Original Article

Influence of Social Media Utilization on Mental Health Status Among Adolescents in Ilorin, Kwara State, Nigeria

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ARTICLE INFO	ABSTRACT
	This study examined the association between social media utilization and the mental health status of adolescents in Ilorin, Kwara State. A descriptive cross-sectional research design was adopted, and a structured questionnaire was administered to 375 adolescents selected through multistage sampling. Mental health was assessed using adapted scales measuring anxiety, sadness, concentration difficulties, sleep disturbance, self-esteem, and negative social comparison, with good internal consistency (Cronbach's $\alpha = 0.82$). Data were analysed using descriptive statistics, Pearson correlation, and one-way ANOVA. Findings revealed that all participants
	were active social media users, with WhatsApp (68.0%) and TikTok (50.4%) being the most frequently used platforms. Anxiety and concentration difficulties were the most reported mental health challenges. Correlation analysis showed significant but weak associations: a negative correlation between duration of use and anxiety ($r = -0.220$, $p<0.001$) and a positive correlation with sleep disturbance ($r = 0.158$, $p=0.002$). ANOVA results indicated that the purpose of social-media use had a significant and stronger association with all six mental-health outcomes, with entertainment use linked to more negative outcomes. It was concluded that patterns of social media use, particularly the purpose of engagement, are associated with adolescents' psychological well-being. Parental monitoring, digital-literacy education, and guided social-media engagement were recommended to promote healthier online behavior.
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Introduction

Social media has become an integral part of adolescent life, providing opportunities for communication, education, and entertainment. However, excessive usage has raised concerns regarding its potential impact on mental health. The World Health Organization (2021) estimates that over 13% of adolescents aged 10–19 years live with a diagnosed mental disorder. In Nigeria, the prevalence of mental health challenges among adolescents is a growing concern (Keles, McCrae, & Grealish, 2020). These include depression, anxiety, poor concentration, and low self-esteem. Yet, mental health issues among

adolescents often go unnoticed, especially in areas like Ilorin. Most existing studies in Nigeria have focused on adult populations, leaving a research gap in understanding how social media usage specifically affects the mental health of adolescents at the community level (Olanrewaju & Hassan, 2023). The study area, Ilorin, is a metropolitan city with increasing access to smartphones and internet connectivity. Many adolescents engage with social media daily, often using it as a major source of information and peer connection. Research suggests prolonged engagement has been linked to anxiety, low self-esteem, and poor academic focus (Twenge &

Campbell, 2018). Previous local findings indicate that adolescents in Ilorin experience emotional vulnerability related to online interaction, such as anxiety over peer feedback and social comparison (Nwachukwu, Eze, & Agbaje, 2021). These findings prompted this study to investigate the associations between patterns of social media engagement and their mental health.

Therefore, four research questions were raised:

1. What are the predominant social media platforms and usage patterns among adolescents in Ilorin?
2. What are the mental health statuses of adolescents in Ilorin, and how do these statuses vary across different age groups?
3. Is there a significant relationship between duration of social media use and adolescents' mental health outcomes?
4. Do adolescents' mental health outcomes differ significantly based on the purpose of social media use?

Methodology

Research Design

A descriptive cross-sectional research design was employed.

Study Population and Sampling

The study population comprised adolescents aged 13-19 years residing in Ilorin. A total of 375 respondents were selected through a multistage sampling technique involving random selection of wards, households, and eligible adolescents.

Measures

Data were collected using a structured questionnaire divided into three sections:

1. Demographics: Age, gender, school type.
2. Social Media Usage: Platforms, daily duration, time of day, and primary purpose.
3. Mental Health Status: This section contained an 18-item scale adapted from established literature to measure six constructs: Anxiety, Sadness/Low Mood, Concentration Difficulties, Sleep Disturbance, Positive Self-Esteem, and Negative Social Comparison. Each construct was measured with three items on a 3-point Likert scale (1=Never,

2=Sometimes, 3=Always). The internal consistency reliability for the overall mental health scale in this study was good (Cronbach's $\alpha = 0.82$).

Data Analysis

Data were analyzed using SPSS version 25. Descriptive statistics (frequencies, percentages, means, standard deviations) summarized the data. Pearson's product-moment correlation was used to examine relationships between duration of use and mental health outcomes. One-way Analysis of Variance (ANOVA) was conducted to test for differences in mental health outcomes based on the purpose of social media use. The statistical significance threshold was set at $\alpha = 0.05$. Effect sizes for ANOVA (partial eta-squared, η^2) were interpreted using guidelines by Cohen (1988). Datasets were checked for completeness; no significant missing data (>99% completion rate) was found, and complete-case analysis was employed.

