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Personality and gender as predictors of internet addiction among Nigerian undergraduate

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ABSTRACT

This study examined gender and personality traits as predictors of internet addiction among undergraduate students. Participants were 506 undergraduate students (289 male and 217 female, mean age = 22.47, SD =2.19), conveniently drawn from four faculties in the University of Abuja, Nigeria. Measures for data collection were Internet Addiction Test (IAT) and Big Five Personality Inventory (BFI). Multiple regression was used for the statistical analysis. Results showed that gender did not significantly predict internet addiction. Neuroticism and openness to experience positively predicted internet addiction. Extraversion, agreeableness and conscientiousness negatively predicted internet addiction. The findings of the study suggest strongly that personality traits should be given high consideration by psychologists and psychoterapists as an important factor that may lead to addiction to internet use, and these factors need to tbe recognised in assessing internet addiction victims

Introduction

The internet is a global information technology that has been linked to every aspect of our lives. With the internet, the world has turned to a global village. Amaefule (2010) stated that about 45.04 million people use the internet in Nigeria and Internet World Stats (2017) noted that the world's most developed countries already have an Internet penetration level of over 90%. Ajewole and Fasola (2012) also observed that youths in Nigeria are spending too much time on social networking sites to the detriment of other necessary things like their studies. Excessive usage of the internet may lead to internet addiction. Researchers have posited that among undergraduates, excessive internet use can cause poor educational performance, social separation, and can also lead to numerous forms of internet deception (Vejmelka, Strabic, & Jazvo, 2017). It can also have a negative impact on mental health (Banyar, Zsila, Király, Maraz, Elekes, Griffiths, & Demetrovics, 2017). In Africa especially in Nigeria, some students go through serious health and academic problems as a result of internet addiction (Ofole et al., 2015; Asemah et al., 2013) yet few studies have been done to find out if personality and gender could be predictors of internet addiction among Nigerian undergraduates students.

Internet addiction according to Naseri, Mohamadi, Sayehmiri, Azizpoor (2016) is the inability to control internet usage which may lead to psychological and social difficulties. It may also be classically known as a state where an individual loses control of the use of the internet and keeps using the internet extremely to the point where he/she experiences negatively affect his/her life (Young & Abreu, 2011). According to Griffiths (1998), internet addiction can be described as non-chemical addiction which includes the communication between human beings and a machine. Social learning theory of addiction posits that individuals learn to engage in addictive behavior (Bandura, 1977) and Griffiths (1998) also observed that addiction may be passive like watching movies or active like playing online games. Usually, it has inspirational and reinforcing aspects that may help to enlarge the tendency towards addiction. According to this view, the main component of addiction is behavioral addiction. From the above definitions, internet addiction can be seen as a situation when one cannot control his/her use of the internet and it negatively affects the proper functioning of this individual with a serious adverse effect on him/her.

Undergraduates use the internet more often than adults and they can be exposed to numerous problems (Lenhert, Madden, & Hitlin, 2005). Some researchers also documented that internet use is highest within the age range of 16 to 24 (Kandell, 1998; Ozturk, Eraslan, Odabasioglu, Genc, & Kalyoncu, 2007). Some researchers also noted internet use to be high within the age range of 18-25 years and it was noted to be a significant period of transition for psychological development such as exploration, redefinition, and stabilization of identity (Arnett, 2000, Schimmenti et al., 2017; Schimmenti, Passanisi, Gervasi, Manzella, & Fama, 2014).

