INTERNET ADDICTION AS A PREDICTOR OF DEPRESSION AND LONELINESS AMONG UNDERGRADUATES

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ABSTRACT

The extent to which internet addiction influences depression and loneliness among university undergraduates was examined in this study. Simple random sampling was used to draw three hundred and sixty-six out of four thousand, four hundred and nine undergraduates from the federal University Gashua. The sample comprised 214 males and 152 females in the age range of 18-45 ($\bar{X}$= 26.64; SD = 5.643). Data was collected using the Young (1999) Internet Addiction Test; Beck's (1961) Depression Scale and the Revised UCLA Loneliness Scale (1980). Simple linear regression analysis was used to test the hypotheses. Results show that internet addiction significantly and negatively predicted emotional well-being among university undergraduates [F(1,364) = 14.39; P<.01]. This implies that as the level of internet addiction increases, psychological well-being decreases significantly. Results also show that internet addiction significantly predicted loneliness among university undergraduates [F(1,364) = 19.134; P<.01]. This implies that as internet addiction increases, loneliness gets heightened. The outcome of this has implications for educators, parents,

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and the government to act fast and discourage internet addiction among undergraduates.

Keywords: internet addiction, depression, loneliness, undergraduates

INTRODUCTION

The Internet is a network of a group of computers that provides a variety of information and communication opportunities. In our present world, it is obvious that many people especially university undergraduates at all levels make use of the internet for course materials, assignments, research, and other relevant information. Mueller (2010) in Ofole et al (2015) maintained that the internet consists of millions of private, public, academic, business, and government networks linked by a broad array of electronic, wireless, and optical networking technologies. It carries an extensive range of educational material at all levels from pre-school to post-doctoral. In addition to these, the internet creates room for social interactions with others through social media platforms such as Facebook, Twitter, Whatsapp, and telegram amongst others. The Internet has become an indispensable part of our lives today given its numerous positive aspects to humanity.

Despite the numerous benefits derived from the internet, there are indications that most often, many users especially university undergraduates use it in ways that are rather unhealthy both psychologically and socially which may likely put them at risk of becoming addicted to it. These negative effects are believed to cut across academic, relationship, financial, occupational and physical aspects of life. Internet addiction is a problem that has gained global recognition over the years (Lan et al., 2020). Young (1996) first defined internet addiction as an impulse control disorder that does not involve an intoxicant. As observed by different scholars, university students are highly likely to be the most vulnerable group of people to fall victim to internet addiction due to different reasons ranging from the use of the internet for academic work such as assignments and research purposes. This appears to be a well-known fact as demonstrated by (Ozgul, 2012) in Patel (2019) who asserted that, students who rely on many functions

of the Internet and those who have used the Internet for more than five (5) years are more likely to be addicted to the Internet. The Internet is now one of the main tools of communication for young people, and the software for easy communication (Argyris et al 2015).

In addition to this, evidence suggests that students get addicted to the internet through social networking sites such as YouTube, Facebook, Instagram, Snapchat, and Twitter as it accelerates their social communication (Masters, 2015). Closely related is also the fact that some students leave their homes, parents, and family members, for the first time and do not leave under direct parental watch and control. According to Young (2004) in Ofole et al (2015) some of the reasons students get addicted to the internet include having blocks of free time; schools and universities providing free and unlimited access to the internet; young students experience new problems of adapting to university life and finding new friends, and often end up seeking for a company by using different applications of the internet; students receive full encouragement from faculty and administrators in using the different internet applications; youths are more skilled in using the different applications of technological inventions and especially the internet; students desire to escape university sources of stress resulting from their obligations to pass exams. . Previous researchers have examined some of the factors that determine internet addiction. Again, Ofole et al (2015) established that self-concept and locus of control are some of the psychological variables that are significantly related to internet addiction while parenting styles were also found to significantly predict internet addiction. Some individuals use the internet to achieve only what they need, whereas others cannot limit their use. Healthy use of the internet as viewed by Davis (2001) is the use of the internet to achieve the desired goal within a specified and appropriate period without intellectual or behavioral discomfort.

