

Prevalence and socio-demographic determinants of Internet addiction among secondary school adolescents in Nsukka local government area, Enugu State

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Abstract

Internet addiction, which is the inability of an individual to control his or her use of the Internet, may lead to psychosocial problems in adolescents. This study assessed the prevalence and demographic determinants of Internet Addiction (IA) among secondary school adolescents in Nsukka Local Government Area. The study adopted a descriptive cross-sectional survey design with a multi-stage sampling technique, used to select a sample of 669 adolescents from a population of 13,614. The questionnaire method was used to collect data from the participants. Frequencies, percentages, means, standard deviation and Chi-square were employed for the data analysis. The results indicated that more than half (52.8%) of the adolescents were addicted to the Internet. The identified physical effects of IA included vision problems, weight gain/loss, and poor personal hygiene. Free and easy access to the Internet, poor social skills and low self-esteem were among the identified risk factors of Internet addiction. The suggested solutions to IA included setting realistic goals for Internet use, time management, limiting the use of

electronic devices and seeking therapy. Age, school type and family conditions are significantly associated with IA among adolescents. The high prevalence of IA among adolescents highlights the need for counselling and calls for parents and teachers to educate adolescents on the negative impacts of excessive Internet use.

Keywords: Internet addiction, Adolescents, Digital technology, Socio-demographic factors

Introduction

Adolescence is the most important period of life, during which growth and development are accompanied by various physical, physiological, behavioural, and social changes (World Health Organisation [WHO], 2024). During this period, the rate of physical growth increases, which is associated with hormonal, biological, social, cognitive, and emotional changes, making adolescence an especially vulnerable period (Ebert, 2015; Gray & Squeglia, 2018; Okechukwu et al., 2021). According to WHO (2024), adolescence is the transitional phase of growth and development between childhood and adulthood, and an adolescent is any person aged 10–19 years. During adolescence, there is an increased risk of emotional crises, which adolescents attempt to fight through withdrawal,

avoidance of any extensive social contact, aggressive reactions, and addictive behaviours (WHO, 2025). Adolescents are exceptionally vulnerable and receptive during this period and can become drawn to the Internet as a form of release (Slone et al., 2025).

The Internet is a vast network that connects computers worldwide. It is a global system of interconnected computer networks that uses the Internet Protocol Suite to communicate between networks and devices (Rahouma et al., 2020). The Internet, particularly in the form of digital tools, has been identified as a powerful medium that has boosted educational and social communication among adolescents over the past several decades. It has served as a major source of learning information not only to the adolescent age group but also to people of various other age groups across the

globe (Igwe et al., 2024; Shanmugasundaram & Tamilarasu, 2023; Umennuihe et al., 2023; Zhazira et al., 2025). In many ways, the Internet has made human lives easier, but when used excessively, it has negatively affected adolescents' daily routines. Researchers worldwide (e.g., Dermani & Perdikaris, 2022; Du et al., 2024; Hussaini & Akachukwu, 2025; Mbachu et al., 2024; Zhang, 2023) have documented that, while the Internet offers benefits for adolescents' educational development, it is also associated with negative effects on their psychological development. This can be in the form of anxiety, obsession, depression, and isolation. The most noticeable and troubling negative effect of the Internet on adolescents is Internet addiction (Zewde et al., 2022).

The term addiction is rooted in the Latin word "addictus", meaning to be excessively devoted to something with a loss of the ability to choose freely (Poli, 2017). Addiction is a chronic disease that alters the brain and changes behaviour in ways that cause harm, leaving individuals unable to stop using a substance or engaging in behaviours even when these actions become detrimental (WHO, 2019). Although an addiction is usually the result of a social crisis, lack of self-

confidence, a need to conform and boredom, Kenechukwu (2025) asserts that attempting to justify an excessive behaviour can facilitate the progression toward addiction. According to the American Society of Addictive Medicine (2019), this condition involves complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. Despite being treatable, people with addiction often ignore harmful consequences and continue to use substances or engage in behaviours such as alcohol, tobacco and other drug use, compulsive eating, gambling, shopping and Internet use (Chandler, 2018).

