Original Article

Impact of Addictive Screen Use on Quality of Life, Burnout, and Psychiatric Morbidity among Nigerian University Undergraduates: A cross-sectional Analysis from Ahmadu Bello University, Northwest Nigeria

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ABSTRACT

The digital era has seen a surge in screen-based engagements among youth, particularly university students, raising concerns about behavioral addiction and its psychosocial ramifications. This study investigated the prevalence and impact of addictive screen use on burnout, psychiatric morbidity, and health-related quality of life (HRQoL) among undergraduates at Ahmadu Bello University, Nigeria. A cross-sectional study was conducted among 450 undergraduate students selected using multistage random sampling method. Validated instruments; Smartphone Addiction Scale-Short Version (SAS-SV), Maslach Burnout Inventory-Student Survey (MBI-SS), MINI International Neuropsychiatric Interview (MINI v7.0), and World Health Organization's Quality of Life – BREF (WHOQoL-BREF) were used for assessment. Data were analyzed using IBM-SPSS version 29, with chi-square tests and multivariate logistic regression performed at a 95% confidence level. The prevalence of addictive screen use was 72.2% (n = 325), burnout 61.1% (n = 275), depression 47.8% (n = 215), anxiety 42.2% (n = 190), suicidality 17.8% (n = 80), and poor overall HRQoL 65.6% (n = 295). Addictive screen use was significantly associated with burnout ($\chi^2 = 24.36$, $p < 0.001$), depression ($\chi^2 = 19.87$, $p < 0.001$), anxiety ($\chi^2 = 21.40$, $p < 0.001$), suicidality ($\chi^2 = 10.23$, $p = 0.0014$), and poor HRQoL ($\chi^2 = 28.55$, $p < 0.001$). Multivariate analysis revealed addictive screen use independently predicted burnout (AOR = 2.35), depression (AOR = 2.87), anxiety (AOR = 2.41), and suicidality (AOR = 1.95). Poor HRQoL was also a strong predictor of these outcomes. Addictive screen use is highly prevalent among Nigerian undergraduates and is significantly linked to adverse mental health outcomes and diminished quality of life. These findings underscore the urgent need for targeted interventions, digital wellness education, and policy reforms to mitigate the growing mental health burden in university settings.

Keywords: Addictive Screen Use, Anxiety, Burnout, Depression, Psychiatric Morbidity, Quality of Life, Suicidality

INTRODUCTION

The digital age has ushered in unprecedented access to screen-based technologies, leading to dramatic shifts in communication, entertainment, learning, and socialization patterns. Among young people, particularly university students, smartphones, tablets, and computers are integral to everyday life. While these tools offer significant academic and recreational benefits, growing concerns have emerged about their overuse and potential for behavioral addiction. The concept of "addictive screen use" has gained increasing recognition, characterized by compulsive engagement with screens despite negative psychological, social, and functional outcomes[1,2].

Globally, excessive screen use has been linked to a

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spectrum of psychiatric morbidities including depression, anxiety, attention deficits, sleep disturbances, and suicidality[3–7]. Among university students, who often face heightened academic pressures and psychosocial demands, problematic screen use is further associated with burnout and reduced quality of life (QoL)[8]. Burnout, a psychological syndrome resulting from prolonged stress and academic overload, is increasingly reported among undergraduates in low- and middle-income countries[4,9].

In Nigeria, smartphone and social media penetration has grown exponentially, yet there is a paucity of empirical data evaluating the psychosocial consequences of this digital engagement among young populations. Available literature highlights alarming rates of depressive symptoms and anxiety among university students, often worsened by poor coping skills, lack of institutional support, and unhealthy technology use[10,11].

Given these concerns, this study assessed the prevalence of addictive screen use and its relationship with quality of life, burnout, and psychiatric morbidity among undergraduates at Ahmadu Bello University, Zaria, Nigeria. The findings aim to inform mental health policy and interventions tailored to digitally connected youth in similar settings.

