

From Connection to Concern: Understanding Social Media's Influence on Mental Health Among Adolescents in Abuja, Nigeria

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Abstract

Background: Social media has become an integral part of daily life for adolescents but it is influencing their mental well being significantly. This study investigates social media usage patterns among students of a Government Senior Secondary School in Abuja and their effects on mental health. **Methods:** A cross-sectional study was conducted with a sample of 265 students, selected through systematic random sampling. Data were collected on age, gender, family structure, social media use, experiences of cyberbullying, and mental health indicators via a structured self-administered questionnaire. Analysis utilized IBM-SPSS version 27, employing descriptive statistics for quantitative variables and Chi-square tests for categorical variables ($p \leq 0.05$). **Results:** Findings revealed that 56.9% of respondents were aged 16-18 years, with 60% female. Most (58.5%) used social media for 1-3 hours daily, while 6.9% exceeded 10 hours. Motivations included social connection and entertainment, with 17.3% reporting experiences of cyberbullying. Mental health assessments indicated that 56.5% displayed poor mental health, though 42.3% retained optimism. Notably, family structure significantly affected digital engagement ($p = 0.001$). **Conclusion:** This study underscores the prevalent use of social media among adolescents and its substantial impact on mental health, highlighting factors like cyberbullying. The alarming rate of poor mental health emphasizes the need for targeted interventions, including digital literacy education, enhanced mental health support, and community programs to promote responsible social media use.

Keywords: Adolescents, Cyberbullying, Mental Health, Government Senior Secondary School, Abuja.

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BACKGROUND

The phrase "From Connection to Concern" effectively captures the dual nature of social media, highlighting a transition from its positive aspect of fostering relationships to the negative implications of emerging mental health issues. This shift underscores the complexity of social media's role in adolescents' lives, illustrating how the connections formed online can also lead to significant concerns regarding their well-being. Furthermore, this show the interplay between adolescents' engagement with digital environments—specifically social media—and their cognitive and emotional well-being. The widespread use of platforms like Facebook, Instagram, and Twitter among

adolescents has transformed communication and social interaction, making it essential to understand its implications for mental health, particularly in a public school setting [1-4]. Numerous reports indicate that many adolescents spend excessive time on social media, with some surveys showing that over 58% of students in Abuja, Nigeria, use these platforms for 1-3 hours each day, and about 7% of them can exceed 10 hours [3,5].

Currently, social media platforms have become an essential part of adolescents' daily lives in Nigeria, providing opportunities for connection and self-expression. However, this increased usage has raised concerns about its negative effects on mental health, including heightened risks of depression, anxiety, and

low self-esteem [5]. This social media can directly impact adolescents' psychological well-being and often exacerbates issues such as cyberbullying and exposure to harmful content. Studies have shown a correlation between high social media use and increased mental health problems among Nigerian adolescents, highlighting the urgent need for monitoring and regulation of social media engagement [6,7].

Social media can be both beneficial and detrimental; while it fosters social connection and self-expression, it also exposes users to risks such as cyberbullying and social comparison. Studies show that 15-20% of adolescents experience cyberbullying, leading to serious emotional distress, with over 50% classified as having poor mental health status [7-9].

Adolescence is a critical developmental stage, and while social media can offer benefits, it also poses risks that can influence mood and mental health. The pervasive use of social media during this period can lead to chronic sleep loss and cognitive impairments, further contributing to mental distress and self-harming behaviors. Despite the growing body of evidence linking social media use to negative mental health outcomes, there remains a lack of empirical research focused specifically on how adolescents perceive and navigate these platforms [7-9]. Family dynamics can also significantly influence adolescents' social media experiences and mental health. Understanding these interactions provides essential context for navigating the online world [10,11]. This study aims to fill a gap by assessing social media use and its impact on mental health among adolescents in a government senior secondary school in Abuja, Nigeria.

This study aimed to assess the effects of social media use on the mental health of adolescents in a government senior secondary school in Abuja, Nigeria. Our objectives for this research were:

- ✓ To evaluate the patterns of social media usage among adolescents in the selected school.
- ✓ To assess the prevalence of mental health issues, such as anxiety and depression, among adolescents in relation to their social media use.
- ✓ To identify adolescents' perceptions of social media's influence on their mental health.
- ✓ To determine the relationship between effects of social media and socio-demographic variables

METHODOLOGY

Area of Study

The research was conducted in Kubwa, a densely populated suburb in the Bwari Area Council of Abuja, Nigeria, with an estimated population of one million people. Kubwa is characterized by its diverse demographics, primarily consisting of civil servants, students, traders, and artisans, with a median age of

around 20 years. The area is predominantly middle-class, though it includes low-income residents in informal settlements. Kubwa has essential educational and healthcare facilities, albeit with challenges affecting quality services, such as inadequate staffing and poor funding of these facilities. Infrastructure in the study area ranges from well-developed to underdeveloped, impacting basic amenities. The selected school for study was established in 2019 and now has 740 students.