Internet addiction, also known as problematic Internet use, is a term covering a range of behaviours and impulse-control problems involving the Internet, mobile technology, and personal computers (Khudhair, 2020). It is a behavioural addiction where individuals achieve pleasure and become dependent on mood-altering online events (Poli, 2017). While established diagnostic criteria are still lacking, the cognitive and behavioural manifestations of Problematic Internet Use are similar to those of substance addiction, including symptoms of dependence, tolerance, and

withdrawal (Griffiths et al., 2016; Okwaraji et al., 2015). Bisen and Deshpande (2018) described Internet addiction as a phenomenon where the Internet serves as a source of gratification for various behavioural addictions and psychiatric disorders. According to Khudhair (2020), Internet addiction can be in the form of Net compulsions (online gambling, trading or shopping), compulsive search for online information, excessive immersion in online games, persistent use of online sexual content and online relationships at the expense of meaningful in-person connections.

Despite the broad range of individuals who may experience the above online addictive behaviours, adolescents are often identified as the most vulnerable group due to their unique psychological and developmental characteristics (Okwaraji et al., 2015). Internet addiction has become a significant global public health challenge that severely impacts the physical, mental, and social well-being of adolescents. Chan (2020) and Mbachu et al. (2024) both reported the global prevalence of Internet addiction among adolescents and young adults to range between 1.4–17.1%. Reviews by Dermani and Perdikaris (2022) and Poli

(2017) indicated the existence of diverse prevalence rates across countries, such as Turkey (5%), the United States (8.1%), Taiwan (10.8% to 12.9%), and China (2.4% to 28.4%). Within the African context, scholarly reviews reported a pooled prevalence of 34.5% for high school and university students (Mbachu et al., 2024; Zewde et al., 2022). In Nigeria, the rates are notably high, with studies on the COVID-19 lockdown in Ibadan showing 64.3% (Ilesanmi et al., 2021), while post-pandemic studies in Calabar and Anambra showed 62.6% (Kanu et al., 2025) and 56.0% (Mbachu et al., 2024), respectively. Internet addiction in adolescents can result in psychosocial difficulties such as truancy, loneliness, and depression, which in turn may lead to poor academic performance, parent–child conflict, and other interpersonal problems (Dermani & Perdikaris, 2022; Toth et al., 2021). These concerns highlight the need for an investigation into the prevalence and demographic determinants of Internet addiction, as well as the identification of risk factors and preventive strategies, as pursued in this study.

Statement of the problem

The rapid advancement of digital technology has transformed the Internet

into a necessity for communication, education, and entertainment, with Nigeria's active user base reaching approximately 109.2 million by 2022 (Mbachu et al., 2024). While this technology offers vast opportunities, it has precipitated the rise of Internet addiction, a global public health challenge characterised by a persistent, uncontrollable urge to remain online to the detriment of physical and mental well-being (Bisen & Deshpande, 2018). Increasingly viewed as a behavioural addiction involving online gaming, social networks, and sexual content (TeWildt, 2018), this condition frequently co-occurs with attention deficit hyperactivity disorder and other mental health issues (Bickham, 2021).

Adolescents are particularly vulnerable to Internet addiction due to the critical physical and psychosocial developmental changes they undergo during this transitional phase of life (Mbachu et al., 2024). Recent empirical evidence from Nigeria highlights a worrisome finding: prevalence rates of Internet addiction among adolescents in cities such as Calabar and Ibadan exceed 60% (Ilesanmi et al., 2021; Kanu et al., 2025). Significant risk factors identified in other regions include male gender, late

adolescence, and a lack of parental monitoring (Mbachu et al., 2024). Studies such as Fernández-García et al. (2026) and Kanu et al. (2025) argue that depression, social disengagement, and loneliness can result from adolescents using the Internet to escape unpleasant feelings or make up for a lack of social rewards in real life. Additionally, Internet addiction is a powerful predictor of aggression, hyperactivity, delinquency, and truancy (Dermani & Perdikaris, 2022). Significant effects include severe sleep disturbances like insomnia and poor academic performance that stem from a lack of focus (Mbachu et al., 2024). Furthermore, it can result in eating disorders or malnutrition due to sedentary lifestyles or the pursuit of false body images encouraged by online influencers (Poskotinova et al., 2021). Reduced family intimacy, parental conflict, and heightened susceptibility to school and cyberbullying are all common outcomes of Internet addiction (Kanu et al., 2025).