Ethical Considerations

Ethical approval for this study was granted by the Al-Hikmah University Health Research Ethics Committee (Ref: AHUHREC/2023/045). Written informed consent was obtained from the parents or guardians of all adolescent participants. Additionally, written assent was obtained from each adolescent participant before questionnaire administration. Confidentiality and anonymity of responses were maintained throughout the study.

Results

Research Question One: Predominant Social Media Platforms and Usage Patterns

All 375 participants (100%) reported using social media. The results, presented in Table 1, show WhatsApp (68.0%) and TikTok (50.4%) were the dominant platforms. Regarding daily duration, 34.1% spent 1-2 hours and 34.1% spent 3-4 hours. The most common periods of use were evening (42.7%) and late night (34.7%). The main purposes were communication (32.0%), education (29.9%), and entertainment (25.6%).

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Table 1: Social Media Platforms and Usage Patterns (n=375)

Item	Categories	Frequency	Percentage (%)
Most Used Platforms	Facebook	131	34.9
	WhatsApp	255	68
	TikTok	189	50.4
	Instagram	158	42.1
	YouTube	147	39.2
	Snapchat	45	12
	Other	12	3.2
Time Spent Daily	< 1 hour	52	13.9
	1–2 hours	128	34.1
	3–4 hours	128	34.1
	5–6 hours	43	11.5
	>6 hours	24	6.4
Period of Usage	Morning	30	8
	Afternoon	55	14.7
	Evening	160	42.7
	Late night	130	34.7
Main Purpose	Communication	120	32
	Entertainment	96	25.6
	Education	112	29.9
	News & Information	45	12
	Other	2	0.5

Note: Participants could select multiple platforms.

Research Question Two: Mental Health Status and Variation by Age

As shown in Table 2, concentration difficulties (M=1.91) and anxiety (M=1.77) were the most frequently reported challenges. Positive self-esteem had the highest mean score (M=2.07).

Table 2: Mental Health Status of Adolescents (n=375)

Variable	Never (%)	Sometimes (%)	Always (%)	Mean	Std. Deviation
Anxiety	139 (37.1%)	182 (48.5%)	54 (14.4%)	1.77	0.68
Sadness/Low Mood	158 (42.1%)	186 (49.6%)	31 (8.3%)	1.66	0.62
Concentration Difficulties	105 (28.0%)	199 (53.1%)	71 (18.9%)	1.91	0.68
Sleep Disturbance	199 (53.1%)	112 (29.9%)	64 (17.1%)	1.64	0.76
Positive Self-Esteem	30 (8.0%)	287 (76.5%)	58 (15.5%)	2.07	0.48
Negative Social Comparison	165 (44.0%)	143 (38.1%)	67 (17.9%)	1.74	0.74

To formally test age differences, the sample was divided into early (13-15 years, n=179) and late (16-19 years, n=196) adolescents. Independent samples t-tests were conducted (Table 3). A significant difference was found for anxiety, with early adolescents reporting higher levels (t=3.42, p<0.001). A significant difference was also found for positive self-esteem, with early adolescents reporting higher levels (t = 3.98, p < 0.001). Differences for other outcomes were not statistically significant (p>0.05).

Table 3: Comparison of Mental Health Outcomes by Age Group

Outcome	13–15 yrs (n=179) M ± SD	16–19 yrs (n=196) M ± SD	t-value	p-value
Anxiety	1.89 ± 0.65	1.66 ± 0.69	3.42	<0.001
Sadness/Low Mood	1.63 ± 0.59	1.69 ± 0.65	-0.97	0.333
Concentration Difficulties	1.84 ± 0.62	1.97 ± 0.73	-1.87	0.063
Sleep Disturbance	1.58 ± 0.76	1.70 ± 0.76	-1.51	0.132
Positive Self-Esteem	2.17 ± 0.38	1.98 ± 0.54	3.98	<0.001
Negative Social Comparison	1.67 ± 0.73	1.80 ± 0.75	-1.68	0.094

Note: p < 0.05

Research Question Three: Relationship Between Duration of Use and Mental Health

As shown in Table 4, Pearson correlation analysis revealed significant but weak associations. There was a weak negative correlation between duration of use and anxiety (r = -0.220, p < 0.001) and a weak positive correlation with sleep disturbance (r = 0.158, p = 0.002). The correlation with positive self-esteem was negative and marginally significant (r = -0.120, p = 0.020). Correlations with sadness, concentration difficulties, and negative social comparison were not statistically significant (p > 0.05).

