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Personality Traits, Depression and Internet Addiction among Undergraduate Students of Benue State University, Makurdi, Nigeria.

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Abstract

Excessive preoccupation with the internet is common especially among undergraduate students. This study investigated the influence of personality traits and depression on internet addiction among undergraduate students of Benue State University, Makurdi, Nigeria. The study employed the cross-sectional survey design. Three instruments were pilot tested and items that met the criterion for retuning items on the scale based on their total correlation of not less than 0.30 were selected for the main study. The instruments used were, the Big Five Personality Inventory, Beck Depression Inventory and Young Internet Addiction Scale. Three Hundred and Ninety-one male and female students aged between 18-34 years ($SD = 19.39$) were randomly sampled and administered copies of the questionnaire. Three (3) hypotheses were postulated and data were analysed using Multiple Regression Analysis. Findings showed all the dimensions of personality traits significantly influenced internet addiction. There was also a significant influence of depression on internet addiction. Result findings indicated a significant joint influence of personality traits and depression on internet addiction among undergraduate students of Benue State University, Makurdi. Therefore, all three hypotheses were accepted. With regards to the findings, it was suggested among other things that healthcare practitioners including psychologists take special care and interest in proffering short and long term solutions to mitigating internet addiction.

Keywords: *Depression, internet addiction, personality traits, undergraduate students.*

Introduction

The internet offers a largely pro-social, interactive and information-driven medium affecting lives of people across all spheres. However, the use of the internet can have both negative and positive outcomes depending on the intention, value and control the user places on its use. Though the advantages are many as it enhances global communication, its improper or excessive engagement can be problematic with untold consequences (Odaci & Celik, 2013).

Excessive and uncontrollable use of the internet which can be referred to as internet addiction implies a penchant and a compulsive use of the internet involving surfing for either informative, educative or entertainment purposes. The uncontrollable desire to use the internet may devalue time spent, cause to

experience intense nervousness and aggression in the advent of deprivation and increase deterioration of social as well as family life. Features of addiction to the internet can be psychosocial involving impatience, isolation, emotional disorders and interruption of social relations (Tonioni, D' Alessandris & Lai, 2012). According to Castellana, Sanchez-Cabonell & Graner, (2007), excessive use and dependence on the internet can have psychological and behavioural consequences on undergraduates. Such includes emergence of possible behavioural alterations, loss of control, school failure, social isolation and increase in family conflict (Castellana et al., 2007). Possible behavioural alterations may even include depression and its resultant effects such as suicidal ideation or suicidal act. However, individuals have given thresholds for performance and behaviour generally. Personality types and indeed traits vary in response to life situations affecting a wide range of human activities including the use of technologies of which the internet is one (Wiggins, 2007).

Statement of Problem

A marked advantage of the internet technology is globalization with which information has been placed on our finger-tips. The technology has generated tremendous benefits but not without some short-falls. There is the birth of the internet generation made of young people with dexterity and ability in the understanding of its workings while the older adult “migrants” struggle to cope. A good number of these first-hand generation individuals are undergraduates in our universities. With devices such as smart phones, i-pads, notebooks, personal computers and similar gadgets, access to internet sites are available, reachable and often affordable. The use which is a commendable development for scholarly work is often abused and man-hour spent on frivolities. The penchant to use overwhelms the usefulness such that uneasiness, excessive craving and nervousness when deprived set in with daring consequences. The attendant implications are procrastination, failure in academic work, isolation, loss of valuable time, social misconduct and many psychosocial outcomes relating to addiction. This study therefore, seeks to investigate the influence of personality traits and depression on internet addiction among undergraduate students of Benue State University, Makurdi.

Aim and objectives of the study

The study is aimed at investigating the influence of personality traits and depression on internet addiction among undergraduate students of Benue State University, Makurdi. The following objectives are being advanced:

i To examine the influence of personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness) on internet addiction among undergraduate students of Benue State University, Makurdi

ii To assess the influence of depression on internet addiction among undergraduate students of Benue State University, Makurdi

iii To ascertain the influence of personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness) and depression on internet addiction among undergraduate students of Benue State University, Makurdi.