One of the variables of interest in this study is gender. Gender is a sexual classification of participants into males and females showing their biological differences. Findings concer-

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ning gender differences are mixed, with some studies reporting higher prevalence rates among males (Kiraly et al., 2014) and females (Rucker et al. 2015) and other studies reporting no significant differences across both genders. Yeong-Mi and Won (2014) conducted a study on gender differences in internet addiction among Korean adolescents aged 12 to 18 years using a nationally representative dataset. Data from 56,086 students (28,712 boys and 27,374 girls) from 400 middle schools and 400 high schools were analyzed. They found that 2.8 % of the students (3.6 % boys and 1.9 % of girls) were addicted users, and the prevalence of internet addiction was higher in boys than in girls. There is little empirical research on gender differences ininternet addication among Nigerian undergraduate students. The hypothesis in the present study is that gender will significantly predict internet addiction such male undergraduate would report higher internet addiction compared to female undergrduates.

Personality is the other predictor variable of interest in this study. Personality is an individual characteristic and distinctive pattern of thinking, feeling, and behavior (Kalichman, Cain, Zweben, & Swain, 2003) which may reflect in neuroticism, openness to experience, extraversion, agreeableness, conscientiousness traits (Costa & McCrae, 1992). Extraversion is a tendency in human beings to be friendly, sociable, fun-loving and concerned about others (extrovert) or to focus attention on oneself, shy, reserved and quiet (introvert) (Lahey, 2001). Norman (1963) described openness to experience as culture. It is a tendency to seek stimuli and explore new environments or issues actively (Nwoke & Chukwuorji, 2011). Agreeableness is a variety of traits that foster congenial relationships with others (Graziano & Eisenberg, 1997). Agreeable individuals are co-operative, considerate, empathic, generous, polite and kind. Conscientiousness is the capacity for cognitive and behavioural control. High conscientiousness has been variously seen as willingness to follow authority and conform to group norms (Hoga & Ones, 1997) or a positive engagement with task-related endeavours (Ashton & Lee, 2001). Neuroticism involves traits like shyness, being tense, and being moody (Tosun & Lajunen, 2010).

Vingehoets, Croon, Jeninga, Seligman (1990) found that personality characteristics that lead people to engage in an unhealthy type of behavior might also produce poor habits. This poor habit might be in form of internet addiction. Scholars described how those who have high scores on the trait of neuroticism were likely to use the Internet to avoid isolation and how internet users lower emotional stability is linked to Facebook addiction (Ali, et al., 2016; Blachnio, Przepiorka, Senol-Durak, Durak, & Sherstyuk, 2017; Whang, Ho, Chan, & Tse, 2015). These findings supports a link between internet addiction and personality traits.

The present researchers hypothesised that: Neuroticism will positively predict internet addiction; Openness to experience will positively predict internet addiction; Extraversion will positively predict internet addiction; Agreeableness will positively predict internet addiction; Conscientiousness will negatively predict internet addiction.

Method

Participants and Procedure

Participants in this study were 506 undergraduate students of the University of Abuja, Nigeria. The students' age ranged from 18 to 25 years with a mean age of 22.47years (SD = 2.19). These students were drawn from four faculties of the university. They were approached in their classrooms by the researcher and four other research assistants. Those that agreed to participate in the study were assured of the confidentiality of their responses and given the questionnaire form to complete. They were provided with phone contact of the researcher to assist those participants who might seek further professional help after participating in the study. The response rate for properly completed and returned questionnaires was 90%.

Measures

Internet Addiction Test

The Internet Addiction Test was developed by Young (1998). The scale measures the addictive use of the internet by respondents. It is a 20-item scale with a 6-point Likert-type scale. The response options are: 0= does not apply; 1= rarely; 2 = occasionally; 3 = frequently; 4 = often and 5 = always. Higher scores indicate a greater level of addiction. The scale has an internal consistency of .88 and test-retest reliability of .82 which was reported by the original developer. Many studies reported its test-retest reliability to be satisfactory, ranging between r = .73 and r = .88, as well as excellent internal consistency ranging between α =.88 and α =.93 (Alavi et al., 2010; Lee et al., 2013; Osada et al., 2013). This instrument has been validated and used for studies in Nigeria (e.g., Okwaraji, Aguwa, Onyebueke, & Shiweobi-Eze, 2015).