Table 4: Correlations Between Duration of Social Media Use and Mental Health Outcomes

Mental Health Outcome	Correlation Coefficient (r)	p-value	95% Confidence Interval for r
Anxiety	-0.22	<0.001	[-0.31, -0.12]
Sadness / Low Mood	0.064	0.215	[-0.04, 0.17]
Concentration Difficulties	0.007	0.885	[-0.10, 0.11]
Sleep Disturbance	0.158	0.002	[0.06, 0.25]
Positive Self-Esteem	-0.12	0.02	[-0.22, -0.02]
Negative Social Comparison	0.157	0.002	[0.06, 0.25]

Note: $p < 0.05$

Research Question Four: Differences Based on Purpose of Social Media Use

One-way ANOVA showed that the purpose of use had a significant association with all mental health outcomes ($p < 0.05$). As presented in Table 5, the effect sizes (partial η^2) ranged from small for anxiety to large for sleep disturbance and negative social comparison, indicating that the purpose of use explains a substantial portion of the variance in several outcomes.

Table 5: ANOVA Results for Mental Health Outcomes by Purpose of Social Media Use

Mental Health Variable	F (df = 4, 370)	Significance (p)	Partial η^2	Effect Size
Anxiety	2.463	0.045	0.026	Small
Sadness	25.343	<0.001	0.215	Large
Concentration Difficulty	26.37	<0.001	0.222	Large
Sleep Disturbance	29.577	<0.001	0.242	Large
Positive Self-Esteem	7.279	<0.001	0.073	Medium
Negative Social Comparison	27.841	<0.001	0.231	Large

Note: $p < 0.05$

Discussion

The findings reveal that social media is deeply integrated into the daily lives of adolescents in Ilorin, with WhatsApp and TikTok being predominant. This aligns with global trends of high engagement with visual and interactive platforms (Valkenburg, 2022). The reported mental health challenges, particularly anxiety and concentration difficulties, resonate with studies linking excessive digital engagement to restlessness and reduced focus among Nigerian youth (Nwachukwu, Eze, & Agbaje, 2021). Contrary to expectations, early adolescents (13-15 years) reported significantly higher anxiety and higher positive self-esteem than late adolescents (16-19 years). This may be attributed to the unique social and developmental pressures of early adolescence in this context, where initial forays into social media coincide with navigating new academic and peer environments. The higher self-esteem could reflect a more positive self-view before the intensification of peer comparison in later years (Twenge, Joiner, Rogers, & Martin, 2018). The correlation analysis presented a nuanced picture. While longer duration was associated with more sleep disturbance—a well-documented effect of screen time—its weak negative association with anxiety requires careful interpretation. This finding contradicts a simple "more time equals more harm" narrative and underscores the complexity of media effects. It is plausible that for some adolescents, prolonged time online may involve active, purposeful engagement (e.g., sustained communication, hobby groups), which can foster support and mitigate anxiety, whereas for others, it may involve passive scrolling linked to worse outcomes. This highlights how time is spent (purpose) is more critical than how much time is spent (duration), a notion strongly supported by our ANOVA results.

The most robust finding of this study is the significant and substantial association between the purpose of social media use and mental health outcomes. The large effect sizes for sadness, concentration, sleep, and social comparison indicate that motivation for use is a key factor. Entertainment-oriented use was most strongly linked to negative outcomes, consistent with research on passive consumption and upward social comparison (Valkenburg, 2022). In contrast, using platforms for education and communication was associated with better outcomes, supporting the

concept of "active use" for skill development and social support, which can enhance well-being (Yang, 2020). These findings must be interpreted within the specific socio-cultural context of Ilorin, a city where communal values, educational aspirations, and religious norms likely shape both online behavior and the perception of mental well-being. The high percentage of use for communication and education may reflect these contextual priorities.

Limitations and Conclusion

The cross-sectional design of this study limits causal inference; longitudinal research is needed to establish directional relationships. Furthermore, self-reported data may be subject to bias. In conclusion, this study demonstrates that patterns of social media use, particularly the underlying purpose of engagement, are significantly associated with the mental well-being of adolescents in Ilorin. The findings move beyond simplistic screen-time metrics to highlight the dual potential of social media: risks are linked to passive, entertainment-focused use, while potential benefits are associated with active, purposeful use for learning and connection. It is important to note that these findings demonstrate associations, not causation. Recommendations should therefore focus on guiding adolescents towards more mindful and intentional online behaviors rather than merely limiting access.

Recommendations

1. School-based programs should integrate digital literacy education that teaches adolescents to critically evaluate online content and use social media actively for learning and positive connections.
2. Parents and guardians should be engaged through workshops to encourage balanced screen time and foster open communication about online experiences, focusing on the quality rather than just the quantity of use.
3. Adolescents should be encouraged to self-reflect on their motivations for social media use and to curate their online activities towards meaningful and supportive interactions.
4. Future research should employ longitudinal designs and qualitative methods to better understand the causal pathways and contextual factors influencing social media use and mental health in this population.

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