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Pattern of Internet Use, Addiction and Prevalence of Internet Addiction among Undergraduate Students

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Abstract:

Accidental sampling technique is utilized in recruiting 195 undergraduate students that participate in this case study. Data were analyzed at $p=0.05$, result revealed that, more males used the internet for research, more females used the internet for chatting, and more males used the internet for viewing pornography; the pattern of internet use significantly varied among gender based on the purpose of using the internet ($\chi^2=11.131$, $df=2$, $p=0.004$). There was no significant variation in the pattern of internet use based on time spent online per day ($\chi^2=1.718$, $df=1$, $p=0.190$); and number of days spent online per week ($\chi^2=1.344$, $df=1$, $p=0.246$). 47.2% of young undergraduates were average online users compared with 18.5% of older undergraduates; furthermore, 24.1% of younger undergraduates were frequent users compared with 8.2% of older undergraduates. Prevalence of internet addiction was not higher among younger than older undergraduate students irrespective of gender ($\chi^2 = 1.046$, $df=2$, $p= 0.593$).36.9% males were average online users compared with 28.7% of females; more so, 20% of males were frequent users compared with 12.3% of females. A total of 1.5% of males had problematic internet addiction compared with 0.5% of females. The prevalence of internet addiction was not significantly higher in males than females ($\chi^2 = 1.069$, $df=2$, $p=0.586$).Phone is the most preferred source of accessing the internet, Facebook is the most frequently visited site, participants mostly logged online at night spending between 1-5 hours and accessing the internet 5 days and above a week.

Keywords: Pattern, internet, addiction, prevalence, undergraduate, students

1. Background of Study

The Internet allows a user a range of practical applications such as the ability to conduct research, to perform business transactions, to access international libraries, or to make vacation plans (Rheingold, 1993; Turkle, 1995).Goldberg (1996) coined internet addiction to describe the undesirable consequences emanating from excessive internet usage on individual lives. Internet addiction shares certain degree of similarity with substance addiction where addicts suffer mentally and physically. Internet addiction is characterized by excessive or poorly controlled preoccupations, urges or behaviors regarding computer use and internet access that lead to impairment or distress. The condition has attracted increasing attention in the popular media and among researchers, and this attention has paralleled the growth in computer (and Internet) access (Shaw & Black, 2008).

Reports indicated that some on-line users were becoming addicted to the Internet in much the same way that others became addicted to drugs, alcohol, or gambling, which resulted in academic failure (Brady, 1996; Murphey, 1996).Few studies have reported a high prevalence rate of internet addiction among students, for example, 10.7% in South Korea (Park, Kim, & Cho, 2008), 10.8% in China (Lam, Peng, Mai and Ing, 2009), and 36.7% in Italy (Milani, Di Blasio & Osualdella, 2009).Young and Rodgers (1998) identified the existence of addictive Internet use, which has been associated with significant social, psychological, and occupational impairment. Addicts in their study used the Internet an average of 38 hr per week for nonacademic or non-employment purposes, which caused detrimental effects such as poor grade performance among students, discord among couples, and reduced work performance among employees. This is compared to non-addicts who used the Internet an average of 8 hr per week with no significant consequences reported. Predominantly, the interactive capabilities of the Internet such as chat rooms or on-line games were seen to be the most addictive.

The level of consumption of Internet pornography among children and teenagers of primary and secondary school age in Southwestern Nigeria was studied by, Longe, Chiemekwe, Onifade, Balogun, Longe, and Otti (2007), findings of the study showed that teenagers are more exposed to Internet pornography than children. A positive relationship exists between age, parental income and level of exposure to Internet pornography, which implies that as children advance in age, the level of exposure will definitely increase. Children of medium and high-income earners also exhibit above average level of addiction to Internet pornography.

Young adults are increasingly spending a plenty of time in using social networking sites (SNS) particularly Facebook and MySpace (Wilson, Fornaiser, & White, 2010). Facebook addiction is considered as “specific form of internet addiction” (Andreassen, Torsheim, Brunborg, & Pallesen, 2012). Olowu and Seri (2012) reported that, majority of their respondents showed a tendency towards addiction to social network sites and so could not do without going through their online profiles daily (Olowu, and Seri 2012). Considering the explosive growth in internet use among medical students in India, in a study to determine the prevalence of internet addiction among undergraduate medical students in India 90 subjects (18 – 20 years of age) were used in a cross sectional study. The prevalence of internet addiction among the sample revealed the following result (moderate and severe) was determined to be 18.88%. Majority (57.77%) conformed to mild addiction. The most common purpose for internet use was found to be social networking (97.8%), followed closely by e-mailing (87.8%). The prevalence of moderate to severe internet addiction appeared to be low, a significant number of students conform to mild addiction (Chathoth, Kodavanji, Arunkumar, and Pai, 2013).