Despite these alarming trends, there is a notable dearth of research specifically addressing the prevalence and demographic drivers of Internet addiction among secondary school students in Nsukka Local Government Area. It

remains unclear how the unique characteristics of the Nsukka environment influence local adolescent Internet use patterns. Without localised data, educators, parents, and policymakers lack the empirical basis to develop targeted interventions to effectively regulate screen time. Therefore, this study sought to fill this gap by assessing the prevalence and demographic correlates of Internet addiction among secondary school adolescents in Nsukka LGA.

Objectives of the study

The broad aim of the study was to determine the prevalence and demographic factors associated with Internet addiction among adolescents in Nsukka Local Government Area, Enugu State. The specific objectives of the study were to:

1. determine the prevalence and level of Internet addiction among adolescents;
2. ascertain the perceived effects of Internet addiction among adolescents;
3. identify the perceived factors that give rise to Internet addiction among adolescents;
4. explore the possible solutions to Internet addiction among adolescents; and
5. determine the socio-demographic factors associated with the level of Internet addiction among adolescents.

Methodology

Study design

The study adopted a descriptive cross-sectional survey design. The study population comprised 13,614 adolescents across 47 secondary schools in the Nsukka Local Government Area, according to the Post-Primary School Management Board, Nsukka Educational Zone (2022). This includes 5,943 students from 31 public schools and 7,671 students from 16 private schools.

Sample and sampling procedure

Cochran's 1963 formula for calculating sample size in a survey was used to determine a sample size of 669 students for the study. Multistage sampling was then used to determine the sample size within schools. In the first stage, systematic random sampling was used to select 16 schools (10 private and 6 public). The second stage involved using proportionate sampling to determine the

sample size to be drawn from each selected school. In the final stage, simple random sampling without replacement was used to select respondents from each school who were available to participate in the study.

Instruments for data collection

A standardised questionnaire, the Internet Addiction Test (IAT), developed by Young (1998), was used. It is a 20-item questionnaire rated on a 5-point Likert scale. The IAT total score is the sum of the ratings each respondent gives to the 20 items. The IAT has been widely validated internationally, and in Nigeria specifically, it has demonstrated acceptable internal consistency with a reported Cronbach's alpha of 0.79 (Akpunne et al., 2020). Another questionnaire, with a reliability of 0.80 and designed by the researchers, with four sections, was also used to complement the IAT. Section A collected demographic data, while Section B assessed adolescents' perceived effects of Internet addiction. Section C identified relevant risk factors of IA, and Section D gathered respondents' perspectives on potential solutions. To ensure the questionnaire accurately measured the intended constructs, the instruments were reviewed by three experts for face

and content validation. Their corrections and input were incorporated into the final copy used for data collection.

Method of data collection

The questionnaires were distributed to the respondents and collected on a subsequent visit by the researchers. Of the 727 instruments distributed, 669 were successfully retrieved and deemed usable after excluding incomplete and missing responses, yielding a response rate of 92%.

Data and statistical analysis

The Internet Addiction Test has a maximum score of 100 points, with higher scores indicating greater severity of Internet overuse. Total scores from 0 to 30 reflect normal Internet use; 31 to 49 indicate a mild level of Internet addiction; 50 to 79 denote a moderate level; and 80 to 100 represent severe Internet dependence. For the purpose of determining prevalence, respondents scoring 0 to 49 were classified as not addicted, whereas those scoring 50 to 100 were classified as addicted. For Likert-scale items, a mean score of 2.5 or higher was interpreted as agreement, while a mean score below 2.5 indicated disagreement. The collected data were coded and analysed using IBM SPSS

version 23.0. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarise the data, while inferential statistics, specifically the chi-square test, were employed to examine associations. The level of statistical significance was $p < 0.05$.

Result

Socio-demographic characteristics of the adolescents

Table 1 shows the demographic characteristics of the respondents. The sex distribution of participants consisted of 56.7% females and 43.3% males. A greater proportion (40.1%) of the

respondents were aged between 10–13 years, followed by the 17–19 (33.8%) age group, while 26.2% were aged between 14–16 years. The majority (73.7%) lived in urban areas, while 26.3% lived in rural areas. The demographic distribution shows that 71.6% attended private schools, while 28.4% attended public schools. The household income of the respondents showed that more than a third (34.2%) of respondents had a low income (₦20,000–₦50,000), followed by those with moderate income (29.0%). From the table, those with a moderate family size (5–8) were the most numerous (46.8%), while 6.6% had a high family size (9–12).

