

Gender Differences in Instagram-driven Mental Health and Addictive Behaviour among Nigerian Undergraduates

Olaolu Olaruku Olaimolu¹, Felix Olajide Talabi^{2*}, Benjamine Kayode Ogundeji¹, Olanike Justinah Olusola¹, Bolanle Morenike Adeoluwa¹, Agatha Oluwafunmilayo Adu¹, Ifeyimika Olalekan Ayoade¹, Busayo Rebecca Ajayi-Owoyemi³, Temitope Oluwaseun Oyedele⁴, Oluwanifemi Favour Oyeyemi¹, Samson Adedapo Bello⁵, Olalekan Olatunji⁶, Maranatha Morenike Olanrewaju⁷, Joshua Kayode Okunade⁵

¹Department of Communication Studies, Bamidele Olumilua University of Education, Science and Technology, Ikere-Ekiti, Ekiti State, Nigeria, ²Department of Mass Communication, Redeemer's University, Ede, Osun State, Nigeria, ³Department of Communication and Media Studies, Afe Babalola University, Ado-Ekiti, Ekiti State, Nigeria, ⁴Department of Communication and Media Studies, Oduduwa University, Ile-Ife, Osun State, Nigeria, ⁵Department of Mass Communication, Caleb University, Imota, Lagos State, Nigeria, ⁶Department of Mass Communication, Baze University, Abuja, Nigeria, ⁷Department of Mass Communication, Faculty of Social Sciences, Redeemer's University, Ede, Osun State, Nigeria. *Corresponding Author's Email: talabif@run.edu.ng

Abstract

This paper analysed how genders use Instagram differently and the psychological implications on undergraduates in South-western Nigeria. A quantitative survey design was used to gather data from 533 students in three universities. Results showed that there were clear gendered differences between Instagram use, mental health and addictive behaviours. Male students indicated more frequent and longer use and more addictive behaviours like preoccupation and mood alteration that tended to interfere with sleep patterns. The female students, however, took up more relational and appearance-based activities and therefore were more susceptible to low self-esteem and emotional distress associated with social comparison. Though there was no notable gender difference in general emotional well-being, the males expressed more behavioural expressions of addiction, but the females experienced more psychological risk. These results are consistent with Social Comparison Theory, which describes the increased susceptibility of females to upward comparisons and behavioural addiction models, which explain compulsive use in males. The research finds that the effect of Instagram is gender-specific and requires specific interventions. It proposes media literacy and self-esteem programs among the female students and digital wellness to control compulsive use among males. Universities should adopt gender-sensitive support systems to promote healthier digital habits across genders.

Keywords: Addictive Behaviours, Gender Differences, Instagram, Mental Health, Social Comparison.

Introduction

Social media has radically changed how young people connect and engage with each other around the world (1). With over 3.6 billion users on social media sites such as Facebook, Instagram and Twitter, social media is used by over half of the world's population (2). Instagram is one of the most widely used social media sites among college students due to its visual structure and participatory elements, including likes, comments, stories and reels (3, 4). Despite Instagram's popularity as a tool for social networking, self-expression and information sharing, research has demonstrated that excessive use of the app is associated with negative mental health issues such as addictive

use, depressive disorders, anxiety and low self-esteem (5, 6). Mental health issues among youths in Nigeria are becoming more prevalent, with claims of rising rates of anxiety, depression and student suicide (7). Instagram use among undergraduates in Southwestern Nigeria has become part of daily life, influencing social relationships, leisure and identity. However, this reliance on Instagram may be harmful, particularly when it leads to compulsive use or fosters unfavorable social comparisons (8). Gender difference in the psychological implications of Instagram use remains one of the critical dimensions that have not been thoroughly

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investigated. Studies show that female students tend to experience a higher impact of social comparison than male students, especially regarding body image and self-esteem (9, 10). Conversely, addictive behaviors are more frequently observed among male students, as the competitive nature of Instagram and its constant reminders may increase addiction tendencies (11). These dynamics highlight the need to examine whether Instagram has different mental health and addictive impacts on male and female undergraduates in Nigeria.