MATERIALS AND METHODS

Study Area

The study was carried out at Ahmadu Bello University (ABU), Zaria, Nigeria, a public research university located in Zaria, Kadunam, Kaduna State Nigeria. It was opened in 1962 as the University of Northern Nigeria. The university has four colleges, three schools, 18 faculties, 110 academic departments, 17 centres, and seven institutes with over 600 professors, about 3000 academic staff and over 7000 non-teaching staff. The university has over 400 postgraduate programmes reflecting its strife to become a postgraduate studies-centred university. The university operates from two campuses in the ancient cosmopolitan city of Zaria, the Samaru Campus where the Senate Building and most of the faculties are located and the Kongo Campus, hosting the faculties of Law and Administration. The university boasts of a medical centre (Sickbay), staff nursery and primary school, a demonstration secondary school, a junior and senior staff recreation clubs, as well as senior and junior staff quarterses[13].

Study Participants

The study was conducted among Ahmadu Bello University's undergraduates aged ≥18 years, and who had spent at least one academic session at the university.

Inclusion Criteria

1. Registered male and female undergraduate students of Ahmadu Bello University, aged ≥18 years, who had spent at least one academic session in the university.

2. Those who provided informed consent.

Exclusion Criteria

1. Those who had ongoing or history of mental illness or chronic medical illness were excluded from the study.

2. Those who had alcohol and or substance use disorder were also excluded from the study.

Study Design

This was a cross-sectional, descriptive and analytical study.

Sample Size Determination

A sample size of 450 was calculated using Cochran's formula; $n=Z^2.p.(1-p)/d^2$

Where:

n is the sample size

Z is critical value at 95% confidence interval (1.96)

p is estimated proportion of the population with the attribute (commonly 0.5 to ensure maximum variability and conservative estimate)[23]

d is precision accuracy or error margin (commonly 0.05 for 5%)

The sample size (n = 250) was estimated using Cochran's formula for sample size calculation for proportions in large populations. A 95% confidence level (Z = 1.96), a 5% level of significance, and an

assumed population proportion of 50% (p = 0.5) were used, with a marginal error of approximately 6.2%, yielding the final sample size of 450. This approach provides a conservative estimate of the required sample size for cross-sectional studies investigating unknown proportions in large populations[14].

Sampling Method

A multistage sampling technique was employed:

Stage 1: All the 18 Faculties were stratified into three broad groups: Health Sciences, Sciences and Technology, and Arts/Social Sciences.

Stage 2: From each stratum, at least three faculties were randomly selected. A total of 12 faculties were randomly selected.

Stage 3: This involved determination of study participants for each faculty using proportionate sampling method. The sampling fraction was calculated as follows:

Sample Size (n) = 450, Population of Undergraduate Students (N) = 40,000 Sampling Fraction = n / N = 450 / 40,000 = 0.01125

The sample size (n = 450) was allocated proportionally to each of the 12 randomly selected faculties based on their total population of undergraduate students. The sampling fraction (0.01125) was applied to determine the number of students sampled per faculty.

Below is the summary of the recalculated sample sizes for the chosen faculties:

Table 1: Calculated Sample Sizes From the Chosen Faculties (Sampling Fraction = 450/40,000=0.01125)

Faculty	Population	Sample Calculation	Sample (Rounded)
Arts	3,560	3,560 × 0.01125 ≈ 40.05	40
Social Sciences	2,680	2,680 × 0.01125 ≈ 30.15	30
Engineering	4,000	4,000 × 0.01125 = 45.00	45
Law	3,040	3,040 × 0.01125 ≈ 34.20	34
Education	4,000	4,000 × 0.01125 = 45.00	45
Agriculture	2,320	2,320 × 0.01125 ≈ 26.10	26
Pharmaceutical Sciences	4,000	4,000 × 0.01125 = 45.00	45
Veterinary Medicine	2,680	2,680 × 0.01125 ≈ 30.15	30
Physical Sciences	4,000	4,000 × 0.01125 = 45.00	45
Life Sciences	2,680	2,680 × 0.01125 ≈ 30.15	30
Environmental Design	4,000	4,000 × 0.01125 = 45.00	45
Basic Medical Sciences	3,120	3,120 × 0.01125 ≈ 35.10	35
Total	40,000	450.00	450

Stage 4: This involved selection of the respondents. This was done by first obtaining the lists of students in all the selected faculties from the respective faculty deans. These eligible students from each of the selected faculties were assigned numbers. Participants were then randomly selected from each faculty's list using computer-generated random numbers (using Stat Trek Random Number Generator).

