



Sex and Social Media Addiction as Predictors of Cyber Deviance among Undergraduates

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ABSTRACT

Over the past two decades, young people's engagement in online activities has grown markedly. Considering the increasing ubiquity of internet and social media services in Nigeria, some minimal level of code of conducts is expected. This study investigated the predictive relationship of gender and social media addiction on cyber deviance among youths. Using a cross-sectional survey design and accidental sampling method, 268 undergraduates comprising 110 male and 158 female students in the age range of 16 to 30 (Mean age = 20.87, SD = 2.31) were selected across the Lagos State University main campus to participate in the study. A questionnaire having 3 sections which include demographic items, social media addiction scale and online deviance scale were administered to the participants. Set hypotheses were tested using t- test for independent measure and multiple regression analysis. The result from t-test indicates that male undergraduates were more cyber deviant than their female counterparts, and the multiple regression analysis indicates that Sex and Social media addiction were predictors of cyber deviance. Limitations and relevant of the study as well recommendations based on the findings of the study were given.

INTRODUCTION

Due the wide range of cybercrimes, it has been difficult to have a specific definition or have a good classification system that capture it all (Barn and Barn, 2016). Cyber deviance, one of the synonyms of cybercrime can be conceptualized as acts performed with computers, over computer networks (such as the internet) which violates or deviates from norms (formal or informal) that mediate the use of these networks. When these acts violate formal codified laws, they are regarded as illegal, and as such referred to as Cyber-crime.

Cybercrime refers to offenses where special knowledge of cyberspace is used to violate the law (Wall, 2010). Online offending, often referred to as cybercrime, is defined as “the destruction, theft, or unauthorized or illegal use, modification, or copying of information, programmes, services, equipment, or communication networks. Online offending includes offenses where internet and online networking resources are used to violate the law or social norms.

With the advent of new technologies and the ubiquity of the Internet, the world is now more connected than ever. Internet access around the world is increasing rapidly and, at the moment, Internet access for household stands at an average of 71.6% for OECD countries (Jackson, 2013).

According to Statistca.com, in 2018, Nigeria had 92.3 million internet users. This figure is projected to grow to 187.8 million internet users in 2023. The internet penetration amounted to 47.1 percent of the population in 2018 and is set to reach 84.5 percent in 2023.

Nigeria is one of the most populous countries worldwide. Statista (2022) reported that as at 2021, there were 104.4 million active internet users in Nigeria, and mobile phone internet usage is particularly popular, with almost three quarters of Nigerian web traffic being generated via smartphones, Nigeria ranks at the top of the list of African countries based on the share of traffic via mobile.

The Internet has proven to be extremely helpful, but it doesn't come without a cost. The perpetration of

cyber deviance could be said to be a major downside since the inception of the internet. Cyber-crimes such as, software piracy, illegal downloading, hacking, and cyber bullying among others have all become part of our daily lives. Both illegal downloading and hacking, each for its own reason, have attracted a lot of attention from researchers and media alike. While the leading issue with illegal downloading is copyrights and the huge amounts of money that music and movie producers don't obtain due to sharing (Navarro, Marcum, Higgins, and Ricketts, 2016), hacking poses a security threat and can be potentially devastating to individuals, companies or countries alike. Theft of personal and financial data through hacking can be used against individuals and at the same time critically damage the reputation of a company (Nelson, 2014).

According to Wall (2010), online offenses are generally categorized in one of two groups. As aforementioned, one category of cybercrime involves deviant behaviours that existed prior to the creation of computer and internet technology, and now there is a novel arena where crime can be perpetrated due to the advances in computer technology. These offenses include behaviours such as stalking, menacing, and the facilitation of prostitution. A second category of cybercrime involves criminality that has developed through the use of the internet and would not be in existence if not for advent of the internet and computer technology (Katos and Bednar, 2008; Wall, 2010). These offenses include behaviours such as the creation and dissemination of malware. Thus, online offending can manifest itself in a variety of forms. Menacing and harassment are no longer confined to face-to-face interaction; prostitution and drug transactions have been modernized with the use of the internet; and peer-to-peer networks and internet streaming have allowed copyrighted material (e.g., music, movies, and software) to be illegally shared and used.