Although studies on social media use and mental health are increasing, significant gaps remain. First, research on Instagram-related mental health effects is predominantly Western, with few empirical studies in Nigeria, where socio-cultural norms, digital access patterns and gender socialization processes differ considerably. Second, many Nigerian studies have generalized social media effects without isolating Instagram as a visual, comparison-driven platform with distinct psychological consequences (7). Third, gendered mental health outcomes and addictive behaviors are rarely examined within a single analytical framework, leaving a limited understanding of gender differences in psychological distress and behavioral addiction associated with Instagram use.

This study addresses these gaps by providing empirical data on gender disparities in Instagram usage, mental health outcomes and addictive behaviours among undergraduates in Southwestern Nigeria. It combines social comparison theory with behavioral addiction perspectives to explain both psychological and behavioral risks. The study aims to: (a) identify gender differences in Instagram use and related mental health outcomes among undergraduates in Southwestern Nigeria; and (b) examine gender differences in addictive behaviors associated with Instagram use among undergraduates in Southwestern Nigeria.

Instagram Use

Instagram has remained one of the most popular social media networking sites worldwide since its launch in 2010, particularly among youths (12). Its algorithm-based and visually oriented features, such as stories, reels, likes and personalized feeds, encourage continuous engagement, self-presentation and approval-seeking among under-

graduates (3). While Instagram enables self-expression and social connection, it also intensifies social comparison through exposure to idealized images of peers and influencers (13). Research suggests that intensive or compulsive Instagram use is associated with negative psychological consequences, including decreased self-esteem and depressive symptoms (14). In Nigeria, Instagram has become integral to student life due to its role in identity creation, entertainment and peer interaction (7).

Gender Differences in Social Media Use

Gender remains a central variable in studies examining Instagram use and its effects. Female students are more attracted to appearance-related content, increasing exposure to upward social comparisons and vulnerability to body image issues, anxiety and low self-esteem (9, 10). Male students are more likely to consume achievement-, competition- and entertainment-related content on Instagram (11), which is associated with behavioral risks such as compulsive checking, excessive screen time and sleep disruption. These patterns suggest gender-specific risk trajectories, with females more predisposed to psychological consequences and males more predisposed to problematic and addictive use.

Mental Health Outcomes

Mental health refers to individuals' ability to realize their potential, cope with daily stress and function productively in society. Evidence shows that intensive social media use is associated with higher anxiety and depressive symptoms, reduced life satisfaction and poorer well-being, particularly among females (10). Instagram use has been linked to self-esteem depreciation, body dissatisfaction (15) and reduced subjective well-being with increased engagement (16). In Nigeria, social media use among youths has also been associated with increased anxiety and depressive symptoms (7).

Addictive Behaviors

Behavioral addiction frameworks conceptualize problematic social media use as compulsive digital behavior characterized by preoccupation, tolerance, withdrawal and relapse (17, 18). Instagram's reward mechanisms, including likes, notifications and algorithmic recommendations, promote repetitive engagement and compulsive scrolling (19). Studies link compulsive Instagram use with anxiety, stress, sleep disturbances and

depressive symptoms (15, 20-22), with evidence suggesting rising dependency among Nigerian undergraduates (23).

Social comparison theory explains how exposure to idealized Instagram content intensifies comparison processes, leading to dissatisfaction and reduced self-esteem, particularly among females (24). Identity theory and symbolic interactionism further highlight how users curate online identities to meet perceived social expectations, reinforcing validation-seeking, anxiety and compulsive behaviors (13, 25). Despite existing evidence, gender-differentiated pathways linking Instagram use, mental health outcomes and addictive behaviors among Nigerian undergraduates remain underexplored (15, 20, 21, 23-25). This study, therefore, seeks to fill this empirical and contextual gap.