Table 1: Statistical Representation of the Socio-demographic Characteristics of the Respondents

Variables	Category	Frequency	Percentage
Gender	Male	290	43.3
	Female	379	56.7
Age (years)	10-13	268	40.1
	14-16	175	26.2
	17-19	226	33.8
School type	Private	479	71.6
	Public	190	28.4
Area residence	Urban	493	73.7
	Rural	176	26.3
Household monthly income	Very low income	88	13.2
	Low income	229	34.2

	Moderate income	194	29.0
	High income	158	23.6
Household size	Less than 5	297	44.4
	5-8	313	46.8
	9-12	44	6.6
	Above 12	15	2.2

Prevalence levels of Internet addiction

Figure 1 shows the prevalence of Internet addiction among adolescents. Results showed that 52.8% of them were addicted to the Internet, while 47.2% were not addicted.

Figure 1: *Prevalence of Internet Addiction*

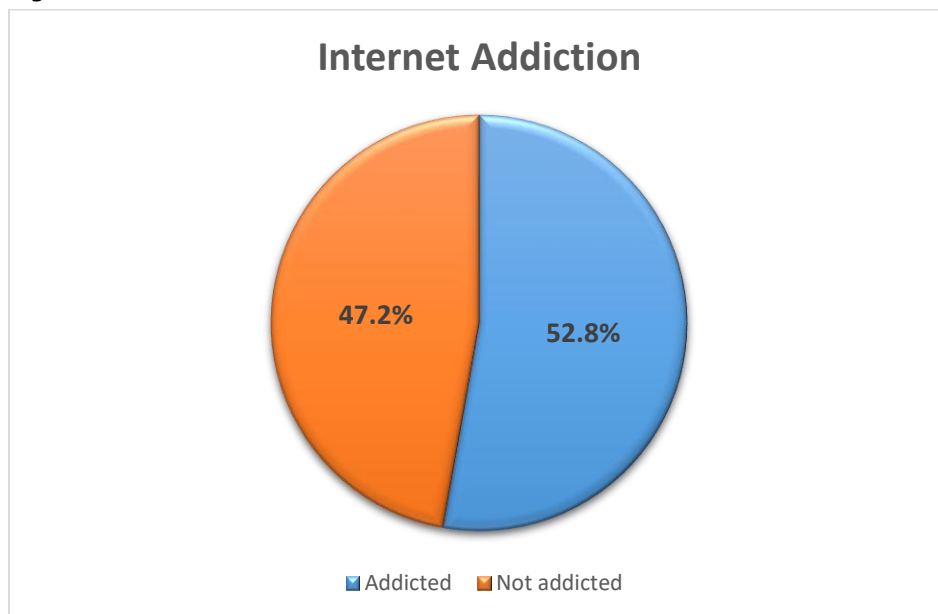


Table 2 shows the levels of Internet addiction among adolescents. Up to 45.9% of the respondents had a moderate level of Internet addiction, 24.5% had a mild level, and 22.7% had a normal level of Internet usage. In comparison, 6.9% were severely dependent on the Internet.

Table 2: Level of Internet Addiction Among Adolescents

Levels of Internet addiction	Frequency	Percentage
Normal level of Internet usage	152	22.7
Mild level of Internet addiction	164	24.5
Presence of a moderate level of Internet addiction	307	45.9
Severe dependence on the Internet	46	6.9
Total	669	100.0

Effects of Internet addiction

Table 3 presents the perceived effects of Internet addiction among adolescents. The respondents agreed that vision problems (mean = 2.61), weight gain or loss (mean = 2.54), and poor personal hygiene (mean = 2.51) are among the physical consequences of excessive Internet use. Conversely, they disagreed that body aches, insomnia, high blood pressure, headaches, poor nutrition, poor posture, and low academic performance

constitute physical effects of Internet addiction. Regarding behavioural effects, respondents disagreed with all listed items, including feelings of guilt, depression, anxiety, and aggressive behaviours. Likewise, they disagreed with all items under social effects, such as poor relationships with family and friends, lack of interest in daily activities, neglect of domestic responsibilities, limited social connections, loneliness, and neglect of academic responsibilities