Study Design

A descriptive cross-sectional study was conducted in June 2024, targeting adolescents aged 13 to 18 years at Government Senior Secondary School Phase III in Kubwa, FCT Abuja. The study included students who provided informed consent (or assent with parental consent for those under 18) and had regular access to at least one social media platform, such as Facebook, Instagram, or Twitter. Excluded from the study were students who had not attended the school for at least one academic year, ensuring they were familiar with the school environment and its social dynamics. Additionally, adolescents with physical or cognitive disabilities that hindered their ability to comprehend the study requirements or provide meaningful responses were also excluded.

Sample size estimation

Using Taro Yamane's formula, the sample size was calculated from the total population of 740 students, yielding an approximate sample size of 260 after rounding. $n = \frac{N}{1 + N(e^2)}$ Where N is the population size (740) ϵ is the margin of error (0.05). $n = 740 \div 1 + 740(0.05)^2 = 256.65$.

Sampling Technique

The sampling technique involved selecting classes from each senior secondary school level (SSS1, SSS2, and SSS3) using a simple random sampling method. Specifically, one class was randomly chosen from each level, which included SSS1A-D; SSS2A-D; and SSS3A-D. To ensure that each class had an equal chance of being selected, each class was assigned a unique identifier. The selection was conducted using a ballot method, where classes were drawn randomly until one class from each school level was selected. After the selection of the classes, students from each chosen class were then selected using systematic sampling. This process involved creating a sampling frame of all students within each selected class and calculating the sample interval. The sample interval was determined by dividing the total number of students by the desired sample size, ensuring that every n th student was selected for participation.

Sample interval determination

Total Number of Students = 740, Desired Sample Size = 260

Sample Interval = Total Number of Students / Desired Sample Size

Sample Interval = $740 / 260 \approx 2.85$. Since the sample interval needs to be a whole number, it was rounded to 3. Consequently, every third student was chosen for participation.

Data Collection

Data were collected using a self-administered questionnaire designed to gather quantitative information on social media usage patterns and self-reported mental health indicators among adolescents. Structured questionnaires and standardized mental health assessment tools were used to collect data on students. The questionnaire included structured items to assess frequency and duration of social media use, along with validated scales for evaluating aspects of mental health, such as anxiety, depression, and self-esteem.

In the assessment of mental health, we incorporated elements from two widely recognized standardized scales: the Center for Epidemiologic Studies Depression Scale (CES-D) and the Generalized Anxiety Disorder Assessment (GAD-7).

1. **CES-D:** This scale is designed to measure depressive symptoms in the general population. It consists of 20 items that assess the frequency of depressive feelings and behaviors over the past week. The questions included in our questionnaire, such as feelings of hopelessness and worthlessness, are derived from this scale, allowing us to quantify the prevalence of depressive symptoms among adolescents.
2. **GAD-7:** This is a brief screening tool for generalized anxiety disorder, comprising seven items that evaluate the severity of anxiety symptoms experienced in the past week. Questions regarding

feelings of anxiety or being on edge were adapted from this scale, facilitating an understanding of anxiety levels in our study population. Furthermore, the perceived impact of social media use on overall mental health, was dichotomized into two categories: "Positive impact" and "Negative impact." This approach was used to quantify perceptions of social media's influence on mental health.

Data Analysis

Data analysis was conducted using chi-square tests for categorical data and Pearson correlation coefficients for continuous variables. This analysis examined the relationships between social media use and various demographic characteristics. A significance level was established at $p < 0.05$. All statistical analyses were performed using IBM SPSS Statistics version 27.

Ethical Considerations

Ethical approval was sought and obtained from the Federal Capital Territory Health Research Ethics Committee Abuja (FHREC/2024/01/149/19-06-24). Permission was also obtained from the School Administrative Board.

RESULTS

Slightly more than half of the respondents, 56.9%, were between the ages 16-18 years old, 30.4% and 12.7% were less than 15 years and greater than 18 years, respectively, with a mean age of 16 ± 2.1 years old. Most of the respondents (60.0%) were females. The majority of the respondents (84.2%) were from monogamous families. About 47.0% of the respondents were in SSS 2, 27.0% and 26.0% were in SSS3 and SSS1, respectively (Table 1).