The Big Five Personality Inventory (BFI)

The BFI was developed by John and Srivastava (1999) as a measure of five personality dimensions: Openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. It is a 44-item scale. Furthermore, the items in the scale are divided into five groups (R denotes reverse-scored items): Extraversion (e.g., I see myself as someone who is a talkative, other items include items 6R, 11, 16, 21R, 26, 31R, 36), Agreeableness (e.g., I see myself as someone who is useful and unselfish with other items include items 2R, 12R, 17, 22, 27R 32, 37R, 42), Conscientiousness (e.g., I see myself as someone who does a thorough job. Other items include items 8R, 13, 18R, 23R28, 33, 38, 43R), Neuroticism (e.g., I see myself as someone who is depressed, blue. Other items include items, 9R, 14, 19R 24R 29, 34R, 39), Openness (e.g., I see myself as someone who is original, comes up with new ideas. Other items in the dimension are 10, 15, 20, 25, 30, 35R, 40, 41R, 44). The reliability and validity of the instrument have also been evaluated: John et.al (1999) reported a Cronbach alpha of .80. Test-retest (3 months) reported .85. BFI has a mean convergent validity coefficient of .75 and .85 with Big Five

Instruments authored by Goldberg (1992). Umeh (2004) established divergent validity for the BFI among a sample of Nigerian university undergraduates by correlating the subscales of the BFI with the university Maladjustment scale (Kleinmuntz, 1961) and obtained coefficient of .05, .13, .11, .39, and -.21 for respectively. Eze (2012) reported .67 (n = 75) internal consistency reliability coefficient (Cronbach's alpha) for the inventory.

Statistical Analysis

This study adopted correlational desing while multiple regression was used as the statistics for data analysis in this study. According to Mendel, Hall, Beaver, and Beaver (2009), it allows researchers to simultaneously use several independent (or predictors) variables.

Results

Note: ** = *P* <.01

Table 1 showed that gender correlated with internet addiction (r = .28, p< .01). Neuroticism positively correlated with internet addiction (r = .67, p< .01). Openness to experience positively correlated with internet addiction (r = .83, p< .01). Extraversion also negatively correlated with internet addiction (r = -.63, p< .01). Agreeableness correlated negatively with internet addiction (r = -.68, p< .01). Conscientiousness negatively correlated with internet addiction (r =- .56, p< .01).

Table 1. Correlation Matrix of gender, personality traits and internet addiction.

Variables	1	2	3	4	5	6
2. Neuroticism	.22**	-				
3. Openness to experience	.26**	.58**	-			
4. Extraversion	-.15**	-.39**	-.52**	-		
5. Agreeableness	-.25**	-.47**	-.58**	.55**	-	
6. Contentiousness	-.17**	-.40**	-.51**	.34**	.37**	-
7. Internet addiction	.29**	.67**	.84**	-.64**	-.68**	-.56**

Note: ** = p<.01

Results of the multiple regression in Table 2 indicated that gender was not a significant predictor of internet addiction (β = .29, p> .001). Neuroticism significantly predicted internet addiction (β = .64, p< .001). Openness to experience also predicted internet addiction (β = .66, p< .001). Extraversion was negatively significant predictor of internet addiction (β = -.25, p< .001). Agreeableness was a negatively significant predictor of internet addiction among University of Abuja undergraduates (β = -.17, p< .001) and conscientiousness negatively predicted internet addiction among University of Abuja undergraduates (β = -.12, p< .001). All the variables in the model explained 83% of the variance in internet addiction (R2 = .83).

Discussion

Evidence was obtained that personality traits (neuroticism, openness to experience, conscientiousness, extraversion, agreeableness, and conscientiousness) positively and negatively predicted internet addiction among undergraduates. In terms of gender, there was no gender difference in internet addiction among undergraduates. Muhamed, Fiazana, Tausif and Rajput (2017) also did not find gender differences in their study but Waldo (2014) reported that females are addicted to the internet more than males. Neuroticism had a significant positive link with internet addiction (Ali et al., 2016; Samreen et al., 2018). Thus, individuals with neuroticism experienced more troubled relationships and distressed situation, hence they are more likely to avoid this unpleasant experience, indulge in, and get addicted to the internet (Zaheer & Halley, 2017).