Deviant behaviours using technology is a real concern since our society is rapidly moving from a typographic culture to a post-typographic culture. With this movement, our society is being

transformed by the use of technology because adolescents are communicating more by instant messaging, text messaging, electronic mail and in-chat rooms rather than by paper printed text or letter writing. Culturally, we are becoming more dependent on computers and computer-based technologies.

Younger generations have been shown to adopt new technologies faster, leading to the debate of digital natives and digital immigrants (Prensky, 2010), which makes adolescents the perfect sample to study the link between technology and behaviour.

Also college campuses present an appropriate and convenient context for studying online offending because almost all college students are required to utilize the Internet for school; thus, ensuring that college students have the opportunity to engage online offending (Donner, Jennings, and Banfield, 2015). Additionally, both online and offline offending have high prevalence rates on college campuses according to self-report and official statistics (Khey, Jennings, Lanza-Kaduce, and Frazier, 2009). Research has uncovered several common cybercrimes that college students commit (Donner et al., 2015; Moon, McCluskey, and McCluskey, 2010; Wall, 2010). These offenses include behaviours such as online harassment and stalking, digital piracy, writing and distributing malicious code, posting private information and images without consent, and using the Internet to facilitate criminal activity.

The concept of cyber deviance also suffers from the definitional ambiguity and volatility that plagues deviance in general. What actually constitutes deviance changes depending on the audience, the actor, the situation itself, as well as on who decides the law. Over time the definition of deviance has stayed the same, but due to the evolving attitude of the society, certain things get added or removed from the list of deviant behaviour.

Deviant behaviour in real life is very diverse, ranging from an innocuous misdemeanour such as littering on the street to grievous offences such as murder. Studies have shown that this diversity is equally true for cyber deviance (Wall, 2010; Taylor, Fritsch, Liederbach, and Holt, 2010; Prensky, 2010). Deviance as a concept is always changing and evolving; mirroring the societal changes in how we

conduct our daily lives, our language and norms. However, when it comes to cyberspace these changes become faster and more ambiguous.

As the problem of cybercrime is diverse, encompassing a range of behaviours with economic and emotional consequences (Taylor et al., 2010). One of the most recognized typologies of cybercrime, developed by Wall (2010), suggests that there are four forms of offences in virtual environments: deception/theft, pornography, violence and cyber-trespass. This study will employ this typology in examining cyber deviance.

Cyber theft refers to the act of using the internet to steal someone's property or to interfere with someone's use and enjoyment of property. In other words, cyber theft is the stealing of financial and/or personal information through the use of computers for fraudulent or other illegal use. Cyber theft includes hacking of a bank's computer records to wrongfully credit one account and debit another and interfere with a copyright by wrongfully sending protected material over the internet. Cyber theft is a way of using a computer and Internet to steal money or information. This is also the most popular cybercrime because the ability to steal from a distance reduces the risk of detection. Cyber theft includes Cyber Embezzlement, Unlawful Appropriation, Corporate Espionage, Cyber Fraud, Plagiarism, Piracy and Identity Theft.

Cyber pornography is the act of using cyberspace to create, display, distribute, import, or publish pornography or obscene materials, especially materials depicting children engaging in sexual acts with adults. Cyber pornography is a criminal offense, classified as causing harm to persons. This second form of cybercrime has particular significance for juvenile populations, as individuals under the age of 18 can easily view and obtain sexually explicit scenes through the World Wide Web (Edleman, 2009). In fact, the adoption and popularity of various forms of media, including DVDs, webcams, digital photography, and streaming web content, are directly tied to the pornography industry (Lane, 2000). This may account for the fact that one in three children were exposed to unwanted images of nude individuals or

people having sex while online in 2005 (Wolack, Mitchell, and Finkelhor, 2006).

Child Sexual Exploitation (CSE) and Child Sexual Abuse Material (CSAM) –Child indecent image collection and distribution are also included in this category of cybercrime. This includes production, distribution, exportation, importation, as well as deliberate possession of child abuse materials.