Instrument for the Study

Sociodemographic Questionnaire

Key variables included gender, age, marital status, level of study, residence, and other sociodemographic variables.

Smartphone Addiction Scale – Short Version (SAS-SV)

The Smartphone Addiction Scale – Short Version (SAS-SV) is a psychometric instrument developed by Kwon *et al*. (2013) to assess the risk and severity of smartphone addiction, especially among adolescents and young adults. The SAS-SV is derived from the longer Smartphone Addiction Scale (SAS), which initially had 33 items. The short version was designed to; reduce respondent burden, improve usability in population-based surveys and clinical screenings, and maintain robust psychometric properties while being time-efficient[15].

The SAS-SV consists of 10 items, each scored on a 6-point Likert scale ranging from 1 = strongly disagree to 6 = strongly agree. The scale assesses six core components of behavioural addiction, adapted from criteria for internet and gambling addiction; daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse, and tolerance. Total score range from 10 to 60, with higher scores indicating greater risk of smartphone addiction.

Cutoff Scores (as proposed by Kwon *et al*.) are; boys: ≥31 suggests risk of addiction and girls: ≥33 suggests risk of addiction. Researchers may also apply a general cutoff of ≥31 in mixed-gender samples or adjust based on local validation studies. The general cutoff of ≥31 was used in this study.

Kwon et al. reported excellent reliability and validity

with a Cronbach's alpha score of 0.91 (excellent), test-retest reliability r = 0.83 (strong), and a high concurrent validity with full SAS and Internet Addiction Test (IAT).

The SAS-SV instrument has been used and validated in Nigeria. A study showed a significant association between high SAS-SV scores and depressive symptoms among undergraduates in Lagos[7].

Maslach Burnout Inventory – Student Survey (MBI-SS)

The Maslach Burnout Inventory – Student Survey (MBI-SS) is a version of the original Maslach Burnout Inventory (MBI), specifically adapted for students in academic settings rather than professionals in the workforce. Developed by Maslach, Schaufeli, and Leiter, the MBI-SS was designed to assess academic burnout, a syndrome of emotional exhaustion, cynicism, and reduced academic efficacy due to prolonged academic stress[16].

The MBI-SS is grounded in occupational stress theory and job-demand-resource models, which view burnout as a psychological response to chronic emotional and interpersonal stressors in academic life. For students, the "job" is their academic work, and thus academic burnout mirrors occupational burnout[16].

The MBI-SS contains 15 items distributed across three subscales; emotional exhaustion (5 items), cynicism (4 items), and academic efficacy (6 items). Each item is scored on a 7-point Likert scale; 0 = never and 6 = always. Total scores are calculated for each subscale with higher scores in Emotional Exhaustion and Cynicism indicating higher burnout and lower scores in Academic Efficacy indicating higher burnout. There is no universal cutoff, but commonly used thresholds are based on percentile ranks or categorising into low, moderate, or high burnout for each dimension[16].

The MBI-SS has demonstrated high reliability and validity in multiple international studies, with Cronbach's alpha value ranging between 0.80 and 0.90 (all subscales) and test-retest reliability r value of between 0.70 and 0.85. The instrument has been used and validated in Nigeria[16,17].

MINI International Neuropsychiatric Interview (MINI), version 7.0

The mini international neuropsychiatric interview (MINI) is a structured diagnostic interview that assesses major Axis I psychiatric disorders based on American Psychiatric Association's Diagnostic and Statistical Manual – Version 5 (DSM-5) and the World Health Organization's International Classification of Diseases – Version 10 (ICD-10) criteria. In this study, only the modules for Major Depressive Episode, Generalized Anxiety Disorder, and suicidality were used. The MINI is brief (administered in approximately 15–20 minutes) and validated across multiple languages, including English language. It has demonstrated high inter-rater and test–retest reliability (kappa > 0.75). These study instruments have been used and validated in the study area[18].

World Health Organization Quality of Life Instrument – BREF (WHOQoL-BREF)

The WHOQoL-BREF is a 26-item abbreviated version of the original WHOQoL-100, assessing quality of life in four domains: physical health, psychological health, social relationships, and environment. Each item is scored on a 5-point Likert scale. Raw scores are transformed to a scale of 0–100, with higher scores indicating better perceived quality of life. This instrument has been validated across cultures and is widely used in both clinical and research settings[19].