Folaranmi (2013) in a study surveyed the level of addiction to Facebook among selected Nigerian University undergraduates. Findings of the study show ‘meeting people’ and ‘chatting’ as the most frequent activities of undergraduates on Facebook. ‘Facebook chat’, ‘Wall post’, and ‘Picture uploading’ were features used most. Many undergraduates access Facebook account every passing hour, every two hours and every day. The study reveals low level addiction (1.6%) particularly among university undergraduates in private universities. Although the study observed low level of addiction, this result may be due to the low level of internet access generally in Nigeria. Most cybercafé users in a study by Sife (2013), were young, male, better educated and mostly students. The internet was primarily used for searching academic information, communication as well as obtaining news and current affairs. There was weak correlation between demographic characteristics of respondents and the purpose of using the internet. While many cybercafé users preferred search engines particularly Google and Yahoo, only a few were using web subject dictionaries. The use of tools such as search engines, browsers and social media in the study area corresponds to many other world ratings. No adverse internet addictive behaviors were exhibited by cybercafé users in the study area. Recently the American Psychiatric Association has included Internet Gaming Disorder as one specific sub-type of Internet Addictive Behaviour in the newest revision of the Diagnostic and Statistical Manual of Mental Disorders (APA, 2013; DSM-V) (Dreier, Tzavela, Wolfling, Mavromati, Duven, Karakitsou, Macarie, Veldhuis, Wojcik, Halapi, Sigursteinsdottir, Oliaga, and Tsitsika, 2013).

2. Statement of the Problem

With the rapid growth of digitalization, individuals tend to be addicted to the internet, irrespective of the reasons why they access the internet.

3. Aim of Study

The researchers are concern over the use of the internet among the general public. Therefore, the aim of this research is to study how undergraduate students make use of the internet so as to enable the researchers understand the Pattern of Internet use, addiction and prevalence of addiction among undergraduate students.

4. Hypotheses

- i. There is the likelihood that the pattern of internet use will vary among gender based on the purpose of using the internet, the time spent online per day and the number of days spent online per week.
- ii. There is the likelihood that the prevalence of internet addiction will be higher among younger undergraduate students than older undergraduate students irrespective of gender.
- iii. There is the likelihood that the prevalence of internet addiction will be higher in males than females.

5. Method

5.1. Instrument for Data Collection

Young (1996) internet addiction test is used for data collection in this study to assess internet addiction among participants of interest. The instrument is scored using a five point Likert scale ranging from 1 = rarely to 5 = always. Participants scores on the 20 items are summed up together to obtain the total score of each participant, the minimum score is 20 and the maximum score is 100. A score of 20 – 49 points indicates an average online user, 50 – 79 points, indicates internet user experiencing occasional or frequent problems because of internet use and 80 – 100 points indicates internet user that use of the internet has caused significant problems. Keser, Eşgi, Kocadağ, and Bulu (2013) reported Cronbach α , internal consistency coefficient for the first factor of the scale as 0.91; second factor was 0.87; third factor was 0.89; fourth factor was 0.90; and for the whole scale was 0.90. Spearman Brown value for the scale was 0.86. Guttman Split-Half value for the scale was 0.85.

6. Procedure

Undergraduate students who consented to participate in the study were administered the instrument of data collection using accidental sampling technique.

6.1. Design and Participants

Case study approach is used in this study. Participants were selected across the campus of Plateaus State University Bokokos using accidental sampling technique. Consequently, the instrument use in the study was given to students who consented to participate.

6.2. Data Analysis

Chi-square and t-test were used to analyze data at $P=0.05$ level data were analyzed with version 20 of the Statistical Package for Social Sciences (SPSS).

7. Result

7.1. Descriptive Statistics

The total of 195 Participants participated in the study of which 114 (58.5%) are males, and 81 (41.5%) are females. 141 (72.3%) of the participants are between the ages of 17 and 25 years old while 54 (27.9%) are 26 years old and above. Singles had the highest number of participants with 166 (85.1%) followed by married with 28 (14.4%) and divorced with only 1 (0.5%) participant. 181 (92.8%) of the participants are Christians, 12 (6.2%) are Muslims and only 2 (1.0%) agnostics, 300 level had the highest number of participants with 60 (30.8%), followed by 100 level with 55 (28.2%), 200 level had 49 (25.1%) and 400 level had the least number of participants with only 31 (15.9%) participants.