Cyber violence is online behaviour that constitutes or leads to assault against the well-being (physical, psychological, emotional) of an individual or group. What distinguishes cyber violence from traditional off-line forms of violence is that in the former case, some significant portion of the behaviour takes place online, although it might then be carried over into offline contexts. Cyber violence thus may, but need not, have a physical component, and much of the harm caused by cyber violence—as indeed by offline violence—is psychological and/or emotional (which is not to say less real or destructive). Finally, cyber violence may be targeted at individuals or groups, the latter being more characteristic targets of cyber violence than of offline, physical violence, due to the ease with which a single perpetrator can gather information about and contact large numbers of people on the Internet. This is another aspect of online violence that can cause it to have widespread effects. Types of cyber-violence include Cyber stalking, Cyber-harassment, Cyber bullying, Trolling and Propagation of Hate Speech.

A computer trespass is defined as accessing a computer without proper authorization and gaining financial information, information from a department or agency of the United States and/or information from any protected computer. This final type of cybercrime (Cyber Trespass) noted by Wall (2010) is, where individuals utilize computers and technology to access computer systems they do not own or legally have permission to use (Holt and Bossler, 2009). This most often involves computer hacking which is often attributed to juveniles who spend their time exploring computer networks without authorization from the system owners (Furnell, 2002). While media reports of hacking suggest these offenses are often complex and involve significant financial losses (Furnell, 2002),

simple forms of hacking involve guessing passwords and accessing accounts without permission from the system owners (Bossler and Burruss, 2010).

Due to the ever changing and developing nature of cyber space, new forms of cybercrime have come into existence; they include cyber terrorism, internet prostitution, internet drug sale etc. However, all these cannot be successfully categorized under Walls typology. Previous studies show that the role of sex and social media addiction on cyber deviance have not been fully explored, hence the need for this study.

The purpose of this study is therefore to investigate the influence of sex and social media addiction on cyber deviance. This is further broken down into the following objectives

The following hypotheses will be tested:

1. Male undergraduates will score significantly higher on cyber deviance than their female counterparts.
2. Sex and Social media addiction will jointly and independently predict cyber deviancy among undergraduates.

METHOD

Design/ Statistics

Cross-sectional survey research design was used in the study. This afford the opportunity of assessing all the variables at the same time. The independent variables are sex and social media addiction, while cyber deviance is the dependent variable. The hypotheses were tested with t-test for independent measure and multiple regression.

Participants

The participants of this study were 268 undergraduates comprising 110 male and 158 female students within the age range of 16 to 30. These participants were selected from all faculties and departments across the Lagos State University main campus using the accidental or convenient sampling technique.

Instruments

The instruments employed in this study was divided into three sections of a questionnaire which include the following:

Demographic Variable: The demographic section of the instrument was constructed by the researchers and requests mainly for the sex (a biological state of being a male or female) of the participants, as well as some other information such as: if the participant owns a smartphone and/or a computer, the social media platform he/she uses the most, how much time he/she spends online, if he is proficient at using computers and the internet, if he/she is adept in computer programming, if his/her online accounts has ever been hacked and if he/she has been a victim of cyber bullying. Appropriate response format were given for all items.

Online Deviance Scale: Cyber deviance was measured using the online deviance scale developed by Udris (2016). It is bipolar scale (yes/no response format) consisting of 13 items grouped under 3 factors (General cyber deviance, cyber deviance with peers, cyber aggression). Internal consistency was established for the scale using Kuder Richardson Reliability coefficient (K-R Coefficient). It is the equivalent for Cronbach's alpha which is used in cases when scale items are dichotomous. K-R coefficient ranged from .51 to .93 for the sub-factors and .79 for the whole scale.

Social Media Addiction Scale: Social Media addiction (that is, the frequency of use and the level of an individual's engagement with social media) was measured using the social media addiction - student form (SMA-SF) developed by Sahin (2018).

This psychological scale has been used by its developer and other researchers to access the level of addiction of undergraduates to social media platforms in terms of their use of and engagement to these platforms. It is a 5-point Likert-type scale consisting of 29 items grouped under 4 factors (virtual tolerance, virtual communication, virtual problem and virtual information). Internal consistency was found for the whole scale ($\alpha = .93$) and at values ranging from .81 to .86 for the sub-factors. Test-retest reliability was also found ($\alpha = .94$). Statistical analysis indicates that the scale is both valid and reliable.

Procedure

The three (3) measures above were combined in a well sectioned questionnaire with instructions for use. A number of this questionnaire was produced and copies were thereafter administered to undergraduates of the Lagos State University after assuring them of the confidentiality of their responses as well as the safety of their individual privacy. 300 questionnaires were administered using the self-administered format. One month was used to administer and retrieve the questionnaires from the participants.