Researchers have used different terms to refer to problematic use of the internet such as excessive internet use, uncontrolled use of the internet, pathological internet use, high internet dependency, net addiction, or internet addiction, which they believe causes problems in work and social life (Whang, Lee, & Chang, 2003a; Widyanto, 2007) in

Ozgul et al (2012). Before now, addiction was only used to describe psychoactive substances such as cocaine, alcohol and the likes that alter the chemical balance of the brain. Recently, however, a considerable number of professionals including psychologists, social scientists and health care professionals now argue that addiction should include psychological dependency. This extends to gambling, sex, internet amongst others. This according to them is because they can also lead to feelings of guilt, shame, hopelessness, despair, failure, rejection, anxiety and humiliation. Research on internet addiction demonstrated that the problematic use of the internet is associated with some negative psychological and social variables such as, depression and loneliness, (Ahmet et al, 2011; Huang et al, 2016 & Nida et al, 2017). In line with this Muazafar (2015) also affirms that internet addiction in students puts them at significant risk for psychological distress.

There have been growing concerns from different researchers about the negative effects of internet addiction in general and in particular on the psychological and social well-being of individuals, especially among the youth who comprises a good majority of university students. Psychological well-being here denotes the extent to which individuals experience positive emotions as well as feelings of happiness. The absence of these can be depression. Social well-being represents the level at which an individual interacts with others and a feeling of belongingness which could result in feelings of loneliness if such interactions are judged as inadequate. Many of these studies done on internet addiction usually consider it as a criterion variable. This study however investigates internet addiction as a predictive variable on the psychological and social well-being of university students by assessing the extent to which it can influence depression and loneliness as psychological and social factors respectively.

Numerous studies have shown that internet addiction is implicated in depression which is a psychological variable. Sue et al (2006) see depression as a mood disorder, characterized by intense sadness, feelings of worthlessness, and withdrawal from others. Research on internet addiction and depression demonstrated that the misuse of the internet, which results in a disruption of the normal lives

of an individual and the people around him, was concomitant with a rise in the frequency of depression (Kraut et al., 2002 in Ahmet et al., 2011). There are varying views as to whether depression could be an outcome of internet addiction or it predicts internet addiction as evidence suggests there exist a similar incidence of depression among individuals addicted to the internet and of internet addiction among depressive patients (Yen, et al 2007 in Ozgul, et al 2013). The literature debates whether the primary disease in this case is internet addiction or depression. For instance, Ozgul et al (2013) maintained that a significant positive relationship exists between internet addiction and depression among university students especially those of 17 years old compared to the older ones. It was further stressed that the higher the level of internet addiction, the higher their level of depression. Again, students with an underlying sickness demonstrated high internet addiction as their self-worth decreased. No sex differences were found between males and females. Similarly, Ahmet et al (2011) in a study on the relationship between internet addiction, depression, anxiety, and stress established that a significant positive relationship exists between internet addiction and depression which indicates that internet addiction has a direct impact on depression as such, individuals who are high on internet addiction may show high vulnerability to been depressed. The study concluded that if individuals can decrease their internet addiction, they may decrease their depression levels as well.

In another development, internet addiction is shown to have significant negative effects on the social well-being of individuals making them vulnerable to loneliness. Cutrona (1982) in Ayfer et al (2019) opines that events that can affect a college student, such as leaving family and friends for college, breaking up of a romantic relationship, problems with friends and roommates, and difficulties with schoolwork may create a discrepancy between actual and desired interpersonal relationships, which could lead to loneliness. In a parallel view, Weiss (1973) stated that loneliness does not come from being alone but from the lack of a certain set of relationships that are clearly needed. In other words, there may be a lack of intimate connections, friendships, or other social bonds. Loneliness can be regarded as a

feeling of being physically detached or cut off from significant relations, friends and important members of a social circle. Loneliness in this context refers to feelings of being physically isolated from significant others in one's life. Depression on the other hand as used here refers to the negative mood experienced by university undergraduates, occasioned by constantly spending most of their time on the internet for non-school related reasons.

Whereas other researchers regard loneliness as a predictor of internet addiction and see it as one of the reasons why people become addicted to the internet (Wealther, 2001; Ayfer, 2019), others opined that greater use of the internet is associated with some social variables such as loneliness and decline in the social life circle because, excessive internet use can displace valuable time that people spend with family and friends, which leads to smaller social circles and higher levels of loneliness and stress (Ahmet, et al 2011). Solano et al (2000) observed that many people use the internet to create friendships and social relations through chats but when they have more friends online without having them in real life, it becomes a problem such as a feeling of insufficiency because online relationships make people to ignore real life relationships. One study by Nida (2017) to investigate internet addiction as a predictor of loneliness among university students found that a significant positive relationship exists between internet addiction and loneliness.