Table 3: Effects of Internet Addiction Among Adolescents

Effects of Internet Addiction	Mean	Standard deviation	Decision
Physical effect			
Body aches	2.33	1.08	Disagree
Insomnia	2.42	0.98	Disagree
Vision problems	2.61	1.00	Agree
Weight gain/loss	2.54	1.08	Agree
High blood pressure	2.45	0.97	Disagree
Headaches	2.43	1.04	Disagree

Poor nutrition	2.31	1.05	Disagree
Poor personal hygiene	2.51	1.07	Agree
Pain, numbness and tingling of the arm and hand	2.51	1.03	Agree
Poor posture	2.30	1.15	Disagree
Low academic performance	2.22	1.07	Disagree
Behavioral effects			
Feelings of guilt	2.15	1.08	Disagree
Depression	2.38	0.98	Disagree
Anxiety	2.41	1.02	Disagree
Restlessness	2.40	1.10	Disagree
Defensiveness	2.35	1.00	Disagree
Intense happiness when in front of the computer	2.37	1.06	Disagree
Dishonesty	2.20	1.05	Disagree
Aggressive behaviors	2.26	1.00	Disagree
Social effects			
Poor relationship with family and friends	2.32	1.02	Disagree
Lack of interest in daily life	2.28	0.94	Disagree
Neglect of domestic responsibilities	2.45	1.02	Disagree
Lack of social connections	2.47	1.02	Disagree
Loneliness	2.40	1.00	Disagree
Neglect of academic responsibilities	2.44	0.97	Disagree
Neglect of professional responsibilities	2.43	1.00	Disagree
Neglect of other responsibilities may lead to a discount in the quality of life.	2.47	1.01	Disagree

Risk factors of Internet addiction

Table 4 shows the perceived risk factors of Internet addiction among adolescents. The majority of the variables were identified as risk factors for Internet

addiction. These included free and easy access to the Internet (mean = 2.53), poor social skills (2.63), presence of psychiatric disorders (2.63), low self-esteem (2.62), family history of addiction

(2.61), presence of drug addiction problems (2.57), inability to control time spent on screens (2.63), lack of interest in non-screen activities (2.61), lack of interest in human relationships (2.54),

and inadequate parenting (2.65). Boredom, with a mean score of 2.48, was the only factor respondents did not agree was a risk factor for Internet addiction.

Table 4: Risk Factors of Internet Addiction

Risk factors of Internet addiction	Mean	Standard deviation	Decision
Free and easy access to the Internet	2.53	1.01	Agree
Poor Social Skills	2.63	0.93	Agree
The adolescent stage	2.90	0.82	Agree
Presence of psychiatric disorders like anxiety	2.63	0.91	Agree
Low self-esteem	2.62	0.93	Agree
Family history of addiction	2.61	0.95	Agree
Pleasure derived from online activities	2.68	0.94	Agree
Multiple layers of rewards (Likes and comments from social media pages)	2.75	0.97	Agree
Chemical makeup and structural brain changes	2.69	0.96	Agree
Presence of a drug addiction problem	2.57	0.96	Agree
Inability to control time spent on screens	2.63	0.95	Agree
Attitude of denial when faced with the question of time spent on screens	2.51	1.03	Agree
Boredom	2.48	1.04	Disagree
Lack of interest in other non-screen activities	2.61	0.93	Agree
Lack of interest in human relationships	2.54	0.94	Agree
Diversion from discomfort	2.52	0.89	Agree

Lack of purpose	2.54	0.98	Agree
Lack of proper parenting	2.65	0.96	Agree
Lack of opportunity to engage in other activities	2.74	0.91	Agree

Solutions to Internet addiction

Table 5 presents the perceived solutions to Internet addiction among adolescents. The results show that all the listed variables were perceived as effective solutions to Internet addiction. These included cultivating interest in alternative activities (mean = 3.02), setting realistic goals for Internet use (3.03), limiting the use of smartphones

and other Internet-enabled devices (3.10), using medication for associated psychological problems (3.12), participating in seminars that promote responsible Internet use (3.00), seeking therapy or counselling (2.91), and educating parents on the effective monitoring of their children's Internet use (2.98), among others.