Theoretical Review

The study's theoretical foundation is Festinger's Social Comparison Theory, which was first presented in 1954. According to the theory, people assess their own principles, opinions and skills by contrasting them with those of other people. People can compare themselves to people who are thought to be in a better state by making upward social comparisons, or they can compare themselves to people who are thought to be in a worse situation by making downward social comparisons. Both processes have an impact on an individual's self-perception and emotional health. Instagram compounded the condition of social comparison due to its very visual and edited content (22). The platform often exposes users to the idealized images of beauty, success and happiness, which are sometimes not real. Consequently, a large number of youths participate in upward social comparisons, which cause the development of feelings of inadequacy, low self-esteem and depressive symptoms (13). This established that the more a person uses social media, the lower the subjective well-being (16). The social media studies state that continuous possibilities of upward and downward comparisons allow aggravating emotions and behavior patterns, as it is interactive (8). In the Nigerian setting, where Instagram is prevalent among the undergraduates, the Social Comparison Theory is a helpful theory to conceptualize

gendered disparities in mental health and addictive behaviors. The presence of peers living insufficient lives strengthens these societal pressures and cultural demands on masculinity and femininity could enhance the internalization of these comparisons by male and female students. Therefore, the theory can be used to understand why female learners are likely to be affected by Instagram use more psychologically than male learners, whereas the latter will show more compulsive consumption habits.

Conceptual Framework

The research is based on a conceptual framework that demonstrates how the use of Instagram can be translated into psychological and behavioral consequences and how gender conditions such relations (as shown in Figure 1). The framework supposes that the patterns of Instagram use, including the frequency of use, the length of use, the reasons to use it and activities performed by the user, are the major variables of exposure. Based on the Social Comparison Theory, the model suggests two outcome pathways:

(a) Psychological pathway - resulting in mental health outcomes including self-esteem, emotional well-being, sleep quality and psychological distress.

(b) Behavioral pathway - causes addictive behaviors like preoccupation, mood alteration, loss of control and tolerance.

The conceptualization of gender is based on the moderating effect of gender that influences both the nature of Instagram use and its consequences. Theoretically, female students are more vulnerable to appearance-based comparison processes with increased psychological risk and male students are more vulnerable to compulsive and reinforcement-based patterns of usage relating to behavioral addiction. Therefore, the model assumes that the trend of Instagram utilization impacts mental health tremendously, addictive behaviors are largely dependent on the patterns of Instagram use and the force and flow of such relationships are determined by gender. The conceptualization gives the foundation of empirical anticipations of the study and the interpretation of gendered differences in outcomes.

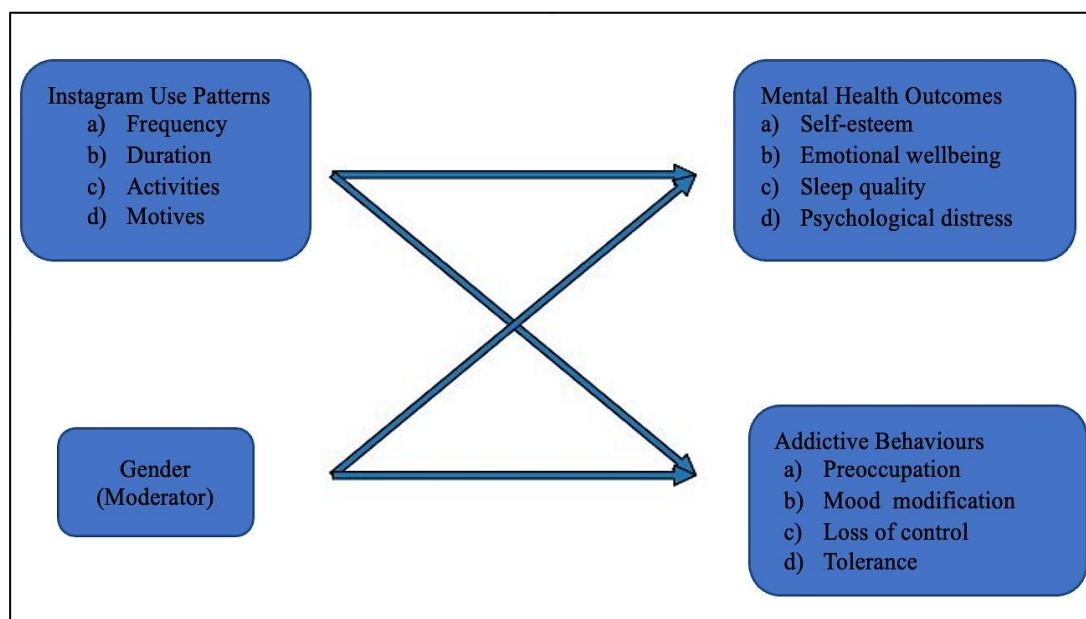


Figure 1: Conceptual Framework of Gender Differences in Instagram Use, Mental Health, and Addictive Behavior