Research Procedure

Based on the multistage sampling, eligible participants were approached and the nature of the study was explained to them, while emphasising that the study was purely academic. They were assured of confidentiality and anonymity throughout the study and beyond. Those who gave informed written consent were enrolled and administered the study instruments.

The lead researcher, a consultant psychiatrist and experienced in the use of MINI and the other instruments together with 4 research assistants (all senior registrars in psychiatry), trained in the administration and interpretation of the MINI and the other research instruments, were responsible for

the data collection. Before the main data collection, the lead researcher and the four research assistants assessed the impact of addictive screen use on burnout, psychiatric morbidity and health-related quality of life among 45 undergraduate students of Kaduna State University, Kaduna, Nigeria. This constituted 10% of the sample size (not part of the main study and not in the same study location). The lead researcher and each of the research assistants independently assessed the same participants using the standardized tools. The results from this pilot study were then collated. Using Cohen's Kappa[20], a statistical measure of inter-rater agreement for categorical items, to calculate the consistency of ratings among the team members, the Cohen's Kappa score was found to be 0.75, indicating substantial agreement among the raters.

Each eligible participant in the main study was given the four self-administered questionnaires (socio-demographic questionnaire, SAS-SV, MBI-SS, and WHOQoL-BREF) while the lead researcher together with the 4 research assistants administered the major depressive, generalized anxiety, and suicidality modules of the MINI instrument. The self-administered questionnaires were filled in the presence of the trained clinicians (i.e. the lead researcher and the research assistants), in case they needed further guidance or clarifications. The interview took an average of 25-20 minutes per participant to complete. The study was conducted over a period of three months, starting from 2nd January 2025, though to March 2, 2025.

Statistical Analyses

The collated results were imputed into the IBM Statistical Product and Services Solutions (IBM-SPSS) version 29. Checks were done for missing data or outliers. Initial analyses involved descriptive statistics to summarize participants' background characteristics, including percentages, means, and measures of variance, with frequency tables. The data showed normal distribution with no missing data. Chi-square test was used to test for associations, while multiple logistic regression analysis was done for significant variables to eliminate confounders and to determine the most important statistical predictors and adjusted odd ratios (Adjusted OR) used to measure the strength of associations. Addictive screen use was the independent (predictor) variable, while burnout, psychiatry morbidity, and health-related quality of life the dependent variables. The test of significance was set at $p<0.05$ two-tailed and level of confidence set at 95% confidence interval.

Ethical Consideration

The study procedures were reviewed and approved by the Health Research Ethics Committee of Ahmadu Bello University Teaching Hospital, Shika-Zaria. Informed written consent was obtained from all participants prior to their inclusion in the study. Confidentiality and anonymity of participants was maintained throughout the research process (identifiers such as names, student IDs, email addresses, phone numbers, etc were excluded from the data). Participants were duly informed they could withdraw from the study at any time without any consequences.

RESULTS

This study assessed the prevalence and impact of addictive screen use on quality of life, burnout, and psychiatric morbidity among 450 Nigerian university undergraduates. The results showed normal distribution and are presented below with accompanying tables.

The socio-demographic characteristics of the respondents are summarized in Table 2. The mean age of respondents was 22.6 years (SD = 2.9), with ages ranging from 17 to 34 years. A total of 256 respondents (56.9%) were male and 194 (43.1%) were female. The majority of respondents (64.7%) were aged 18–25 years, while 35.3% were older than 25 years. Most participants were unmarried (91.8%, n = 413), and 8.2% (n = 37) were married. Regarding faculty distribution, students were represented across 10 faculties, with the highest proportions from the Faculty of Social Sciences (22.2%) and the least from Faculty of Agriculture (5.8%). A total of 62.7% (n = 282) were living on-campus, while 37.3% (n = 168) resided off-campus.

Table 3 presents the prevalence of screen use type.

Addictive screen use was observed in 72.2% (n = 325) of participants. A-risk screen use was reported in 16.7% (n = 75), and only 11.1% (n = 50) were within the normal screen use category.

Table 4 presents the prevalence of burnout and psychiatric morbidity among respondents. Burnout was reported in 61.1% (n = 275) of respondents. Depression was found in 47.8% (n = 215), anxiety in 42.2% (n = 190), and suicidality in 17.8% (n = 80).