Research Questions

The following constitute the research questions:

i To what extent will personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness) influence internet addiction among undergraduate students of Benue State University, Makurdi?

ii What will be the extent to which depression will influence internet addiction among undergraduate students of Benue State University, Makurdi?

iii To what extent will personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness) and depression jointly influence internet addiction among undergraduate students of Benue State University, Makurdi?

Scope of the Study

This study is limited to a sample of undergraduate students of Benue State University Makurdi. The variables of interest are personality traits, depression (independent variables) and internet addiction (dependent variable).

Review of Related Literature

Traditional use of the word “addiction” stems from a medical model and has to do with psychological and physical dependency on a specific matter (Leung and Lee, 2011) and its use has been largely related to drug or substance use. According to Young (2004), internet addiction comprises of

compulsive behaviours to any online activities that disturb normal daily life and induce stress on social relationships. With the ever increasing popularity of the internet, it is not out of place to witness students' obsession with its use. There is no consensus among researchers as to how to address this phenomenon as different have been used: internet dependency, internet addiction, pathological internet use,, problematic internet use, compulsive computer, virtual addiction, internet use disorder are some of the nomenclatures (Whang, Lee & Chang, 2003).

This 'behavioural' addiction has become endemic following the relatively affordable internet gadgets and the expansion of internet network and bands globally. The first reports on excessive use of computers dated well back to the 1970s and by the 80s, computer games was reported to have addictive potential. That the internet use could be addictive, followed largely the work Griffiths who saw it as "technological addiction" which is non-chemical addiction but involving human-machine interaction, which could be passive or active, with inducing and reinforcing features (Young, 2004). Internet addiction may not have purely biological and environmental chronic and relapsing disease results like those induced by substance/drugs but surely does have biological and psychosocial features of addictive phenomena (Whang, Lee & Chang, 2003) of which depression may be one.

Depression is a common mental disorder and is mostly treatable. Mild and moderate depression does not pose as much a threat as severe depression with symptoms including feeling sad, loss of interest or pleasure in activities once enjoyed, change in appetite, trouble sleep and fatigue. Others may include feeling of guilt or worthlessness, difficulty in concentration and thoughts of death or suicide. People respond differently to situations as individual differences form a dimension of such variation. Personality traits refer to the tendency to react in given ways across situations (Cartwright, 1979). Personality encompasses a wide spectrum of unique traits and characteristics influencing individuals' reactions in daily life events. General traits explain general behaviours which are relatively enduring or consistent across a variety of situations and settings (Caprana & Cervone, 2000). The Big Five Factors Model of Personality categorises personality into five broad dimensions of extraversion, neuroticism, agreeableness, openness to experience and conscientiousness (Caprana & Cervone, 2000). Extraversion as a dimension is concerned with interpersonal interactions, activity, need for stimulation and capacity for joy and people who score high on this would be sociable, active, talkative, optimistic, fun-loving, people-oriented and affectionate (John, 1990) while the opposite (introverts)

tend to be less sociable, slower to self-disclosure, appear to be less energetic and are prone to internalise cognitive processes.

Agreeableness dimension like extraversion also has a social component that refers to a disposition of being friendly, pleasant, considerate, compassionate and cooperative (Tobin, Graziono, Vanman & Tassinary, 2000). In correlated trait adjective, they are straight-forward (not demanding), altruistic, compliant, modest and tender-hearted. Low scores on the dimension could signify stubbornness, being demanding, showing-off, and being unsympathetic and antagonism (John & Srivastava, 1999). Tobin et al., (2000) found that people high on agreeableness are more responsive social situations and that gender plays is significant as this effect is more profound in women.

Neuroticism refers to an inclination to be nervous and tense. According to John and Srivastava (1999), correlated trait adjectives for this dimension of personality includes anger, hostility, depression, self-consciousness (shy), impulsiveness and not being self-confident. Emotional stability on the contrary is expressed by individuals with less mood swings and lower emotional reactivity in frequency and duration (Jylha & Isometsa, 2006). Therefore, it is understandable to see why this strongly correlates with symptoms of depression and anxiety.

