revealed that there is a significant positive correlation between social media addiction, academic burnout and, mental health. This implies that excessive use of social media can distract students, leading to academic exhaustion and worsening feelings of anxiety and depression.

METHODOLOGY

Study Design and Setting

A descriptive cross-sectional survey design was employed to assess the relationship between social media use and mental health outcomes among undergraduate students. The study was conducted at a private university located in Ogun State, Nigeria, known for its structured academic environment and advanced digital access for students.

Population and Sampling Technique

The target population comprised registered full-time undergraduates across all faculties and academic levels during the 2024/2025 academic session. A multi-stage sampling technique was adopted. In the first stage, faculties were selected using simple random sampling. The second stage involved stratified sampling based on

academic level, while the third stage applied systematic random sampling to select individual respondents. A total of 423 participants were enrolled in the study, based on sample size estimation that accounted for a 95% confidence level and 5% margin of error.

Instrument for Data Collection

Data were collected using a validated 45-item structured questionnaire, which was developed based on an extensive review of relevant literature and guided by theoretical constructs from the biopsychosocial model of mental health. The instrument comprised several key sections, including socio-demographic characteristics, patterns and duration of social media use, knowledge and attitudes toward the impact of social media on mental health, psychological influences such as stress and mood fluctuations, as well as mental health outcomes including symptoms of depression, anxiety, and loneliness. The questionnaire demonstrated strong internal consistency, with a Cronbach’s alpha coefficient of 0.81, indicating a high level of reliability for measuring the constructs of interest.

Data Analysis

Data were analyzed using IBM SPSS version 23. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarise the respondents’ characteristics and key variables. Spearman’s rho correlation was employed to examine associations between continuous variables that does not meet the criteria for Pearson correlation. To identify predictors of mental health outcomes, Regression analysis was conducted. Additionally, ANCOVA analysis was used to explore direct and indirect relationships among variables, and statistical significance was set at $p \leq 0.05$.

Ethical Considerations

Ethical approval was obtained from the university’s Research and Ethics Review Board. Participation was voluntary, and informed consent was secured from all respondents. Confidentiality and anonymity were maintained throughout the study.

RESULTS

Out of the 423 participants enrolled in the study, only 395 returned copies were analysed in which the gender distribution was nearly equal, with 49.1% male and 50.9% female. According to table 1, no significant association was found between gender and social media usage ($p = 0.360$). The majority of respondents were aged 18–20 years (56.2%), with a mean age of 19 ± 2.11 years. Age group was not significantly related to social media use ($p = 0.650$). Most participants identified as Christians (88.9%), followed by Muslims (10.4%), and others (0.8%), with no statistically significant association between religion and social media usage ($p = 0.117$). Ethnically, 52.7% were Yoruba, 33.9% Igbo, and 4.8% Hausa, also showing no significant variation in usage across groups ($p = 0.307$). However, a statistically significant association was observed between level of study and social media usage ($p = 0.020$), suggesting that academic level may influence patterns of engagement with social media platforms.

Table 1: Distribution of Respondents’ Socio-Demographic Characteristics based on social media usage (N = 395)

Variable	Category	Frequency (n)	Percentage (%)	P-value
Gender	Male	194	49.1	0.360
	Female	201	50.9	
	Total	395	100.0	
Age Group	15–17 years	116	29.4	0.650
	18–20 years	222	56.2	
	21–23 years	49	12.4	
	24–26 years	7	1.8	
	27–29 years	1	0.3	

	Total	395	100.0	
	Mean age	19 ± 2.11 years		
Religion	Christianity	351	88.9	0.117
	Islam	41	10.4	
	Others	3	0.8	
	Total	395	100.0	
Ethnicity	Igbo	134	33.9	0.307
	Yoruba	208	52.7	
	Hausa	19	4.8	
	Others	34	8.6	
	Total	395	100.0	
Level of Study	100 Level	96	24.3	0.023
	200 Level	93	23.5	
	300 Level	60	15.2	
	400/500 Level	146	37.0	
	Total	395	100.0	

Time Spent on social media by Academic Level

The results revealed that the 300-level students reported the highest average usage ($M = 2.400$), while 100, 200 and 400/500-level students reported slightly lower averages ($M = 2.083$, $M = 2.054$, and $M = 2.055$ respectively). The coefficient of variation suggests the least variability in 300-level respondents, indicating more consistent usage within that group (see Table 2).