Methodology

This study used a quantitative survey design. The choice of survey design was informed by its suitability for gathering standardized data from a relatively large number of respondents, thereby enabling statistical comparisons across gender lines (26). This design also allowed for the examination of relationships between Instagram use, mental health outcomes and addictive behaviors among undergraduates. The study population included undergraduate students enrolled in three universities in Nigeria, namely Redeemer University, Ede, Osun State, Federal University, Oye-Ekiti (FUOYE), Ekiti State and Adekunle Ajasin University, Akungba-Akoko (AAUA). Together, the total number of undergraduates in these institutions was estimated at 53,748 (forty-four thousand, seven hundred and forty-eight), with Redeemer University having about 6748 undergraduates by

the 2023/2024 session, according to Directorate of Students Support and Services (DSSS) office, FUOYE having 22,000 undergraduates by the 2023/2024 session, according to admission office and AAUA having 25,000 undergraduates as of 2023/2024 session, as indicated by admission office. This heterogeneous group gave a fair cross-section of Nigerian undergraduates in universities and offered a strong base in exploring the effect of Instagram use on mental health and addictive behaviors. The sample size for this study comprised 533 (five hundred and thirty-three) undergraduates from the selected universities in Osun, Ekiti and Ondo states. This sample size was determined using Cochran's formula (Equation [1]), which is a widely recognized method for calculating the appropriate sample size for research studies and adjusted by adequate representation of the target population, as shown in Equation [2].

$$\text{Cochran's formula: } n = \frac{Z^2 \cdot p \cdot [1 - p]}{e^2} \tag{1}$$

$$\text{and adjusted by: } n = \frac{n}{1 + \left[\frac{n}{\text{Population}}\right]} \tag{2}$$

where: n = required sample size, Z = Z-value (1.96 for a 95% confidence level), p = estimated proportion of the population (assumed to be 0.5 for maximum variability), e = margin of error (0.05) (Equations [3-5]).

$$n = \frac{1.96^2 \cdot 0.5 \cdot (1 - 0.5)}{0.05^2} \tag{3}$$

$$n = \frac{3.8416 \cdot 0.5 \cdot [1 - 0.5]}{0.0025} \tag{4}$$

$$n = \frac{0.9604}{0.0025} n = 384.16 \quad [5]$$

Therefore, n , which is 384, which is the required sample, was substituted for n in the second equation, while 44,748 (forty-four thousand, seven hundred and forty-eight) was substituted for population (Equations [6-9]).

$$n = \frac{384}{1 + \left[\frac{384}{44,748} \right]} \quad [6]$$

$$n = \frac{384}{1.008581389112363} \quad [7]$$

$$n = 380.7327 \quad [8]$$

$$n = \approx 381 \quad [9]$$

Given the multistage sampling technique and the potential for non-response, the sample size was increased by 40% to account for incomplete or missing responses (Equations [10, 11]):

$$n \text{ adjusted} = 381 \times 0.4 = 152.4 \quad [10]$$

$$n \text{ adjusted} = \approx 381 + 152.4 = 533 \quad [11]$$

The study adopted a multistage sampling technique. First, purposive sampling was used to select three universities in Southwestern Nigeria, Redeemer's University (Osun State), Federal University Oye-Ekiti (Ekiti State) and Adekunle Ajasin University (Ondo State), to provide a diverse cross-section of undergraduates. In the second stage, three faculties were randomly selected from each institution, covering disciplines in medical, social, environmental, education, agriculture, science and management fields. From the nine faculties comprising 51 departments, two departments per faculty were randomly chosen, ensuring broad academic representation. Finally, systematic random sampling was applied to student lists within each department, where every n th student was selected to participate in the survey. This approach enhanced representativeness and reduced selection bias.