Openness to experience dimension implies the propensity to be imaginative, dependent, intellectually curious, unconventional, adventurous, daring, divergent in thinking and open to changes or challenges (Vearing & Mak, 2007). Open people are more likely to be aware of their thoughts, impulses and emotions simultaneously. Openness to experience has been found to be in sync with attributes such as happiness, positive affect and quality of life (Steel, Schmidt & Schultz, 2008). Conscientiousness refers to an inclination to be disciplined, structured, systematic, well-organised, dutiful, goal-oriented, careful and persistent. A person's high score on conscientiousness implies to an extent that the person is organized, reliable, hardworking, self-disciplined, punctual, scrupulous, neat, ambitious and persevering (Miller, Griffin & Hart, 1999)

Personality Traits and Internet Addiction

According to Haghshenas (2011), technology addiction as a subset of behavioural addictions, have a common set of symptoms including aggression and extreme violence, withdrawal and isolation, and lack of responsibility. A number of studies have shown that excessive internet use could be threatening to social life. Kavis (2016) investigated the relationship between internet addiction and the Big Five

personality traits. Using meta-analysis results, it was observed that all five traits had a meaningful relationship with internet addiction. Hu (2013) while conducting a study on personality and internet addiction among students, found that those addicted showed higher scores on personality traits than their normal counterparts. The results suggested that personality traits on neuroticism, psychoticism and immaturity correlated with internet addiction.

Oztturk, Bektas, Ayar, Ozguven & Yagci (2015), examined association between personality traits and risk of internet addiction among three hundred and twenty-eight high school adolescents in Aegean region in Turkey. The study determined that participants' risk of internet addiction was associated with their levels of extraversion and openness to experience. Mousavi and Essazadegan (2016) investigated the relationship between personality traits and internet addiction among eighty (80) patients with Multiple Sclerosis. Data analysed from the study using stepwise multiple regression and Pearson r revealed that neuroticism correlated with internet addiction.

Depression and Internet Addiction

Roger, Zhang, Tsang, Toh and Pan (2014) researched on internet addiction and psychiatric comorbidity. The components of psychiatric morbidity measured included alcohol abuse, attention deficit disorder, hyperactivity, depression and anxiety. Internet addiction significantly correlated with all the measures of psychiatric morbidity inclusive of depression. In earlier study, Chon, Yeun, Young, Choi, Seo and Nam (2005), examined the relationship between internet addiction, depression and suicidal ideation among high school adolescents. The sample comprised of diagnosed internet addicts and possible internet addicts. The researchers found that the levels of depression was higher for the diagnosed internet addict group.

Bahrainian, Alizadeh, Raeisoon, Gorji & Khazae (2014) researched on the relationship between self-esteem and depression on internet addiction among students of Birjand Islamic Azad University. The results indicated that 40.7% of the students had significant signs of internet addiction and that there was a significant correlation between depression, self-esteem and internet addiction.

Hypotheses

- i.** Personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness) will significantly influence internet addiction among undergraduate students of Benue State University, Makurdi
- ii.** Depression will significantly influence internet addiction among undergraduate students of Benue State University, Makurdi
- iii.** There will be a significant joint influence of personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness) and depression on internet addiction among undergraduate students of Benue State University, Makurdi

Method

Design

The study adopted the cross-sectional survey design. The design involved the collection of information from respondents (participants) at a singular period of time using questionnaire. This was found to be appropriate as it enabled the researcher to compare many variables at the same time and utilized different groups of people who differ in measuring the variables of interest.

Setting

The study was carried out in Benue State University, Makurdi focusing on undergraduate students. The university was established in 1992 by the Benue State Government. At the time of this study there were 24, 726, spread across seven faculties.

Participants

A total number of three hundred and ninety-one (391) participants were randomly selected from the departments in all seven faculties of the sampled participants 192 (49.1%) were males and 199 (50.9%) females with age range of 18-34 years. They were of various ethnic groups and religious extractions.

Sampling

This study employed convenient sampling technique. This technique which is sometimes called incidental or accidental technique is a non-probability sampling technique and involves the use of available samples. Its applicability in universities using available and willing students as respondents is viable as samples can be easily reached in the lecture halls, common rooms and parks designated for the various departments. The sample size for this research was determined using Taro Yamane (1967) formula where $n = N/1+N(e)^2$

n = Sample size

N = Population

e = Level of Significance

1 = Constant

$$= \frac{24,726}{1 + 24,726 (0.05)^2}$$

$$= \frac{24,726}{1+61.82} = \frac{24726}{62.82} = 394$$

Instruments

The three instruments used in the study were the Big Five Personality Inventory by John and Srivastava (1999), Beck Depression Inventory by Beck, Steer and Brown 1996) and Young Internet Addiction Scale by Young (1996). The instruments were used as measures to test for personality traits, depression and internet addiction respectively on the sample.