Openness to experience predict internet addiction which is consistent with previous studies which indicated that openness to experience was statistically significant in predicting internet addiction (Candan et al., 2015). Individuals who have this trait have a wide range of interests which may or may not increase their chances of internet addiction (Yueyue, 2017). The result in extraversion corresponds with the study by Servidio (2014) who examined Internet addiction among Italian students and found that extraversion was negatively related to Internet addiction. Some researchers noted that extrovert individuals as Web users do not consider online or cyber-relationships as social support (Kim et al. 2002). For agreeableness, the finding is in line with previous studies (Ali et al., 2016; Zahra & Neda, 2013) who in their studies found a negative correlation between internet addiction and agreeableness. Finally, for conscientiousness result in this present study is in line with the result of previous researchers (Kuss et al., 2013; Zamani et al., 2011) which reported that conscientiousness was negatively related to internet addiction.

Openness to experience shares the same result with neuroticism (because neuroticism and openness to experience positively predicted internet addiction) while extraversion, agreeableness, and conscientiousness negatively predicted internet addiction and this implies that an increase in these traits seems to cause a decrease in internet addiction and vice versa. Personality traits explained 83% variance in internet addiction in the present study. The result is similar to the study of Seyyed, (2017) who got 85% variance in their study on personality traits and internet addiction. This implies that among Nigerian undergraduates the personality of an individual should be highly considered among internet addictive victims. Though, other variables may also be considered too.

Table 1. Correlation Matrix of gender, personality traits and internet addiction.

Variables	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
	B	β	*T*	*B*	β	*t*	*B*	β	*t*	*B*	β	*t*	*B*	β	*t*	*B*	β	*t*
Gender	10.01	.29	6.68***	5.14	.15	4.42***	1.75	.05	2.18*	1.75	.05	2.40*	1.18	.03	1.68	1.10	.03	1.60
Neuroticism				1.46	.64	19.34***	.63	.28	10.22***	.55	.24	9.78***	.50	.22	9.10***	.46	.20	8.59***
Openness to Experience							1.19	.66	24.21***	.99	.56	20.70***	.90	.50	18.64***	.82	.46	16.75***
Extraversion										-.58	-.25	-10.62***	-.46	-.20	-8.13***	-.44	-.19	-8.02***
Agreeableness													-.45	-.17	-6.65***	-.43	-.19	-8.02***
Conscientiousness																-25	-.12	-5.50***
R^2	.08			.47			.76			.80			.82			.83		
ΔR^2	.08			.39			28			.04			02			01		
F	44.61(1,504)***			225.90 (2,503)***			521.24 (3, 502)***						448.75(5,500)***			400.86 (6,499)***		
ΔF	44.61(1,504)***			374.16 (1, 503)***			586.25 (1, 502)***			112.79(1,501			44.25 (1,500)***			30.23 (1,499)***		

Note: **;* = p<.001; ** = p<.01; **= p<.05

Based on the findings, personality traits may be crucial factors to be considered in assessing internet addiction victims because an individual with increased neuroticism seems to likely have increased internet addiction and vice versa. The limited sample of participants is the major limitation and only one university was used in the study. Further studies may consider sampling many universities in Nigeria and other variables which may predict internet addiction.

Conclusion

Though internet addiction has been implicated in other variables, there are limited studies that have specifically investigated gender and personality as predictors of internet addiction. This study has made a worthwhile contribution. Knowledge gotten from this study may not only be applied to internet addiction victims but will be useful in therapeutic settings especially among clinical psychologists and other professionals that manage addiction victims.

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