A structured questionnaire was used as a way of collecting data that was divided into four sections: demographic data, Instagram behavior, mental health measures and addictive behavior. The instrument was tested to make it clear, appropriate and easy to administer. Based on the pre-test, necessary changes were made in order to enhance the understanding of items. The field collected data were coded and analyzed using descriptive and inferential statistical methods. The summary of the demographic features of the respondents, along with the patterns of use of Instagram, mental health outcomes and addictive

behaviors were summarized with the help of descriptive statistics (frequency, percentages, means and standard deviations). These steps gave a picture of the distribution of responses and general trends in the data set.

Inferential statistical testing was done in order to meet the study objectives and the Independent Samples t-test was used. This method was found to be suitable due to the comparison of mean responses on two independent groups of male and female undergraduates. Gender differences in Instagram use patterns, mental health outcomes and addictive behaviors were specifically studied with the help of the t-test. The results were displayed in tables with mean scores, SD, t-values and probability (p) value to facilitate understanding. All the statistical tests were done under a 95 percent confidence level, where the level of statistical significance was set at $p \leq 0.05$. This process of analysis gave an objective ground in determining the extent and orientation of gender differences in Instagram usage and its psychological and behavioral meanings. Ethics were maintained to the letter. Respondents were not coerced and informed consent was taken before administering the questionnaires; anonymity was assured and their participation was voluntary. The data gathered was not utilized in any other way other than academically.

In this paper, both primary and secondary data collection methods have been used. The secondary data entailed an extensive search of the existing

literature, internet sources and library resources. The essential academic materials, including books, peer-reviewed journal articles and scholarly papers from reputable databases, were used to investigate the subject of the research, which made the information trustworthy and approved. Moreover, reliable online sources and online libraries were consulted as well. The main data was to be gathered by using copies of the questionnaire administered face-to-face to the respondents. Copies of the questionnaire were first pre-tested with a small group before full administration and responses were monitored in case they were not complete or consistent. These

endeavors meant accuracy, credibility and suitability of both primary and secondary data in answering the objectives of the research.

Results

Demographic Characteristics of Respondents

The study sample comprised 533 undergraduates across three universities in Southwestern Nigeria. Only 520 copies of the questionnaire were returned. Table 1 shows the age distribution of respondents and Table 2 shows the gender distribution of the respondents.

Table 1: Demographic Characteristics of Respondents

		Frequency	Percent	Mean
Age	16-18 years	189	36.3	
	19-21 years	60	13.3	
	22-24 years	243	46.7	
	25 and above	19	3.7	2.18
Gender	Male	229	44.0	
	Female	279	53.7	
	Non-binary	12	2.3	1.58
	Total	520	100.0	2.18

As seen in Table 1, the data on age were categorized into four groups of analysis, namely: 16-18 years, 19-21 years, 22-24 years and 25 years and above. The composition of the sample was described using frequency counts and percentage distributions. There was also the generation of the measures of central tendency (mean scores) to establish the average category of age of the respondents. Gender data were categorised into 3 categories: male, female and non-binary. There were frequency and percentage

distributions that were made to determine gender representation in the study population. The mean gender coding has been calculated to provide the central tendency of gender in the data.

Objective One: Gender Differences in Instagram Use and Mental Health Outcomes

The analysis below shows how male and female undergraduates differed in their patterns of Instagram use and their associated mental health outcomes.

Table 2: Gender Differences in Instagram Use Patterns

Variable	Male Mean [SD]	Female Mean [SD]	t-value	p-value
Frequency of Use	3.50 [2.63]	2.67 [1.97]	4.06	<0.001
Duration of Use	2.58 [0.62]	2.42 [0.85]	2.43	0.015
Types of Activities	3.08 [0.49]	3.33 [0.90]	-4.02	<0.001
Reason for Use	2.79 [0.59]	2.89 [0.47]	-2.12	0.034