All three instruments have high validity and reliability indices but were further subjected to further validation using a sample they have similar characteristics with the study sample. Fifty student (50) from Federal University of Agriculture, Makurdi were administered the questionnaire with the test items on all three instruments. The copies of the questionnaire were collected and analyzed to ascertain the reliability and validity on the undergraduate sample. Item analysis was also conducted

for all items on each of the three instruments. Items that could not meet up with Cristobal, Flavian and Guinaliu (2007) is criterion for returning items on a scale were discarded. Only items with total correction of .30 and above met the criterion for selection and were used for the main study.

In summary the Big Five Personality Inventory, with an initial 44 items and validity of 90 and Cronbach alpha of 87 had 19 correlated items with Cronbach Alpha .71. The Beck Depression Inventory was led with 11 items from the initial 20 and had Cronbach Alpha Value of .786 indicating high consistency.

The Internet Addiction Scale on Validation had a Cronbach Alpha value of 911 indicating a high consistency. 17 out of 20 initial items met the criterion for returning items. These items had more or equal to .30 total item correlation and were therefore used for the main study.

Procedure

The researchers employed two (2) assistant researchers to go to designated places on the campus (The Western and Eastern) wings to engage willing students to complete copies of questionnaire were administered to students in lecture rooms, parks and common rooms. Participants consent was sought as they were told that participation was voluntary and assured of confidentiality. They were debriefed in accordance with research ethics in psychology and directed on how to go about filling the questionnaire. A total number of three hundred and ninety-four (394) copies of questionnaires were administered and three hundred and ninety-one (391) collected were valid for analysis.

Data Analysis

The data for the study were analyzed using descriptive and inferential statistics. The descriptive statistics was used to measure the personal information. The Multiple Regression analysis was the inferential statistics used to the hypotheses.

Results

This is the presentation of results of data analysis in accordance with the hypotheses that were tested.

Hypothesis 1

This hypothesis stated that there will be a significant influence of personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness) on internet addiction

among undergraduate students of Benue State University, Makurdi. This hypothesis was tested using regression analysis and the result is presented in Table 1.

Table1: Multiple Regression Analysis summary table showing the influence of personality traits and depression on internet addiction among undergraduate students of Benue State University, Makurdi.

DV	Predictor(s)	R	R ²	F	df	β	T	P
Internet Addiction	Constant	.412	.170	12.184**	6, 358		11.420	< .001
	Extraversion					-.145	-2.228	< .05
	Neuroticism					-.170	-3.294	< .05
	Agreeableness					-.475	-8.227	< .001
	Openness to experience					.279	2.052	< .05
	Conscientiousness					.319	4.273	< .001
	Depression					.479	3.098	< .05

** Sig at 0.01

Result as shown in Table 1 indicates that there is a significant influence of personality traits on internet addiction among undergraduate students of Benue State University, Makurdi. The result shows that the result is significant across the dimensions of personality traits including extraversion [$\beta = -.145$, $t = -2.228$; $p < .05$], neuroticism [$\beta = -.170$, $t = -3.294$; $p < .05$], agreeableness [$\beta = -.475$, $t = -8.227$; $p < .001$], openness to experience [$\beta = .279$, $t = 2.052$; $p < .05$] and conscientiousness [$\beta = .319$, $t = 4.273$; $p < .001$]. Hypothesis 1 was therefore confirmed.

Hypothesis 2 stated that depression will significantly influence internet addiction among undergraduate students of Benue State University, Makurdi was tested using regression analysis. Result in Table 1 shows a significant influence of depression on internet addiction on the sample [$\beta = .479$, $t = 3.098$; $p < .05$]. Observation of beta weight indicates that depression significantly accounted for 49.7% of the total variance in internet addiction. Based on the result, the hypothesis was accepted.