Table 5: Solutions to Internet Addiction Among Adolescents

Solutions to Internet addiction	Mean	Standard deviation	Decision
Cultivate interests in alternative activities	3.02	0.93	Agree
Setting realistic goals for Internet use	3.03	0.94	Agree
Improving interpersonal communication skills	2.96	0.87	Agree
Limit the use of smartphones and other devices that can access the Internet.	3.10	0.90	Agree
Seeking therapy/counselling	2.91	0.94	Agree
Medication for associated psychological problems	3.12	0.89	Agree
Educating parents on how to monitor children's Internet use	2.98	0.91	Agree

Having a clear view of important things to do online based on the developmental stage	3.13	0.90	Agree
Know the amount of time to allocate to daily activities	2.95	0.88	Agree
Participation in seminars that promote proper use of the Internet	3.00	0.93	Agree
Identifying and managing triggers of the addiction, e.g. specific apps, emotional states, maladaptive thoughts, and life events.	2.97	0.93	Agree

Socio-demographic factors associated with Internet addiction among adolescents

Table 6 presents the association between Internet addiction and adolescents' socio-demographic characteristics. At the p -value of $p < 0.05$ level of significance, Internet addiction was significantly associated with age, school type, area of residence, household income, and household size. Adolescents aged 17–19 years showed the highest proportion of severe Internet dependence (12.8%) compared with younger age groups. Those attending private schools demonstrated a higher rate of severe addiction (8.1%) than their counterparts in public schools (3.7%). Similarly,

adolescents residing in urban areas (7.3%) were more severely dependent on the Internet than those in rural areas (5.7%). A higher level of severe addiction (10.8%) was also observed among adolescents from households with high income, compared to those with lower income levels. In terms of household size, adolescents living in larger households of 9–12 members (9.1%) exhibited greater severe dependence than those from smaller households. Although gender was not significantly associated with Internet addiction, a slightly higher proportion of male adolescents (7.2%) showed severe dependence compared to female adolescents (6.6%).

Table 6: Relationship Between the Levels of Internet Addiction and Socio-Demographic Characteristics of Adolescents

Variables	Normal	Mild level	Moderate	Severe	Total
	F (%)	F (%)	F (%)	F (%)	F (%)
Gender					
Male	61 (21.0)	76 (26.2)	132 (45.5)	21 (7.2)	290 (100.0)
Female	91 (24.0)	88 (23.2)	175 (46.2)	25 (6.6)	379 (100.0)
$\chi^2 = 1.354$, df = 3, p = 0.716					
Age (years)					
10-13	65 (24.3)	72 (26.9)	121 (45.1)	10 (3.7)	268 (100)
14-16	52 (29.7)	47 (26.9)	69 (39.4)	7 (4.0)	175 (100)
17-19	35 (15.5)	45 (19.9)	117 (51.8)	29 (12.8)	226 (100)
$\chi^2 = 33.145$, df = 6, p = 0.000*					
School type					
Private	79 (16.5)	107 (22.3)	254 (53.0)	39 (8.1)	479 (100)
Public	73 (38.4)	57 (30.0)	53 (27.9)	7 (3.7)	190 (100)
$\chi^2 = 54.705$, df = 3, p = 0.000*					
Area of residence					
Urban	91 (18.5)	117 (23.7)	249 (50.5)	36 (7.3)	493 (100)
Rural	61 (34.7)	47 (26.7)	58 (33.0)	10 (5.7)	176 (100)
$\chi^2 = 24.653$, df = 3, p = 0.000*					
Household monthly income					
Very low income	18 (20.5)	24 (27.3)	43 (48.9)	3 (3.4)	88 (100)

Low income	63 (27.5)	65 (28.4)	90 (39.3)	11 (4.8)	229 (100)
Moderate income	45 (23.2)	52 (26.8)	82 (42.3)	15 (7.7)	194 (100)
High income	26 (16.5)	23 (14.6)	92 (58.2)	17 (10.8)	158 (100)
$\chi^2 = 28.511$, df = 9, p = 0.001*					
Household size					
Less than 5	80 (26.9)	77 (25.9)	118 (39.7)	22 (7.4)	297 (100)
5-8	56 (17.9)	74 (23.6)	163 (52.1)	20 (6.4)	313 (100)
9-12	8 (18.2)	11 (25.0)	21 (47.7)	4 (9.1)	44 (100)
Above 12	8 (53.3)	2 (13.3)	5 (33.3)	0 (0.0)	15 (100)
$\chi^2 = 20.418$, df = 8, p = 0.016*					