Table 2: ANCOVA and Descriptive Statistics for Time Spent on social media by Academic Level (N = 395)

Academic Level	N	Mean Time (hrs)	SD
100 Level	96	2.083	0.749
200 Level	93	2.054	0.757
300 Level	60	2.400	0.718
400/500 Level	146	2.055	0.759
Total	395	—	—

Social Media Usage Patterns

According to table 3, out of 395 respondents, the majority (41.5%) reported spending 3–4 hours daily on social media, while 34.9% used social media for 5–6 hours, and 23.5% for 1–2 hours. The average reported time spent per day was approximately 3 hours and 30 minutes. Regarding platform preferences, TikTok was the most frequently used platform, either alone (25.1%) or in combination with others. Instagram appeared in more than 60% of the platform combinations, making it the most common overall. The most frequent combination was Instagram + Twitter (X) + TikTok, used by 22% of respondents. A smaller segment (7.6%) used Twitter (X) alone. This pattern suggests a high rate of multi-platform usage, particularly involving short-video and microblogging platforms, which may correlate with varying mental health outcomes depending on content engagement, peer interaction, and exposure duration.

Table 3: Combined Summary of Social Media Usage Patterns

Time Spent Daily on Social Media	Frequency (n)	Percentage (%)
1–2 hours	93	23.5
3–4 hours	164	41.5
5–6 hours	138	34.9
Total	395	100.0
Platform Combination	Frequency (n)	Percentage (%)
Instagram only	57	14.4

TikTok only	99	25.1
Twitter (X) only	30	7.6
Instagram + TikTok	69	17.5
Instagram + Twitter (X)	29	7.3
Instagram + Twitter (X) + TikTok	87	22.0
Twitter (X) + TikTok	24	6.1
Total	395	100.0

Distributional Characteristics of Main Constructs

The results show that respondents had a high level of knowledge regarding the influence of social media on mental health, with a near-maximum mean score ($M = 15.13$ out of 16). Their attitudinal disposition was moderately positive ($M = 19.63$ out of 36), suggesting general openness but possible reservations toward social media use. The mean psychological influence score ($M = 17.93$ out of 32) reflects a moderate level of psychological effects such as mood shifts or stress attributed to social media usage. Meanwhile, the mental health outcomes score ($M = 9.52$ out of 20) suggests that participants were experiencing mild levels of mental health outcome such as anxiety, loneliness, or depression. These findings underscore the importance of balancing social media engagement with mental well-being interventions, especially among undergraduate populations (see Table 4).

Table 4: Descriptive Summary of Key Study Variables (N = 395)

Variable	N	Mean Score	SE Mean	SD	Min	Max	Scale Range	Interpretive Remarks
Knowledge (social media impact)	395	15.134	0.063	1.248	9.000	16.000	0–16	High knowledge
Attitude towards social media usage	395	19.628	0.215	4.283	9.000	36.000	0–36	Moderately positive attitude
Psychological influence level	395	17.927	0.221	4.392	8.000	32.000	0–32	Moderate psychological influence
Mental health outcomes score	395	9.522	0.159	3.151	5.000	20.000	0–20	Mild mental health outcomes observed

Hypothesis 1: Association Between Duration of Social Media Use and Mental Health Outcomes

This hypothesis explored whether the duration of social media use has a statistically significant relationship with mental health outcomes among undergraduate students. The null hypothesis (H_0) posited no such relationship, while the alternative hypothesis (H_1) anticipated that increased duration would correlate with poorer mental health outcomes. Mental health was operationalised using self-reported measures such as sadness from unmet social media standards, anxiety in online expression, reliance on social validation, self-reported increases in depression or anxiety due to exposure, and stress from maintaining an idealised online persona.