Considering the pattern of internet use, the most preferred source of accessing the internet is the phone with 133 (68.2%) participants sign it to access the internet, followed by laptops/desktops with 49 (25.1%) and only 13 (6.7%) use iPad to access the internet. 11 different sites online were identified by participants as their most preferred sites, Facebook is the most frequently visited site with 70 (35.9%) participants, followed by Google with 57 (29.2%) participants, Yahoo came third with 16 (8.2%) participants. 14 (7.2%) frequently visit Pornographic sites, 12 (6.2%) frequently visits YouTube, 8 (4.1%) preferred WhatsApp, 7 (3.6%) preferred Twitter, 5 (2.6%) preferred Instagram, 3 (1.5%) preferred 2go, 2 (1.10%) preferred LinkedIn and only 1 (0.5%) preferred Opera Mini.

74 (37.9%) of the participants mostly logged online at night, 64 (32.8%) mostly logged online in the evening, 25 (12.8%) logged online mostly in the morning, 17 (8.7%) logged online mostly in the afternoon and only 15 (7.7%) logged online late night. In relation to the amount of time spent online, 160 (82.1%) spent between 1-5 hours and 35 (17.9%) spend 6 hours and above online most of the participants access the internet 5 days and above with 113 (57.9%) and only 82 (42.1%) access the internet between 1 to 4 days.

7.2. Inferential Statistics

Pattern of Internet Use	Gender		Total	Chi-square (χ^2)	df	p-value
	Male	Female				
Purpose of use of the internet						
Research	62	26	88	11.131	2	0.004
Chatting	43	50	93			
Pornography	9	5	14			
Amount of time spent online per day						
1-5 hours	97	63	160	1.718	1	0.190
≥ 6 hours	17	18	36			
Number of days spent online per week						
1-4 days	44	38	82	1.344	1	0.246
≥ 5 days	70	43	43			

Table 1: Chi-square Analysis for purpose of using the internet, time spent online per day, and day spent online per week

The Chi-square analysis was used to test the first hypothesis and result showed more males used the internet for research than females, while more females used the internet for chatting than males, furthermore, more males used the internet for viewing pornography than females; the pattern of internet use significantly varied among gender based on the purpose of using the internet ($\chi^2 = 11.131$, $df = 2$, $p = 0.004$). However, there was no significant variation in the pattern of internet use based on time spent online per day ($\chi^2 = 1.718$, $df = 1$, $p = 0.190$); and there was no significant variation in the pattern of internet use based on the number of days spent online per week ($\chi^2 = 1.344$, $df = 1$, $p = 0.246$).

Age	Internet Addiction			Total	χ^2	Sig.
	Average online user f%	Frequent problems f%	Significant problems f%			
Younger Undergraduates	92 (47.2)	47 (24.1)	2 (1.0)	141 (72.3)		
Older Undergraduates	36 (18.5)	16 (8.2)	2 (1.0)	54 (27.7)	1.046	0.593
Total	128 (65.6)	63 (32.3)	4 (2.1)	195 (100.0)		

Table 2: Prevalence of Internet Addiction across Age of Undergraduates

Result of the second hypothesis revealed that 47.2% of young undergraduates were average online users compared with 18.5% of older undergraduates; furthermore, 24.1% of younger undergraduates were frequent users compared with 8.2% of older undergraduates. Prevalence of internet addiction was not higher among younger undergraduate students than older undergraduate students irrespective of gender ($\chi^2 = 1.046$, $df = 2$, $p = 0.593$).

Gender	Internet Addiction			Total	χ^2	Sig.
	Average online user f%	Frequent problems f%	Significant problems f%			
Male	72 (36.9)	39 (20.0)	3 (1.5)	141 (58.5)		
Female	56 (28.7)	24 (12.3)	1 (0.5)	81 (41.5)	1.069	0.586
Total	128 (65.6)	63 (32.3)	4 (2.1)	195 (100.0)		

Table 3: Prevalence of Internet Addiction across Gender

Table 3 show the prevalence of internet addiction across gender. The table revealed that 36.9% of males were average online users compared with 28.7% of females; more so, 20% of males were frequent users compared with 12.3% of females. A total of 1.5% of males had problematic internet addiction compared with 0.5% of females. The prevalence of internet addiction was not significantly higher in males than females ($\chi^2 = 1.069$, $df = 2$, $p = 0.586$).