Moreso, Elona (2016) examined the relationship between internet addiction and loneliness among University students and observed that internet addiction has a mild significant negative relationship with loneliness suggesting that students with high internet addiction experience some lower levels of loneliness. Further explanations were that those students who are addicted to the internet establish some level of social relationship online and to some extent do not report feelings of loneliness. In addition, Argyris et al (2015) also demonstrated that a significant positive relationship exists between addiction and loneliness. There were further indications that students who reported high internet addiction had significantly higher rates of loneliness. Further findings by Fatemah et al (2017) led to the conclusion

that a significant positive correlation exists between internet addiction and loneliness and if individuals control their addictions to the internet then loneliness will be reduced. In a separate study by Joseph et al (2018), depression and internet addiction were observed to be bidirectional. Findings revealed that those who were probable internet addicted without depression at baseline diagnosis later showed levels of depression while those without an initial diagnosis of depression without internet addiction at baseline later developed depressive symptoms. This shows depression to be both a predictor and outcome of internet addiction. Shahla et al (2016) also confirmed that internet addiction significantly predicts psychosocial risks such as depression, anxiety, stress, and loneliness among young adult students. The research also observed that addictive Internet use is gender sensitive and that the risk of Internet addiction is higher in males than in females.

There is no doubt that research on internet addiction has received much attention from different researchers and much has been done on it. However, most of the research identifies the factors that predict or determine this talked-about disorder leaving many questions unanswered such as the extent to which internet addiction can further influence depression and loneliness and by extension psychological and social well-being of university students. This study, therefore, seeks to investigate the predictive capacity of internet addiction on depression and loneliness among university undergraduates.

Objectives

The objectives include:

1. To examine the extent to which internet addiction will predict depression among university students.
2. To ascertain the level at which internet addiction will predict loneliness among university students.

Hypothesis

It was hypothesized that:

1. Internet addiction will significantly influence depression among undergraduates of Federal University, Gashua.

2. There will be a significant influence of internet addiction on loneliness among undergraduates of Federal University, Gashua.

METHOD

Design

The study employed the cross-sectional survey design to ascertain the influence of internet addiction on the psychological and social well-being of university undergraduates.

Participants

Participants for the study comprised 366 undergraduates from the federal university Gashua out of the total number, 214 (58.5%) were males while 152(41.5%) were females; their age ranges from 18-45(= 26.64; SD = 5.64); their distribution according to the level of the study shows 89(24.7%) were in 100 level; 91(25.2%) were in 200 level; 97(26.9%) were in 300 level and 84(23.2%) were in 400 level respectively; concerning their religion, 160(44.4%) were Christians while 200(55.6%) were Muslims; furthermore 241(66.6%) were single; 109(30.1%) were married and 12(3.3) were separated.

Sampling

Simple random sampling which is a probability sampling technique that gives participants an equal chance of being selected was used to get a representative sample from the different departments. The fishbowl method was adopted and the researcher numbered the elements on separate pieces of paper and shuffled them in a container. This was followed by picking the numbers at random until the sample size was achieved. The researcher adopted the sample size determination method by Taro Yamane to get 366 representative samples out of the total population of 4,409 at the time of carrying out the research.

INSTRUMENTS

Internet Addiction Test (IAT)

The Internet Addiction Test (IAT; Young, 1998) is a 20-item scale that measures the presence and severity of Internet dependency among adults. Dr. Kimberly Young, developed the IAT to assess symptoms of Internet addiction and compulsivity in a variety of test settings. The IAT measures the severity of self-reported compulsive use of the Internet for adults and adolescents. It is a Likert-type format ranging from 0 = less extreme behavior to 5 = most extreme behavior for each item. Ofole et al (2015) found IAT valid and reliable for measuring internet addiction. The researchers reported a test-retest reliability coefficient of 0.89.

Beck's Depression Inventory

This is a 21-item scale that was developed by Beck (1961). . Each question contains four options that are scored from 0 (none) to 3 (severe). The total score ranges from 0 to 63 points. 1-10 represents normal ups and downs, 11-16 is for Mild mood disturbance,17-2 stands for borderline clinical depression, 21-30 represents Moderate depression, 31-40 is regarded as severe depression, and over 40 indicates extreme depression. Chukwujekwu et al (2016) found the test to be valid and reliable with an internal consistency of 0.91 and a test-retest coefficient of 0.93.

UCLA Loneliness Scale

This is a 20-item - the scale that measures *loneliness* in a Likert-type format. The University of California Los Angeles Scale was developed by Rusell et al (1980). 1 represents Never, 2 represents rarely, 3 represents sometimes and 4 stands for often. Several studies have reported its reliability. Elona (2016) reported a Cronbach alpha of 0.839.