Table 1: Socio-demographic profile of the respondents (n=260)

Variables	Frequency (%)
Age group (in years)	
≤ 15	79 (30.4)
16 – 18	148 (56.9)
> 18	33 (12.7)
Mean ± SD (years)	16 ± 2.1
Age Range (years)	14 – 23
Gender	
Male	104 (40.0)
Female	156 (60.0)
Type of family	
Monogamous	219 (84.2)
Polygamous	41 (15.8)
Educational level (Class)	
SSS 1	67(26.0)
SSS 2	123 (47.0)
SSS 3	70 (27.0)

More than half of the respondents (58.5%) reported spending an average of 1-3 hours daily on social

media, whereas 6.9% noted that they spend an average of more than 10 hours daily on social media. Only 17.3%

of the respondents noted that they have experienced cyberbullying on social media, with 24.4% of them noting that the experience was horrible. Also, 9.2% of the respondents noted that they always compare

themselves with others on social media, while 45.2% claimed never to compare themselves with others on social media (Table 2).

Table 2: Experience and time spent on social media among respondents

Variables	Frequency (%)
Average number of hours daily on social media	
1 – 3	152 (58.5)
4 – 6	60 (23.1)
7 – 9	30 (11.5)
≥ 10	18 (6.9)
Experienced cyber bullying on social media	
Yes	45 (17.3)
No	215 (82.7)
Type of experience	
Horrible	11 (24.4)
Being scammed	17 (37.8)
Heart broken	7 (15.6)
Not fair	3 (6.7)
He/she was insulting	4 (8.9)
It was so devastating	3 (6.7)
Comparing self to others on social media	
Never	120 (45.2)
Rarely	46 (17.7)
Sometimes	60 (23.1)
Often	10 (3.8)
Always	24 (9.2)

About 55.4% and 39.2% of the respondents noted that the main reason for the use of social media is to connect with friends and family and for entertainment,

respectively. Also, 32.3% and 28.8% identified using social media to get information and news and share updates and experiences, respectively (Figure 1).

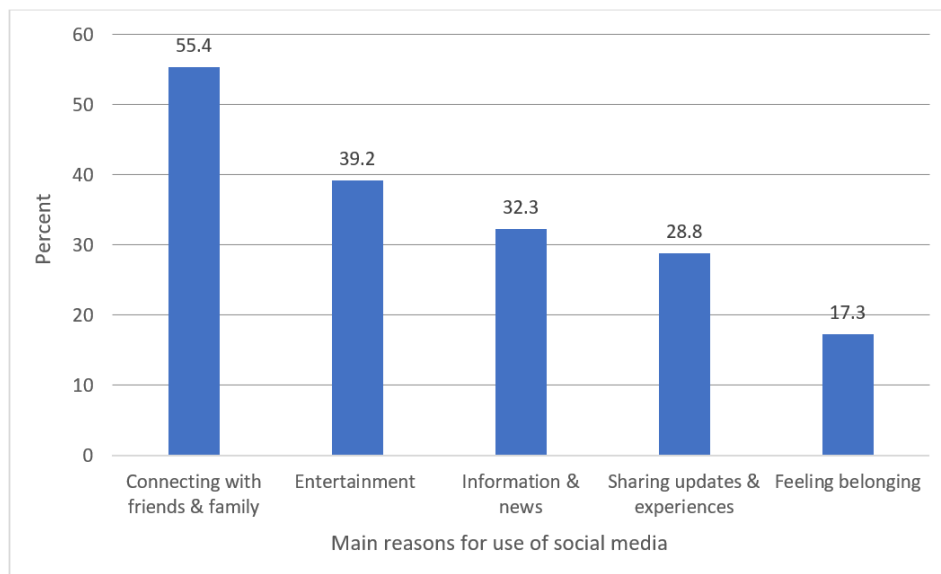


Figure 1: Main reasons the students' uses social media

About 44.6% and 35.4% of the respondents identified that they never feel worthless or unable to do things well and anxious or on edge, respectively. Also, 36.5% and 30.0% of the respondents noted that they rarely feel down, depressed, or hopeless and anxious or

on edge, respectively. On the other hand, 42.3% and 38.5% of the respondents noted that they always feel optimistic about the future and enjoy doing things, respectively (Table 3).