To assess assumptions of normality for mental health outcomes, the Shapiro–Wilk test was employed. The test result ($p < .001$) indicates a significant deviation from normality, warranting the use of non-parametric methods. Subsequently, Spearman’s rho correlation was applied to examine the bivariate association. Although the correlation was positive, it was only marginally insignificant at the 0.05 level ($p = 0.052$), suggesting a weak association between social media use duration and negative mental health outcomes (see table 5).

Table 5. Spearman’s rho correlation between duration of social media use and mental health outcomes

Variable Pair	*Spearman’s ρ	p-value
Duration of Social Media Use & Mental Health Outcomes	0.098	0.052

*Test of normality for mental health outcomes: Shapiro–Wilk Statistic=0.909;p-value=< .001

Hypothesis 2: Predictive Role of Psychological Influence on Mental Health

The second hypothesis examined whether social media-related psychological reactions are a significant predictor of mental health outcomes. While the alternative hypothesis (H_1) suggested that higher psychological impact results in lower mental health, the null hypothesis (H_0) assumed no predictive relationship. Measurement items included stress from managing one's online presence, difficulties detaching, unhappiness or anxiety from comparison, and emotions of validation from comments. Table 6 shows that adding psychological influence greatly enhanced model fit ($R^2 = 0.404$), accounting for around 40.4% of the variation in mental health outcomes. Furthermore, ANOVA findings verified the model's high significance ($p < .001$). According to these findings, there is a 0.456-unit rise in unfavourable mental health ratings for every unit increase in psychological impact.

Table 6: Model summary of linear regression testing the predictive power of psychological influence on mental health outcomes

Model	R	R ²	Adjusted R ²	RMSE
Null (M_0)	0.000	0.000	0.000	3.151
Full Model (M_1)	0.636	0.404	0.402	2.436

ANOVA results for linear regression of psychological influence on mental health outcomes

Source	Sum of Squares	df	Mean Square	F	p-value
Regression (M_1)	1580.610	1	1580.610	266.377	< .001
Residual	2331.957	393	5.934	—	—
Total	3912.567	394	—	—	—

Regression coefficients for psychological influence on mental health outcomes

Predictor	B (Unstandardised)	Std. Error	β (Standardised)	t	p-value
Intercept	1.347	0.516	—	2.612	0.009
Psychological Influence	0.456	0.028	0.636	16.321	< .001

Hypothesis 3: Variation in Social Media Use by Academic Level

After adjusting for age and gender, the third hypothesis investigated whether the average amount of time spent on social media varies considerably between academic levels. Gender and age were used as factors in an ANCOVA. Age and gender were not significant factors, according to the model, however academic level was a significant predictor of social media usage ($p = 0.012$). Interestingly, the highest mean usage was recorded by students at the 300 levels (see table 7).

Table 7: ANCOVA results for variation in social media use by academic level

Source	Sum of Squares	df	Mean Square	F	p-value
Academic Level	6.223	3	2.074	3.682	0.012
Age	0.001	1	0.001	0.002	0.964
Gender	0.844	1	0.844	1.498	0.222
Residual	219.163	389	0.563	—	—

Descriptive Statistics by Academic Level

Academic Level	N	Mean Usage (hrs/day)	SD	SE	CV
100L	96	2.083	0.749	0.076	0.360
200L	93	2.054	0.757	0.079	0.369
300L	60	2.400	0.718	0.093	0.299
400L/500L	146	2.055	0.759	0.063	0.369

DISCUSSION

This study aimed to investigate the relationship between undergraduate students' use of social media and mental health outcomes, with a focus on academic levels, psychological influence, and usage length. The three hypothesis' findings offer a sophisticated perspective on digital behaviour and its psychological effects. Hypothesis 1's weakly positive but statistically insignificant relationship between social media use duration and mental health outcomes ($\rho = 0.098$, $p = 0.052$) supports earlier research that suggests online time may not be the main factor influencing mental distress (Orben & Przybylski, 2019). These findings also support those of Huang (2017), Nogashi et al. (2025), BMC Psychology (2024) and MDPI Societies (2023) who proposed that the length of time spent on social media by itself has little predictive value when psychological involvement or exposure to content is not taken into account.