The scores across the domains of the health-related quality of life are presented in Table 5. Poor overall quality of life (QoL) was reported by 65.6% (n = 295). Poor physical health domain scores were seen in 62.2% (n = 280), poor psychological QoL in 72.0% (n = 324), poor social QoL in 68.0% (n = 306), and poor environmental QoL in 70.0% (n = 315). Table 6 summarises the prevalence of addictive screen use, burnout, psychiatric morbidity, and health-related quality of life.

Table 7 presents the association between addictive screen use and burnout, psychiatric morbidity, and quality of life (Chi-square analysis**).** A statistically significant association was observed between addictive screen use and burnout ($\chi^2 = 24.36$, df = 2, $p < 0.001$). Addictive screen use was also significantly associated with depression ($\chi^2 = 19.87$, df = 2, $p < 0.001$), anxiety ($\chi^2 = 21.40$, df = 2, $p < 0.001$), and suicidality ($\chi^2 = 10.23$, df = 2, $p = 0.0014$). Poor overall HRQoL was significantly associated with addictive screen use ($\chi^2 = 28.55$, df = 2, $p < 0.001$).

Table 8 presents the multivariate logistic regression to determine significant statistical predictors of burnout and psychiatric morbidity. Addictive screen use significantly predicted burnout (Adjusted Odd Ratio [AOR] = 2.35, 95% CI: 1.56–3.52, $p < 0.001$). Poor HRQoL also significantly predicted burnout (AOR = 2.68, 95% CI: 1.71–4.19, $p < 0.001$). Age, gender, and residence were not statistically significant predictors in the model.

Addictive screen use was a significant predictor of depression (AOR = 2.87, 95% CI: 1.91–4.31, $p < 0.001$). Female gender was significantly associated with depression (AOR = 1.75, 95% CI: 1.16–2.63, $p = 0.008$). Poor HRQoL also significantly predicted depression (AOR = 2.54, 95% CI: 1.69–3.82, $p < 0.001$). Other sociodemographic variables were not statistically significant.

Addictive screen use predicted anxiety (AOR = 2.41, 95% CI: 1.59–3.67, $p < 0.001$). Poor HRQoL was a significant predictor (AOR = 2.12, 95% CI: 1.42–3.17, $p < 0.001$). Gender and residence status were not significant predictors in this model.

Addictive screen use significantly predicted suicidality (AOR = 1.95, 95% CI: 1.14–3.33, $p = 0.015$). Poor HRQoL was also associated with suicidality (AOR = 1.89, 95% CI: 1.10–3.23, $p = 0.021$). Age, gender, and faculty were not statistically significant predictors in this model.

Table 2: Sociodemographic Characteristics of Respondents; N = 450

Variable	Frequency (f)	Percent (%)
Age of respondent (in years)		
18 - 25	291	64.7
26 - 30	101	22.4
31 - 35	58	12.9
Gender of respondent		
Female	194	43.1
Male	256	56.9
Religion of respondent		
Christianity	113	25.1
Islam	316	70.2
None	21	4.7
Tribe of respondent		
Hausa	177	39. 3
Igbo	26	5.8
Yoruba	88	19.6
Others	159	35.3
Marital Status		
Married	37	8.2
Single	413	91.8
Faculty of Respondent		
Arts	40	8.9
Social Sciences	30	6.7
Engineering	45	10
Law	34	7.6
Education	45	10
Agriculture	26	5.8
Pharmaceutical Sciences	45	10
Veterinary Medicine	30	6.7
Physical Sciences	45	10
Life Sciences	30	6.7
Environmental Design	45	10
Basic Medical Sciences	35	7.8
Level of respondent		
200 level	200	44.4
300 level	120	26.7
400 level	90	20
Others	40	8.9

Table 3: Prevalence of Addictive Screen Use (SAS-SV Score Categories); N = 450

Category	Frequency	Percentage (%)
Normal Use (≤ 23)	50	11.1
At-Risk (24–30)	75	16.7
Addictive Use (≥ 31)	325	72.2

Table 5: Health Related Quality of Life (WHOQOLBREF Domain Scores)

Domain	Mean Score (SD)	Poor HRQoL (%)
Physical Health	45.2 (9.8)	65.0
Psychological	38.7 (8.5)	72.0
Social Relationships	42.1 (10.3)	68.0
Environment	40.5 (7.6)	70.0