Table 3: Mental health indicators regarding social media use by the respondents

Variables	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Always (%)
I feel down, depressed, or hopeless	45 (17.3)	95 (36.5)	78 (30.0)	24 (9.2)	18 (6.9)
I feel anxious or on edge.	92 (35.4)	78 (30.0)	50 (19.2)	32 (12.3)	8 (3.1)
I feel worthless or unable to do things well	116 (44.6)	64 (24.6)	16 (6.2)	28 (10.7)	36 (13.8)
I enjoy doing things	26 (10.0)	42 (16.2)	60 (23.1)	32 (12.3)	100 (38.5)
I feel optimistic about the future	26 (10.0)	20 (7.7)	72 (27.7)	32 (12.3)	110 (42.3)

Table 4: Overall mental health status of respondents regarding social media uses

Variables	Frequency (%)
Mental health status	
Good	113 (43.5)
Poor	147 (56.5)

Overall, 43.5% of the respondents had good mental health status (Table 4).

The relationship between the effects of social media and socio-demographic variables showed a significant relationship with the type of family, while the gender and age group of the respondents showed no significant relationship. There is no significant

association between age groups and the effects of social media ($\chi^2 = 1.479$, $p = 0.477$). Adolescents across different age groups report similar proportions of positive and negative effects of social media. A significant association is observed between the type of family structure and the effects of social media ($\chi^2 = 10.270$, $p = 0.001$) (Table 5).

Table 5: Relationship between effects of social media and socio-demographic variables

Variables	Effects of social media		χ^2	p-value
	Positive (%)	Negative (%)		
Age group (in years)			1.479	0.477
≤ 15	12 (15.2)	67 (84.8)		
16 – 18	24 (16.2)	124 (83.8)		
> 18	8 (24.2)	25 (75.8)		
Gender			0.018	0.893
Male	18 (17.3)	86 (82.6)		
Female	26 (16.7)	130 (83.3)		
Type of family			10.270	0.001
Monogamous	30 (13.7)	189 (86.3)		
Polygamous	14 (34.1)	27 (65.9)		
Employment status of father			1.075	0.299
Employed	40 (16.3)	205 (83.7)		
Unemployed	4 (26.7)	11 (73.3)		
Level of education of father			2.889	0.409
Primary	7 (12.7)	48 (87.3)		
Secondary	15 (22.4)	52 (77.6)		
Tertiary	19 (17.3)	91 (82.7)		
No formal education	3 (10.7)	25 (89.3)		

DISCUSSION

This survey reveals critical insights into the influence of social media on adolescents, primarily focusing on those aged 16-18 during a developmental period where external factors significantly impact their mental health. The gender distribution leans toward females, who are found to be more vulnerable to social media's negative effects, often facing higher rates of anxiety and depression. Most respondents come from monogamous families, which may offer more consistent parental support, potentially lessening negative social media impacts, [12-14]. The high employment rate of

fathers (94.2%) indicates a stable economic environment, facilitating greater access to technology and the Internet, [15,16]. Additionally, a notable portion of fathers (42.3%) have tertiary education, likely increasing digital literacy and parental engagement around social media usage. This suggests a need for vigilant monitoring by parents, as unregulated access can lead to exposure to cyberbullying and negative social comparisons, [17]. Moreover, 37.5% of smartphones are received from friends, indicating that peer pressure may increase social media engagement and potential mental health risks, [12].

Cyberbullying is prevalent, affecting two out of every ten respondents, with significant psychological consequences, including heightened anxiety and depression. Many victims report scams (37.8%) and other distressing experiences (24.4%), which can lead to long-term emotional distress. Social comparison behaviors also raise concerns, with 45.2% of respondents never comparing themselves to others, while others reported varying frequencies of comparison that can damage self-esteem and contribute to depressive symptoms [18,19]. Overall, the interplay between social media use, cyberbullying, and social comparison creates a complex landscape impacting adolescent mental health, underscoring the critical need for parental involvement and guidance in navigating these challenges, [14,20].

Respondents' primary motivation for social media use is to connect with friends and family, with 55.4% citing this reason. This aligns with previous research indicating that maintaining relationships is a key driver for adolescents' social media engagement, which can enhance social support and well-being. However, while such connections can be beneficial, excessive reliance on digital communication may lead to negative consequences, including loneliness and anxiety from the pressure to present an idealized self-online [9,19]. Additionally, a quarter of respondents use social media for entertainment, which, although providing relaxation, can lead to issues like addiction, academic decline, and poor sleep. The consumption of entertaining content has also been linked to increased rates of anxiety and depression. Another significant reason for social media use is to obtain information and news, with one-third of respondents engaging in this practice. While it can enhance awareness of current events, it also exposes users to misinformation and can lead to information overload, contributing to mental fatigue and decreased well-being, [1,16].