χ^2 = Chi-square value; p = Level of significance; df = degree of freedom; *Correlation is significant at p<0.05

Discussion

Prevalence of Internet addiction

Internet addiction is the inability of an individual to control his or her use of the Internet (Bisen & Deshpande, 2018). It is multidimensional in nature and manifests with both cognitive and behavioural symptoms (Okwaraji et al., 2015). The result of this study shows that more than half of the adolescents were addicted to the Internet, with over five per cent of them being excessively addicted. The high prevalence of Internet addiction in Nsukka suggests that digital engagement

has shifted from an educational tool to a dominant behavioural preoccupation driven by social pressures and a lack of offline recreation. This finding is in line with Ogbomo and Iwighrehweta (2016), who reported that students exhibited a high level of Internet addiction within their study environments. Similarly, studies by Iluku-Ayoola et al. (2020) and Mbachu et al. (2024) revealed a high prevalence of Internet addiction among adolescents in Nigeria, with a significant number of adolescents being excessive Internet users, thus validating the current finding.

The findings from extant studies and those of the present study may be attributed to adolescents' exceptional vulnerability and receptivity, which can draw them to the Internet as a form of release (Slone et al., 2025). According to Okwaraji et al. (2015), adolescents are more vulnerable to Internet addiction due to their psychological and developmental variables, compared with other segments of society.

Effects of Internet addiction

Internet addiction is characterised by excessive or poorly controlled preoccupations, urges or behaviours regarding computer use and Internet access that lead to impairment or distress (Dermani & Perdikaris, 2022). The findings of this study showed that Internet addiction leads to vision problems, weight gain or loss, and poor personal hygiene among adolescents. This implies that Internet addiction affects adolescents' health and well-being. This finding aligns with those of Fernández-García et al. (2026) and Kanu et al. (2025), who showed that adolescents who used the Internet excessively experienced problems in their daily lives, including interpersonal, behavioural, physical, psychological, and work-related

issues. This study validates Lissak's (2018) findings, which suggest that excessive time spent online is associated with poor sleep, impaired vision, reduced bone density, and increased risk of cardiovascular disease. A study by Baghdady et al. (2021) on physical and psychological effects of Internet addiction proves that headache, sleep problems and psychological symptoms were the most severe symptoms resulting from using the Internet excessively. Among 21st-century adolescents, the Internet appears to have almost completely replaced other forms of leisure activities, such as interactive outdoor play in the neighbourhood or at home. Young people are becoming more and more attached to the Internet as a means of communicating, learning and seeking new challenges (Kanu et al., 2025), while at the same time they are becoming more introverted and more suspicious of face-to-face communication with others, which they often consider too demanding and even unnecessary (Fernández-García et al., 2026).

Risk factors of Internet addiction

There is no single cause that can explain addiction to technologies; it is rather

associated with a combination of factors. These risk factors are variables that increase the chances of an individual developing an addiction to the Internet. The result of this study shows that free and easy access to the Internet, poor social skills, presence of psychiatric disorders, low self-esteem, family history of addiction, presence of drug addiction problem, lack of interest in non-screen activities and human relationships, and lack of proper parenting are some of the factors that give rise to Internet addiction among adolescents. This finding is in agreement with that of Nwufo and Ike (2024), which showed that psychopathologies of the Internet addict, family and parenting factors, and others, such as access to the Internet, motivation, and academic performance, are factors of Internet addiction. In addition, a study by Kapus et al. (2021) supports the idea that the widespread availability of the Internet has led to the occurrence of problematic Internet use, particularly among adolescents. Furthermore, the determinants of potential Internet addiction include accessing the Internet for the purposes of retrieving sexual information, game playing, and socialisation. With the increasing popularity of the Internet, it is

easy for adolescents to have an "uncontrollable urge" to use it. These kinds of urges make adolescents obsessed with the Internet, leading them to use it day and night, regardless of the side effects (University College London, 2024).