Hypothesis 3 measured the joint influence of personality traits (on all five dimensions) and depression on internet addiction among the stated sample [$R = .412$ and $R^2 = .170$; $F(6, 358) = 12.184$; $p < .001$]. Looking at the coefficient of determination [$R^2 = .170$] shows that both personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness) and depression jointly accounted for 17% of the total variance observed in internet addiction among the undergraduate sample. Hypothesis 3 is therefore upheld.

Discussion and Recommendations

In this segment, the three hypotheses will be discussed with conclusion and possible recommendations. Hypothesis 1: This hypothesis stated that personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness) will significantly influence internet addiction among undergraduate students of Benue State University, Makurdi. This hypothesis was tested using regression analysis and the result showed a significant influence of personality traits on internet addiction. The finding reveals that all the five dimensions of personality traits measured (extraversion, agreeableness, conscientiousness, openness to experience and neuroticism) significantly influence internet addiction. This is in congruity with the finding of Kavis (2016)'s study on the relation between internet addiction and the Big Five personality traits. He found that all dimensions had significant relationships with internet addiction. In the same vein, Hu (2013) study collaborated with the research finding. Also, finding is consistent with the result by the work of Ozturk, Bektas, Ayar, Ozguven & Yagci (2015) having investigated personality traits and risk of internet addiction, found significant differences in the average sub-dimensional scores for extraversion and openness to experience among students at risk of internet addiction.

Hypothesis 2: On the postulation that depression will significantly influence internet addiction among undergraduate students of Benue State University, Makurdi, this was tested and the result was found to be significant and thus the hypothesis was confirmed. The finding was in sync with the earlier research findings of Roger et al., (2014) on internet addiction and psychiatric co-morbidity. Depression was found to have significant association with internet addiction. Cui, Shi and Tian (2014) in their research finding found a significant influence of depression on internet addiction among adolescents. Furthermore, Ryu, Choi, Seo and Nam (2004) on relationship between internet addiction, depression and suicidal ideation in adolescents, saw a significant positive correlation between internet addiction and depression.

Hypothesis 3: The hypothesis examined significant joint influence of personality traits (extraversion, neuroticism, agreeableness, openness to experience and conscientiousness), depression and internet addiction among undergraduate students. Multiple linear regression analysis showed a significant joint influence with all dimensions of personality traits, depression and internet addiction. Observation of coefficient of determination shows that all dimensions of personality traits and depression jointly accounted for 17% of the total variance observed in internet addiction among the undergraduates.

Recommendations

Based on the findings, the following recommendations are being considered.

- i. Psychologists and other health care professionals should employ professional measures to look more closely at issues relating to excessive internet use with a view to mitigating negative outcomes
- ii. There is a need for a structure for tackling behavioural issues relating to depression and other related co-morbidities in the university. The establishment of a functional psychological services centre is important.
- iii. Putting in place para-counselling services to aid in mitigating negative effects of internet use is apt.

- iv. More research work on the study variables should be carried out on a larger scale for further identification of problems and possible solutions.

Implications of the study

- i. One of the implications of this study is that it reveals internet addiction as a disorder that is not embedded in a single personality trait. What this means is that every undergraduate is susceptible to internet addiction irrespective of his or her personality trait.
- ii. That depression is a predisposing factor in internet addiction among the undergraduates. So uncovering the source of depression and subsequently strategizing interventions is important.
- iii. Undergraduates suffering from depression may likely be predisposed to internet addiction on matter no matter his or her personality trait.

Limitations of the study

Although, the study makes some contributions to knowledge, generalization on an entire population of undergraduates within and outside the research setting may not be recommendable. This is because survey research has its inherent challenges with regards to proper control of extraneous variables.

Conclusion

In view of the study and its findings, one can conclude that personality traits being it extraversion, neuroticism, agreeableness, conscientiousness or openness to experience does not exclude one from internet addiction but can still make one susceptible. Therefore, vulnerability to internet addiction among the sample population can be plausible irrespective of their personality traits.

Result on depression as a variable of measure on internet addiction among Benue State University undergraduate students indicated that students with higher scores had more tendencies to internet addiction than those with lower scores.

Finally, students of varying dimensions of personality traits but with high scores on depression showed more likelihood to internet addiction than those students with lower scores on depression. Therefore, it can be inferred that depression as a singular factor has a very weighty influence on internet addiction even in the face of varying personality traits.

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