Twenty-eight percent of respondents use social media to share personal updates, which can foster community and validation. However, this sharing may also lead to social comparison, resulting in feelings of inadequacy and lower self-esteem. A notable proportion of respondents reported feelings of depression and anxiety, with 36.5% rarely feeling down and 30.0% sometimes experiencing these feelings, [13]. Factors such as cyberbullying, social comparison, and the pressure to maintain a curated image contribute to these issues. Similarly, anxiety is prevalent, with 30.0% rarely feeling anxious and 19.2% sometimes feeling this way, attributed to fears of missing out and the demands of online interactions. Overall, the findings reflect a complex relationship between social media use and mental health among adolescents, [15,17].

Feelings of worthlessness are notable among respondents, with 13.8% reporting always feeling worthless or unable to do things well, while only 10.0% reported never feeling this way. This suggests that a significant proportion of adolescents may struggle with low self-esteem and feelings of inadequacy, exacerbated by negative experiences on social media, such as cyberbullying and social comparison. Conversely, 38.5% reported always enjoying doing things, indicating a capacity for positive engagement. Still, it's essential to consider whether this enjoyment encompasses online and offline activities, as excessive social media use could detract from real-world experiences and overall well-being [10,19].

The total mental health status of respondents from Government Senior Secondary School, Phase III, Kubwa, FCT Abuja, shows that 43.5% perceive their mental health as good, while 56.5% perceive it as poor. Factors influencing adolescent mental health perceptions include social media use, with research indicating that high social media engagement can contribute to negative mental health outcomes, such as depression and anxiety. Adolescents who spend more time on social media may experience reduced well-being due to cyberbullying, social comparison, and pressures to maintain an idealized online image [5,9].

While social media can foster connections and self-expression, it also poses risks, particularly regarding increased rates of depression and anxiety among adolescents. The constant exposure to curated representations of life can cultivate feelings of inadequacy. Cyberbullying and negative online interactions can further exacerbate mental health challenges, [2,16]. A significant portion of respondents (60.8%) reported neutral perceptions about social media's impact on mental health, indicating ambivalence about its influence. However, 22.3% perceived a negative impact, while 16.9% saw it positively. Some respondents identified social media as a coping mechanism, with 13.8% using it to relieve pain and 21.2% to feel good. Despite its negative potential, respondents noted social media's role in seeking support and distraction, [10,20].

Furthermore, our analysis revealed no significant association between age groups and the effects of social media ($\chi^2 = 1.479$, $p = 0.477$), indicating that adolescents across different ages report similar proportions of positive and negative effects. In contrast, a significant association was found between family structure and the effects of social media, ($\chi^2 = 10.270$, $p = 0.001$). Adolescents from polygamous families are more likely to report negative effects compared to those from monogamous families. This finding highlights that family dynamics and support systems may differ across family structures, potentially affecting how adolescents

experience and interpret their social media interactions, [21].

However, it is essential to acknowledge the limitations of this study. The cross-sectional approach captures only a snapshot in time, limiting the ability to determine causal relationships between social media usage and mental health outcomes. Alternative research designs, such as longitudinal studies, could provide more robust insights into these causal relationships. Additionally, adolescents' perceptions of their mental health are inherently subjective and can be influenced by various external factors, complicating the ability to draw definitive conclusions. Furthermore, the findings from this study, conducted in one public school, may not be generalizable to other schools in different geographic locations, as cultural differences can significantly impact social media usage and its effects on mental health.

CONCLUSION

The findings from this study reveal a worrisome trend regarding adolescents' mental health in relation to social media usage. A significant number of students reported perceiving their mental health as poor, emphasizing the urgent need for targeted interventions that address the complexities of social media engagement. To effectively combat the negative consequences associated with prolonged social media use, it is crucial to enhance digital literacy among youths. By improving their understanding of digital spaces, we can empower them to navigate social media more safely and responsibly. Additionally, increasing access to mental health support services and advocating for protective policies in online environments are vital steps in promoting adolescent mental well-being. Implementing school-based mental health services, encouraging parental involvement, and launching public health campaigns will further reinforce efforts to create a supportive framework for our youth. Collaborative actions among educators, parents, policymakers, and technology companies are essential to establish safe digital environments. Strengthening cybersecurity legislation and enhancing mental health resources will provide adolescents with the necessary tools to thrive in this digital age. Overall, proactive measures and collective responsibility can pave the way for improved mental health outcomes for young people amidst the challenges posed by social media.

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