Solutions to Internet addiction

The problem of Internet addiction can be resolved through the use of certain interventions and strategies aimed at reducing total Internet use. The result of this study shows that suggested solutions to Internet addiction among adolescents include setting realistic goals for Internet use, limiting use of electronic devices, medication for associated psychological problems, participation in seminars that promote proper use of the Internet, seeking therapy or counselling, and educating parents on how to monitor children's Internet use. Supporting this finding, a study by Jun-qing (2020) suggested solutions such as treating Internet education rationally, creating a supportive environment for children, paying sufficient attention to children and loving them, and fostering home-school cooperation and home-school co-education. Since alienation caused by the modern lifestyle is one of the causes of addiction, the focus must be on fostering

those values that prevent its development, namely, participation in collective processes (Alolyan, 2015).

Factors associated with Internet addiction

Internet addiction is characterised by excessive and uncontrolled use of the Internet in a way that affects the everyday life of an individual, and adolescents are the primary risk group for Internet addiction (Okwaraji et al., 2015). The current study revealed a correlation between adolescents' socio-demographic characteristics (age, school type, area of residence, household monthly income and household size) and levels of Internet addiction. The study showed that Internet addiction increases with age; that is, older adolescents were more addicted to the Internet. This may be because older adolescents own mobile phones that can access the Internet, whereas younger adolescents may not (Aganbi, 2017). In contrast, a study by Odinka et al. (2023) found that younger adolescents were more addicted to the Internet than their older counterparts. For school type, the current study revealed that private school students were more addicted to the Internet than public school students. This could be attributed to the fact that most

public school students come from low-income homes that may not be able to afford phones for their children, while most private school students come from middle- to high-income homes that can afford phones and data subscriptions. Supporting these findings, Sharma and Bhansali (2022) observed that private school students were more addicted to the Internet than government school students.

Further, for the area of settlement, the current study indicates that respondents in urban settlements were more addicted to the Internet than those in rural settlements. This may be because rural areas usually lack robust telecommunications infrastructure (Ebenso et al., 2021). Therefore, there may be no Internet connectivity, and phones (where available) will be used only for calls. For household monthly income, the current study also showed that respondents with higher household incomes have the highest level of severe Internet addiction. This may be explained by the fact that the more resources people have to buy gadgets and data subscriptions, the longer they can stay online. Lastly, regarding household size, the study found that adolescents in

households with larger family sizes showed greater Internet dependence than those in households with fewer than 5 people. With so many people under one roof, the Internet may serve as an escape from the reality of living with so many people, as it allows people to interact and communicate anonymously. Although there was no significant association between gender and level of Internet addiction, the findings of this study also revealed that male respondents were more severely dependent on the Internet compared to their female counterparts. Supporting this is the finding by Lin et al. (2021) that more male than female adolescents had moderate and severe Internet addiction.

Conclusion

This study explored the prevalence of, and demographic factors associated with, Internet addiction among secondary school adolescents in the Nsukka Local Government Area. The study revealed that the majority of adolescents were addicted to the Internet, highlighting Internet dependence as a growing concern among adolescents in the area. The study further identified several physical consequences of excessive Internet use, including vision problems, weight gain or loss, and poor

personal hygiene. Free and easy access to the Internet, poor social skills, low self-esteem, family history of addiction, presence of drug addiction problem, and lack of interest in other non-screen activities were some of the risk factors of Internet addiction among adolescents. Based on these, suggested solutions to Internet addiction included setting realistic goals for Internet use, limiting use of electronic devices, medication for associated psychological problems and seeking therapy. At the $p < 0.05$ level of significance, relationships existed between the adolescents' socio-demographic characteristics (except gender) and levels of Internet addiction. Older adolescents who attended private primary schools and those who lived in urban areas were more addicted to the Internet than those in other groups. Overall, the study underscores the urgent need for targeted interventions, improved digital literacy, and supportive family and school environments to address the rising rate of Internet addiction among adolescents in Nsukka Local Government Area.

Recommendations

Based on the findings of this study, the following recommendations were made.

1. School administrations should integrate responsible Internet-use education and offer counselling services, with more focus on older adolescents, males and urban residents.
2. Parents should monitor the online activities of their children/wards, set screen-time limits, enforce healthy tech boundaries, and provide alternatives to excessive use of internet devices.
3. Schools and community organisations should encourage activities that promote social engagement and carry out awareness programmes on the risks of excessive Internet use.

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