Table 4: Prevalence of Psychiatric Morbidity and Burnout (MINI and MBI-SS) N=450

Condition	Frequency	Percentage (%)
Burnout (High MBI-SS)	275	61.1
Depression	215	47.8
Generalized Anxiety Disorder	190	42.2
Suicidality (Ideation 76, Attempt 4)	80	17.8

Table 6: Summary Prevalence of Addictive Screen Use, Burnout, Psychiatry Morbidity, and Health-Related Quality of Life N=450

Variable	Frequency	Percentage (%)
Addictive Screen Use (SAS -SV ≥31)	325	72.2
Poor HRQoL (WHOQOL -BREF Score <50)	295	65.6
Burnout (MBI -SS: Moderate –Severe)	275	61.1
Depression (MINI)	215	47.8
Generalised Anxiety Disorder	190	42.2
Suicidality (Ideation 76, Attempt 4)	80	17.8

Table 7: Chi-square Test of Association Between Addictive Screen Use, Burnout, Psychiatric Morbidity, Health-Related Quality of Life

Variable	χ^2 (Chi-square)	df	p-value	Interpretation
Burnout	24.36	1	<0.001	Significant
Depression	19.87	1	<0.001	Significant
GAD	21.40	1	<0.001	Significant
Suicidality	10.23	1	0.0014	Significant
Poor HRQoL	28.55	1	<0.001	Significant

Table 8: Multivar Logistic Regression on Predictors of Burnout and Psychiatric Morbidity

Predictor	Adjusted OR (AOR)	95% CI	p - value	Interpretation
Burnout				
Addictive screen use	2.35	1.56 – 3.52	<0.001	Significant
Female gender	1.42	0. 98 – 2.08	0.064	Not significant
Poor HRQoL	2.68	1.80 – 3.99	<0.001	Significant
Depression				
Addictive screen use	2.87	1.91 – 4.31	<0.001	Significant
Female gender	1.75	1.15 – 2.65	0.008	Significant
GAD				
Addictive screen use	2.41	1.59 – 3.67	<0.001	Significant
Poor HRQoL	2.12	1.42 – 3.15	<0.001	Significant
Suicidality				
Addictive screen use	1.95	1.14 – 3.33	0.015	Significant

KEY: GAD = Generalised Anxiety Disorder, AOR=Adjusted Odd Ratio

DISCUSSION

This study assessed the prevalence and impact of addictive screen use on quality of life, burnout, and psychiatric morbidity among 450 Nigerian university undergraduates. The findings demonstrate a troubling prevalence of addictive screen use (72.2%; n = 325), burnout (61.1%; n = 275), depression (47.8%; n = 215), anxiety (42.2%; n = 190), suicidality (17.8%; n = 80), and poor health-related quality of life (65.6%). These rates suggest a significant burden of mental health issues closely tied to digital screen engagement among youth in the academic environment.

The majority of respondents were between the ages of 18 and 25 years (64.7%; n = 291), unmarried (91.8%; n = 413), and male (56.9%; n = 256), a demographic typical of Nigerian undergraduate institutions. Addictive screen use, as measured by the SAS-SV, was found in 72.2% of the students, with only 11.1% falling within normal use. These figures are significantly higher than those reported in some global contexts. For instance, studies in Europe and North America reported screen addiction rates of 30–40% among university students[1,2]. However, findings in low- and middle-income countries such as Kenya and Malaysia have reported comparable rates, suggesting contextual and environmental amplifiers of problematic screen use, including poor digital literacy and lack of structured leisure alternatives[3,5].

The reported prevalence of burnout (61.1%; n = 275) was notably high, reflecting academic and psychosocial stress burdens typical in under-resourced university settings. Similar high burnout rates were documented by Wambua *et al*. among Kenyan students (57%) and by King *et al*. in relation to digital engagement[3,5]. The study also found depression (47.8%; n = 215) and generalized anxiety disorder (42.2%; %; n = 190) to be highly prevalent. These findings are consistent with the work of Twenge *et al*., who found significant associations between heavy media use and mental distress among adolescents and young adults[6].