Table 2 shows that there was a higher frequency of use by males, $M=3.50$, $SD=2.63$ than by females, $M=2.42$, $SD=0.85$; $t=2.43$, $p=0.015$ and a longer duration of use, $M=2.58$, $SD=0.62$ vs $M=2.42$, $SD=0.85$; $t=2.43$, $p=0.015$, which suggests that males are exposed to higher levels daily, which in turn may result in activity types, $M=3.33$, $SD=0.90$ vs. $M=3.08$, $SD=0.49$; $t=-4.02$, $p<0.001$ and reasons to use, $M= 2.89$, $SD= 0.47$ vs 2.79 , $SD= 0.59$; $t= -2.12$, $p=0.034$, females were more likely to be in

more intense social interactions, which makes them more susceptible to the actions of comparison and emotional discomfort.

Instagram use patterns as variables were extracted in order to deal with Objective One. These included: Frequency of Instagram use, Duration of use, Types of activities that are involved. And Reasons for Instagram use Measures of responses on these variables were on scaled items and summed into composite scores. Standard

deviations and mean scores were calculated between the male and female respondents. Independent sample t-tests were used to find out gender differences. The t-values and probability

(p-values) were taken out to determine whether the differences in observed means were statistically significant at standard levels.

Table 3: Gender Differences in Mental Health Outcomes

Variable	Male Mean [SD]	Female Mean [SD]	t-value	p-value
Feeling strain	2.47 [0.95]	2.34 [0.88]	1.62	0.106
Sleep Patterns	2.47 [0.99]	2.28 [0.93]	2.22	0.027
Emotional Well-being	2.52 [0.86]	2.57 [0.89]	-0.66	0.511
Self-Esteem	2.10 [0.67]	2.26 [0.75]	-2.52	0.012
Ability to Concentrate	2.60 [0.51]	2.58 [0.58]	0.36	0.718
Coping Ability	2.43 [0.38]	2.49 [0.61]	-1.36	0.176

One of the essential results in Table 3 is the disadvantages of males in terms of poorer sleeping patterns, M=2.47, SD=0.99 vs females M=2.28, SD=0.93; t=2.22, p=0.027, meaning that the time spent on Instagram disturbs sleep and the intervention should be applied to cognitive health, screen-time restrictions. Females also had lower self-esteem, M=2.26, SD=0.75 vs males M=2.10, SD=0.67; t=-2.52, p=0.012, but this may be due to various activities that expose them to idealized content and hence need self-esteem programs to address social media effects; where there were no differences, such as emotional well-being, p=0.511, indicates that they tend to be affected in similar ways. Instagram users were also able to extract mental health indicators. These variables comprised: Feeling of strain, Sleep patterns,

Emotional well-being, Self-esteem, Ability to concentrate and Coping ability. Scaled questionnaire items were used to measure each construct and summarized to come up with mean index scores. To display variability in responses, the standard deviations were computed. The independent sample t-tests were used to compare the means in a gendered way. Statistical results obtained consisted of the mean scores, SD, t-statistic and p-values of each mental health measure.

Objective Two: Gender differences in Addictive Behaviors Associated with Instagram Use

The following analysis examines gender differences in addictive behaviors related to Instagram use.

Table 4: Gender Differences in Addictive Behaviors

Variable	Male Mean [SD]	Female Mean [SD]	t-value	p-value
Preoccupation	2.60 [0.99]	2.39 [0.99]	2.42	0.016
Loss of Control	2.52 [0.99]	2.39 [1.12]	1.45	0.147
Neglect of Responsibilities	2.24 [1.12]	2.18 [1.02]	0.70	0.484
Social Impact	2.39 [1.02]	2.47 [2.13]	-0.54	0.588
Mood Modification	3.04 [0.84]	2.35 [0.75]	9.58	<0.001
Tolerance	2.54 [1.05]	2.41 [1.02]	1.46	0.146