8. Discussion

Descriptive statistics reveals that the phone (handset) is the most preferred source of accessing the internet with 133 (68.2%) of the participants using the phone compared to the use of laptops/desktops and iPad. This is so because an average phone has a provision for internet connectivity and the cost of purchasing a simple phone with provision for internet connectivity is cheaper compared to purchasing computers (laptops and or iPad). Ericsson (2015) in a study reports that Internet users in Nigeria mostly perform online activities on their mobile phones. 94 percent of consumers use social network sites and 93 percent browse the internet on their mobile phones. The usage of online activities on laptops and tablets is lower than on mobile phones. Only 44 percent of consumers use social network sites and 50 percent browse internet on their PCs. 82 % of mobile phone users access the internet with their device on a daily basis, 45 percent of PC users and 44 percent of tablet users do the same.

In relation to pattern of internet use, descriptive results revealed that 11 different sites were identified by participants as the sites they mostly visit online, the sites in the order of most frequently to least visited sites are as follows; Facebook, Google, Yahoo, pornographic sites, YouTube, WhatsApp, Twitter, Instagram, 2go, LinkedIn and Opera Mini. Night is the most preferred time of logging in online by most participants followed by evening, morning, afternoon and late night. Most of the participants stay online between 1- 5 hours, only 35 (17.9%) of the participants stay online for 6 hours and above. Regarding the number of days, most of the participants access the internet 5 days and above a week. Folaranmi (2013) in a study reports 'meeting people' and 'chatting' as the most frequent activities of undergraduates on Facebook. 'Facebook chat', 'Wall post', and 'Picture uploading' were features used most.

Chi- square analysis revealed that more males used the internet for research purposes than females, while more females used the internet for chatting than males, furthermore, more males used the internet for viewing pornography than females; the pattern of internet use significantly varied among gender based on the purpose of using the internet. However, there was no significant variation in the pattern of internet use based on time spent online per day and the number of days spent online per week. Salehi, Khalili, Hojjat, Salehi and Danesh (2014) found that 2.1% of the studied population was at risk and 5.2% were addicted users. Chatting with new people communicating with friends and families and playing games were the most popular activities in these groups.

In relation to the prevalence of internet addiction across younger and older undergraduates, result revealed that 47.2% of young undergraduates were average online users compared with 18.5% of older undergraduates; furthermore, 24.1% of younger undergraduates were frequent users compared with 8.2% of older undergraduates. Prevalence of internet addiction was not higher among younger undergraduate students than older undergraduate students irrespective of gender ($\chi^2 = 1.046$, $df = 2$, $p = 0.593$). on the purpose of using the internet Wilson, Fornaiser and White (2010) reported that, young adults are increasingly spending a plenty of time in using social networking sites (SNS) particularly Facebook and MySpace.

Finally results of the prevalence of internet addiction across gender, revealed that 36.9% of males were average online users compared with 28.7% of females; more so, 20% of males were frequent users compared with 12.3% of females. A total of 1.5% of males had problematic internet addiction compared with 0.5% of females. The prevalence of internet addiction was not significantly higher in

males than females ($\chi^2 = 1.069$, $df = 2$, $p = 0.586$). However earlier findings by International Telecommunication Union (2013) reports that, more men than women use the Internet: globally, 37% of all women are online, compared with 41% of all men. This corresponds to 1.3 billion women and 1.5 billion men. The developing world is home to about 826 million female Internet users and 980 million male Internet users. The developed world is home to about 475 million female Internet users and 483 million male Internet users. The gender gap is more pronounced in the developing world, where 16% fewer women than men use the Internet, compared with only 2% fewer women than men in the developed world.

9. Conclusion

Internet accessibility is an added advantage to the society today, due to the availability of internet students are expected to utilize it for research and academic purposes. The authors conclude that the availability of phones with internet connectivity, e-libraries and availability of wireless internet in institutions of learning is of advantage to students only when they utilize the facilities for academic and research purpose as revealed by most of the male participants who use the internet for research purposes. Therefore, the researchers in this study recommends that the use of the internet for other purposes among students apart from academic and research purposes is considered as underutilizing the internet and source of distraction to the students. Young (1998) found 58% of students suffered from poor study habits, poor grades, or failed school due to excessive Internet use.

For whatever purpose you use the internet whether it is for academic or otherwise it can be addictive and abused, therefore the hours spent online per day, number of days spent online and the purpose of surfing the internet should be watched strictly, ICT operators in schools should set the systems in e-libraries in a way that it will logged out students who spent more hours online and school managements should establish psychological service centers in institutions which will help students and individuals that are addicted to the internet.

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