Suicidality was reported by 17.8% (n = 80) of respondents; a concerning figure when considered in the context of university environments, which often lack adequate mental health support services. The link between digital screen overuse and suicidal ideation has been previously reported by Pretorius *et al*., suggesting that excessive screen time may exacerbate social withdrawal, sleep disturbance, and feelings of hopelessness[7].

The majority of participants reported poor HRQoL across all WHOQOL-BREF domains, especially in psychological (72%), environmental (70%), and social relationship (68%) aspects. These findings align with Coyne *et al*., who demonstrated that excessive digital interaction erodes interpersonal engagement and environmental satisfaction[8].

Chi-square analyses revealed significant associations between addictive screen use and all adverse outcomes assessed, including burnout (χ^2 = 24.36, $p < 0.001$), depression ($\chi^2 = 19.87$, $p < 0.001$), anxiety ($\chi^2 = 21.40$, $p < 0.001$), suicidality (χ^2 = 10.23, $p = 0.0014$), and poor HRQoL ($\chi^2 = 28.55$, $p < 0.001$).

Logistic regression further substantiated these relationships. Addictive screen use was an independent predictor of; Burnout (AOR = 2.35, 95% CI: 1.56–3.52, $p < 0.001$), Depression (AOR = 2.87, 95% CI: 1.91–4.31, $p < 0.001$), Anxiety (AOR = 2.41, 95% CI: 1.59–3.67, $p < 0.001$), Suicidality (AOR = 1.95, 95% CI: 1.14–3.33, $p = 0.015$).

Poor HRQoL was also a strong independent predictor of burnout (AOR = 2.68) and anxiety (AOR = 2.12), underscoring the role of general wellbeing in mental health resilience. These findings reflect Davis's cognitive-behavioural model of pathological internet use, which posits that screen-related behavioral reinforcement can displace offline functioning and reduce subjective wellbeing[9].

Female gender significantly predicted depression (AOR = 1.75, $p = 0.008$), consistent with evidence that women may be more susceptible to digital-related distress due to factors such as cyberbullying, body image concerns, and online social comparison[10].

These findings align with research by Olatunde and Balogun in Nigeria, who reported significant associations between social media use and

depression among undergraduates[11]. They also mirror Andreassen's work on social networking addiction as a contemporary public health challenge[12].

Given the sheer magnitude of impact observed, this study provides clear evidence that addictive screen use constitutes a serious threat to the mental health and functional quality of university students in Nigeria. It calls for urgent implementation of screen-use literacy programmes, institutional mental health interventions, and structural reforms in academic settings to minimize psychological burden.

CONCLUSION

This study highlights the pervasive nature of addictive screen use among Nigerian university undergraduates and its significant negative impact on mental health and quality of life. With over 70% of students demonstrating signs of screen addiction and substantial proportions experiencing burnout, depression, anxiety, and poor quality of life, the findings point to a growing public mental health concern in academic settings. Addictive screen use independently predicted these adverse outcomes, reinforcing the hypothesis that excessive engagement with digital screens compromises psychological wellbeing and functional health. These results call for urgent, multisectoral interventions to mitigate the consequences of screen addiction in young populations and promote healthier digital engagement patterns.

Recommendations

There is need to integrate screen hygiene education into university orientation and counseling programmes and mental health literacy campaign programmes. Institutions should develop digital wellness policies that promote offline academic engagement and regulate screen-based assessments and social interactions, especially during critical academic periods. Efforts should also be made to expand mental health services for students, including well staffed counseling centers for early identification and management of screen addiction and its comorbidities, including depression, anxiety, and burnout. There is need for longitudinal studies to examine causality and the long-term effects of addictive screen use.

Limitations

The cross-sectional design limits the ability to infer causality. While strong associations were observed, it is unclear whether screen addiction causes mental health issues or vice versa. The self-reported nature of some of the questionnaires may introduce social desirability bias or underreporting of mental health symptoms and screen behaviours. This study was done in a single university, which may limit generalizability to other academic institutions across Nigeria and sub-Saharan Africa. Lastly, the quality, type, and accessibility of screen technologies among students may vary and were not controlled for in the analysis.

Authors' Contributions

All authors substantially contributed to all the major aspects of this study. All authors performed critical revision of the manuscript for intellectual content and approved of the version to be published.

Conflict of Interest

The authors declare no competing interests.

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