It is seen in Table 4 that males were more preoccupied, M=2.60, SD=0.99 vs females M=2.39, SD=0.99; t=2.42, p=0.016 and mood modified, M=3.04, SD=0.84 vs. M=2.35, SD=0.75; t=9.58, p=0.001 and this implies that obsessive thoughts and emotional dependence may increase dependency and so dependency should be screened in males. There were no significant differences in loss of control, p=0.147 and tolerance, p=0.146, which means that addiction patterns are not entirely gender-neutral in other respects, but overall results suggest preventive education about mood-altering use should be employed to support healthier behaviors across

genders. In Objective Two, the data about addictive behaviors were identified in the survey tool. The behavioral indicators involved: Instagram addiction, Loss of control over use, Lack of responsibility, social impact of use, Mood modification and tolerance. The answers were measured and quantified into composite measures. Means and dispersion measures of the male and female respondents were calculated. The analysis of the gendered behavioral patterns was then undertaken using an independent sample t-test analysis. Statistics parameters that were obtained were the group means, standard

deviations, t-values and degrees of statistical significance.

Discussion

The results of this research indicate definite gendered patterns of Instagram use, mental health results among undergraduates and their addictive behaviors. The frequency and duration of Instagram use were much higher among male students, which means that they were more engaged in the platform in a more sustained and repetitive manner. The trend is aligned with previous studies that have found that the use of social media among men is linked to both entertainment-based and reinforcement-based engagement frameworks (11, 18). These reports claim that platform designs that encourage the checking behavior are more likely to promote the compulsive mode of interaction among male users (27-29). These behavioral orientations are, in turn, supported by the current results, which imply that the Nigerian undergraduate male population also leans towards the immersive and habit-forming use patterns.

Female students, on the other hand, had a better score in the type of activities and purpose of using Instagram, as they are more involved in appearance-based and relational interactions. This is very much similar to the previous literature that has found that women tend to develop identities and have socially performative relations on the visual platforms more often (25). It also reinforces the studies that reveal that appearance-related involvement increases the exposure to idealized images and aggravates susceptibility to discontenting the body and evaluative contrasting (9). The overlapping of the current research with these previous studies supports the statement that the affordances of Instagram can increase the pressure of gendered self-presentation.

Nevertheless, the magnitude of appearance-focused and relational involvement witnessed among this Nigerian sample of undergraduates may indicate amplification in a context. Digital self-presentation can have an amplified psychosocial meaning within a context where peer validation and social visibility are highly valued within the culture and thus comparison pressures will be even greater than those recorded in Western samples.

Males were more impacted by poor sleep patterns, whereas females reported reduced self-esteem in terms of the impact of poor sleep patterns on mental health outcomes. The low self-esteem score observed in the female students is highly compatible with the research findings, which have found its association with high levels of negative self-perception and depressive symptomatology in women who are highly exposed to social media (10, 24). Such consequences are ascribed to these prior studies as continuous upward comparison and internalization of idealized beauty ideals - processes that are much conducive to the image-based ecology of Instagram.

On the other hand, the sleep disturbance in male students can be related to the studies that indicate that the use of social media during sleep deprivation hours disrupts the quality of sleep and leads to mood disorders (23). This uniformity indicates that the primary risk route of males is behavioral rather than emotional immersion. In this way, the female students have greater internalized psychological strain, whereas the male students have greater externalized behavioral deregulation.

The addictive behaviors were also very different according to gender. Male students had a higher score on preoccupation and mood modification, indicating that Instagram is a behavioral reinforcer and emotional coping strategy. This observation presents the same results as previous studies that found that compulsive Instagram use is associated with anxiety regulation and escapist types of coping (20). It also backs up wider research on addiction frameworks that point to males as more vulnerable to digital dependency patterns that are reinforcement-based (18).

Female students, however, made no significantly higher scores on most addiction indices than males did. This biased inconsistency with certain generalized literature on social media addiction indicates that female vulnerability might not be realized as compulsive behavioral markers, but rather as psychosocial routes, including self-judgement, comparisons and sufferings. In this respect, measures of addiction will not adequately capture the risk exposures of females.

Hypothetically, there should be solid explanatory roots of the psychological results of the females in the Social Comparison Theory (30). According to the theory, there are upward comparison

processes in response to idealized representations that reduce self-evaluation, which is evident in the lower scores on self-esteem among the female respondents. Previously, empirical evidence of the theory in the context of social media also shows the influence of curated peer imagery to increase dissatisfaction and emotional stress (24).