Conversely, Hypothesis 2 demonstrated that social media use's psychological impact accounts for more than 40% of the variation ($R^2 = 0.404$) and strongly predicts worse mental health outcomes ($\beta = 0.636$, $p < .001$). This result is consistent with the meta-analysis conducted by Keles, McCrae, and Grealish (2020), who found that social comparison, FOMO, and emotional reactivity were important mediators between teenage mental health and digital involvement. A theoretical shift from behavior-based measures (such as screen time) to cognitive-affective vulnerability brought on by social media dynamics is supported by this. According to Hypothesis 3, social media usage varied significantly by academic level ($F(4, 388) = 3.15$, $p = 0.014$), with 300L students reporting higher usage. This could be a result of students feeling more pressure to perform well academically or to be validated by others. Nevertheless, this association was not substantially reduced by either gender ($p = 0.202$) or age ($p = 0.847$), which contrasts with earlier research by Twenge, Joiner et al. (2018) that found teenage girls to be especially vulnerable to the harmful impacts of social media.

Though Twenge's research focusses mostly on adolescents, it was established that there is association between greater screen time and lower psychological well-being among children and adolescent. Their results also include reduced self-control, life satisfaction, and emotional stability, and does not supports that screen time is associated with higher levels of academic or professional pressure (Twenge and Campbell 2018). However, more recent work revealed that medical students who reported high levels of social media use with reports for greater psychological distress and lower academic performance (Roshanfekar et al. 2024). In addition, According to developmental media use research, our cohort's lack of substantial age effects is consistent with media usage plateauing at the emerging adult age range of around 18 to 24 years (Politte-Corn et al. 2023). Similar to recent tertiary-level studies where gender differences disappear once motivations and academic contexts are taken into consideration, the non-significant gender effect contrasts with some adolescent-focused literature that reports higher social media engagement among females (Theophilou, 2024, Uygurtas and Akdemir 2025). This study finding—that usage peaks around mid-programme (such as 300-level) students—is consistent with recent Nigerian research showing that during periods when academic workload increases, students in tertiary institutions report higher social media use which negatively correlates with their study habits (Onyekwelu, 2024; Sabo and Audu, 2025). These findings highlight the value of taking context and academic level into account when analysing social media behaviour rather than depending only on age or gender. To fully understand conditional and indirect effects, future research should incorporate platform-type usage, purpose-driven metrics, and multilevel modelling (Trunfio and Rossi 2021, Tarifa-Rodriguez et al. 2024).

Overall, the results show that students' use of social media, especially how they internalise its psychological affordances, may have a greater impact than how much time they spend on it. According to Vannucci et al. (2017), this is consistent with current developments in digital mental health research that place an emphasis on user perception, social comparison, and digital self-construction. Therefore, rather than focussing just on reducing screen time, future interventions should include cognitive reframing, emotional management, and digital literacy training.