PROCEDURE

The researcher initially used a simple ballot to select one department each from the three faculties after which the same method was used to select the required sample from the various departments. Participants were approached during a compulsory class in their respective departments. Before administering the questionnaire, the researcher obtained permission from the lecturers. The researcher explained to the students what the research is all about. They were also

assured that all information given by them will be treated with confidentiality.

DATA ANALYSIS

Descriptive statistics were used in getting the mean age and standard deviation as well as finding other relevant percentages as regards the bio-data information of participants while a simple linear regression analysis was employed in analyzing hypotheses one and two.

RESULTS

In testing the research hypotheses, simple linear regression analysis was used to test both hypotheses 1 and 2 to determine the level of significance among study variables thus:

Hypothesis 1: Internet addiction will significantly predict depression among undergraduates of Federal University, Gashua. The result is presented in Table 1 below.

Table 1: Simple linear regression scores showing prediction of internet addiction on depression among undergraduates of Federal University, Gashua.

Predictor variable	R	R^2	F	B	T	Sig
Constant	.196	.038	14.393		12.369	.001
I				-.196	-3.794	.001

Criterion Variable: Depression

Results from table 1 showed that internet addiction significantly predicted depression among undergraduates of Federal University, Gashua. [F (1,364) = 14.39; P<.01]. This result implies that internet addiction relates to psychological well-being among undergraduates. As the level of internet addiction increases, mental well-being decreases significantly. The result further revealed that depression accounted for just 3.8 % (R^2 = .038) total variance in explaining internet addiction on

depression among undergraduates of Federal University, Gashua. Following the finding, therefore, hypothesis one was confirmed.
Hypothesis 2: Internet addiction will significantly predict loneliness among undergraduates of Federal University, Gashua. The result is presented in Table 2 below.

Table 2: **Simple linear regression scores showing internet addiction as a predictor of loneliness among undergraduates of Federal University Gashua.**

Predictor variable	R	R^2	F	B	T	Sig
Constant	.223	.050	19.134		30.887	.001
Internet addiction				-.223	-4.374	.001

Criterion Variable: Loneliness

Results in table 2 revealed that internet addiction significantly predicted loneliness among undergraduates of Federal University, Gashua. [F (1,364) = 19.134; P<.01]. This result implies that internet addiction influences loneliness significantly. This shows that as the level of internet addiction increases, loneliness worsens significantly among undergraduates of Federal University, Gashua. The result further revealed that loneliness accounted for just 5.0 % (R^2 = .050) total variance in explaining internet addiction to loneliness among undergraduates. Based on this finding, hypothesis two is confirmed.

DISCUSSION

The results in table one are in respect of hypothesis one and have proven that internet addiction is a significant predictor of psychological well-being. Individuals addicted to the internet show poor psychological well-being which can be manifested through severe depression. Such people will tend to be sad and socially withdrawn which may heighten their levels of being glued to the internet more, as other studies have found depression to be bidirectional to internet

addiction. This finding is in line with previous research with similar findings (Ozgul et al, 2013; Ahmel; 2011).

Furthermore, results for hypothesis two are contained in table 2 and have added evidence to show that internet addiction has a significant influence on loneliness. This finding implies that the higher the level of an individual on internet addiction, the more severely they experience feelings of loneliness. This shows an individual can be actively involved in internet activities along with many other internet users, yet experience feelings of being physically disconnected from significant people around them. This can be possible since much of their time is spent online and little or no quality time is spent on physical interaction with significant others. This finding is supported by several others which suggest that internet addiction is a significant predictor of loneliness (Ayfer, et al, 2019; Nida, 2017; Elona, 2016; Fatemah, et al; 2017).

IMPLICATIONS

The outcome of this study has implications for psychologists and clinicians. Psychologists can find appropriate behavioural and cognitive therapies to help students who are already addicted to the internet to unlearn that behaviour and also develop rational thoughts to help sustain the appropriate behaviours. In the same vein, clinicians should also consider internet addiction as a possible factor that is related to depression in those who present themselves for the treatment of depression. This will help in avoiding over-reliance on medication as a single method of treatment but rather explore the services of other health professionals like psychologists to help in restoring the individual's health.

CONCLUSION

Findings from this study is an added evidence that internet addiction is significantly related to psychological and social factors and by implication a significant predictor of depression and loneliness. Therefore healthy use of the internet will highly likely be accompanied by healthy psycho-social well-being.

RECOMMENDATIONS

1. Universities with the help of psychologists and other health professionals should do a general psychological and social wellness routine check to identify students suffering from depression and loneliness.
2. The Internet addiction level of students should be checked and the appropriate therapy should be applied to help students improve their overall health.
3. Universities should include information on the dangers of internet addiction in the student handbook.

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