Nevertheless, the Social Comparison Theory on its own is not adequate to explain the male results. Their high preoccupation and mood transformation scores can be seen with the help of behavioral addiction theories, which are more focused on reinforcement loops, habit formation and dependency on rewards (17, 19). The simultaneity of these gender-differentiated routes implies that the psychosocial impacts of Instagram are not homogenous.

Comprehensively, the study affirms and elaborates on previous studies. It both establishes pre-existing gendered pathways, including the psychological vulnerability of females and the vulnerability to behavioral addiction with males, but it also illustrates intensifications surrounding the Nigerian undergraduate setting. Such situational details help highlight why platform effects need to be contextualized in socio-cultural contexts instead of expecting general psychosocial results.

Conclusion

This paper explores gender variation in the Instagram application and its psychological well-being consequences among undergraduates in southwestern Nigeria. Students who were male exhibited the greatest usage frequency and addictive behaviors, whereas females exhibited the greatest involvement in relationship activities and the lowest self-esteem. The study points out that the effect of Instagram is not neutral to gender. Female students are more at risk psychologically and male students are more inclined to develop behavioral issues. The research is relevant to the research on the impact of social media and it is important to indicate that university-specific support and mental health interventions should be developed to accommodate the unique vulnerabilities of both genders. Given these results, this study recommends the following based on each research objective.

Nigerian universities should introduce gender sensitive digital well-being and mental health

interventions on campuses that are aimed at alleviating the negative experience of social comparison and body-image pressure caused by engaging with Instagram among female undergraduates and also healthy digital habits and sleep hygiene to prevent the implications of extensive and nocturnal Instagram use for male undergraduates. Nigerian universities should govern through institutionalization of screening and behavioral self-regulation of problematic use of Instagram by incorporating regular screening in units' health and counselling.

There are limitations to the study, such as a cross-sectional design, which makes it difficult to draw causal conclusions, the use of self-reported scales, which are susceptible to biases and a population of undergraduates in Southwestern Nigeria, which makes it hard to generalize. The next round of studies must be conducted as longitudinal and mixed-method studies to understand how gendered Instagram use and mental health outcomes change with time and compare the trends across different media industries and geopolitical locations to determine how sociocultural factors affect the digital experience.

Abbreviations

M: Mean, SD: Standard Deviation.

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All authors whose works were cited are duly listed in the references.

Author Contributions

Olaolu Olaruku Olaimolu: conceived the study, wrote the literature review, involved in the discussion of findings, Felix Olajide Talabi: wrote the literature review, data curation, analysis, the discussion of findings, editing, Benjamine Kayode Ogundeji: involved in the field work, data analysis, discussion of findings, Olanike Justinah Olusola: involved in the methodology, data analysis, Bolanle Morenike Adeoluwa: involved in the discussion of findings and conclusions, Agatha Oluwafunmilayo Adu: involved in writing the literature review, data collection, discussing the findings, Ifeyimika Olalekan Ayoade: involved in writing the literature, data interpretation, editing, Busayo Rebecca Ajayi-Owoyemi: contributed to writing the introduction, materials and methods, data curation, conclusion, Temitope Oluwaseun

Oyedele: involved in Data collection, discussion of findings, editing, Oluwanifemi Favour Oyeyemi: involved in proofreading, discussing and writing the literature, Samson Adedapo Bello: wrote the literature, involved in data curation and editing, Olalekan Olatunji: involved in data analysis, the discussion of findings and editing, Maranatha Morenike Olanrewaju: involved in writing the literature, data curation, analysis and editing, Joshua Kayode Okunade: involved in writing the literature, editing, data analysis and discussion of findings.

Conflict of Interest

There is no conflict of interest among the authors.

Data Availability

Data will be made available on request.

Declaration of Artificial Intelligence (AI) Assistance

The authors confirm that no generative artificial intelligence (AI) or AI-assisted technologies were used in the conception, analysis, writing, or editing of this manuscript.

Ethics Approval

The study received ethical approval from the University Ethical Approval Committee. Reference number: RUN/REC/2025/382.

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