Policy Implications

The study's findings underscore the pressing need for institutional mental health policies that go beyond monitoring screen time to addressing the psychological dimensions of social media use among university students. Although the duration of social media engagement was not significantly associated with mental health

outcomes, psychological involvement—such as social comparison, validation-seeking, and the stress of maintaining idealised online personas—emerged as a significant predictor of mental health challenges. This evidence calls for a paradigm shift in university policies from simplistic screen-time regulation to targeted psychosocial interventions. Institutions should implement mental health literacy programs emphasising digital resilience and critical consumption of online content. Additionally, curricula should be updated to include digital psychology modules, particularly in foundational and intermediate undergraduate levels where students are most vulnerable to social media influence. Investment in student counseling services is also crucial, with a focus on training professionals in managing social media-induced stress and delivering context-appropriate digital behavior therapy. Furthermore, partnerships with technology developers should be fostered to promote user-centered design elements that enhance psychological well-being—such as screen-time reminders, content warnings, and digital detox functionalities. These policy interventions must be evidence-informed and context-sensitive, particularly within low- and middle-income country (LMIC) settings where the rapid growth of digital engagement is not yet matched by institutional mental health infrastructure.

CONCLUSION

This study contributes to the growing body of evidence that underscores the qualitative nature of social media engagement—rather than its quantitative duration—as a stronger determinant of mental health outcomes among undergraduates. While time spent on social platforms was not a significant correlate of mental distress, psychological influence from social media—measured by social comparison, anxiety triggers, and validation needs—emerged as a robust predictor of negative mental health outcomes. Furthermore, academic level influenced usage patterns, suggesting that psychosocial stressors vary along the educational trajectory. The findings urge a recalibration of policy and intervention strategies: moving beyond screen-time monitoring to fostering cognitive resilience, emotional regulation, and critical digital engagement among students. As digital environments become integral to academic and social life, the promotion of healthy online behaviors must be embedded in university health strategies and national education frameworks.

RECOMMENDATIONS

Based on the study's findings and in line with global best practices, several actionable recommendations are proposed to address the mental health challenges associated with social media use among undergraduate students. First, universities should implement peer-led digital wellness campaigns that educate students about the psychological implications of curated online content and foster critical digital literacy. Additionally, campus mental health services ought to incorporate social media usage assessments into routine psychological screenings, focusing not only on the time spent online but also on the emotional investment and cognitive appraisals associated with digital interactions. Furthermore, faculty members and academic advisors should receive training to identify early indicators of social media-related anxiety or depressive symptoms, particularly among students in academically demanding levels such as 300L and above. At the policy level, collaboration between national education and health ministries is essential to integrate digital mental health education within tertiary academic frameworks. Lastly, it is recommended that researchers pursue longitudinal studies to examine the evolving patterns of digital media use and their psychological impacts across different academic, socioeconomic, and demographic subgroups.

Directions for Future Research and Methodological Advancement

Building on the study's limitations, future research should adopt longitudinal approaches to determine temporal sequences and causal relationships linking social media participation with mental health results throughout academic progressions, while incorporating mixed-methods approaches that merge rigorous quantitative analysis with detailed qualitative examination to reflect the situational and lived aspects of learners' online engagements. Strengthening generalizability requires multicenter studies encompassing public, private, federal, and state institutions across varied geographic areas, coupled with expanded and proportionally stratified participant pools to guarantee statistically dependable subgroup analyses across educational stages. Furthermore, improving measurement accuracy by breaking down social media exposure into content categories, platform-specific features, and interaction characteristics will facilitate finer-grained comprehension of how psychological effects

function, thus guiding development of evidence-driven, situationally-aware institutional strategies focused on enhancing student mental health results.

Ethics approval

Ethical approval was obtained from Babcock University Health Research and Ethics Committee (BUHREC) to ensure the safety of the participants and regulate the procedures to be carried out. The following steps were followed, for guidance and to maintain research ethics and confidentiality: A letter to carry out the research was obtained from BUHREC; A letter of introduction was gotten from the Department of Public Health; and A letter of consent was obtained from the university. The questionnaires was reviewed and corrected by the researcher's supervisor and BUHREC. Then informed consent form was attached to all questionnaires. Also, verbal informed consent was obtained while obscurity and confidentiality were highly maintained during and after data collection. The questionnaires was distributed and retrieved by only the researcher.

Conflicts of interest

The authors declare no conflicts of interest.

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Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

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