The participants for the study were later determined after elimination of questionnaires that were not properly filled. Only 258 questionnaires were useful for the purpose of the study.

The data obtained from the valid questionnaires was then input into SPSS 20 for windows and multiple regression analysis and t-test of independent measures were used to test the hypotheses.

RESULTS

Based on the data collected from the respondents and the statistical instrument used, the results obtained are presented in tables to test the hypotheses which form the basis of the interpretations and analyses of findings of the study.

Hypothesis 1 which stated that male undergraduates will score significantly higher on cyber deviance than their female counterparts was tested with t-test of independent measure and the result is showed in table 1 below:

Table 1: Summary table of t-test comparing the cyber deviance scores of male and female undergraduates.

Sex	Cyber Deviance					
	n	\bar{x}	SD	df	t	P
Male	110	17.66	2.64	266	2.24	<.05
Female	158	16.92	2.62			

Result significant at $P < .05$; $t = 2.24$; $df = 266$

From the Table 1 above, it can be observed that male undergraduates scored significantly higher on cyber deviance than their female counterparts. The stated hypothesis is therefore confirmed ($t = 2.24$; $df = 266$; $P < .05$).

Hypothesis 2 which stated that Sex and Social media addiction will jointly and independently predict cyber deviancy among undergraduates was tested with multiple regression analysis and the result is shown in table 2 below:

Table 2: Summary table of multiple regression showing Joint and Independent Influence of Sex and Social Media Addiction on Cyber Deviance of undergraduates.

Variables	R	R ²	F	P	β	t	P
Constant					14.98	22.43	<.01
Sex	.287	.082	11.91	<.01	-0.72	-2.27	<.05
Social Media Addiction					0.04	4.30	<.01

Result Significant at $P < .01$; $R^2 = .082$; $F = 11.91$

From Table 2 above, it was observed that there is a significant joint influence of Sex and Social Media Addiction on Cyber deviance ($R^2 = .082$; $F = 11.91$; $P < .01$). However, the total percentage contribution of all predictors to the outcome variable (Cyber deviance) was just eight percent (8%) meaning that other unexamined variables also contribute to influence the outcome variable.

Also from the same table, all predictor variables (Sex and Social Media Addiction) show significant independent influence on the outcome variable (Cyber Deviance): Sex ($\beta = -0.72$; $t = -2.27$; $P < .05$) and Social Media Addiction ($\beta = 0.04$; $t = 4.30$; $P < .01$). The stated hypothesis is hereby confirmed.

DISCUSSION

This study investigated sex and social media addiction as predictors of cyber deviance among undergraduates in Lagos State University. Sex and social media addiction were found to have significant joint and independent influence on cyber deviance among the undergraduate students. This finding is in accordance with a number of other researches performed on various aspects of cyber deviance. For instance, Kircaburun, Kokkinos, Demetrovics, Király, Griffiths, and Çolak (2019) found that problematic social media use and cyberbullying perpetration were directly associated with each other. This study is also in line with studies by Anierobi, Etodike, Okeke, and Ezennaka (2021) that found that social media addiction is a predictor of both academic procrastination and academic achievement among undergraduates; Oumaima, Nawal, and Mohamed (2020) found a negative impact of social media addiction on studies, health, relationship and general well-being of Moroccan university students; while Odofin and Ofojebe (2020) found that constant exposure to violent social media handles promotes aggressive and deviant behaviours among students. However, in a study to investigate the predictors of cyberbullying and cyber victimization in University Students, Öztürk and Akcan (2017) discovered that gender and duration of internet use (in hours) were not predictors of cyber deviance, but had joint significant influence on cyber deviance when combined with perceived academic achievement.

This study also discovered that male undergraduates scored significantly higher on cyber deviance than their female counterparts. This is in tandem with Öztürk and Akcan (2017) who discovered that males were more likely to be cyberbullies than females; however, they were also more likely to be victims. The position of this study is also supported by Zsila, Urbán, Griffiths, Demetrovics, (2019) whose finding was that male participants in their study were more likely than their female counterparts to engage in cyberbullying when they had been previously bullied online.

CONCLUSION

Cyber deviance is a pertinent issue in our society today. Though the Internet and computer have been generally useful, they have also provided a platform for learning and actual practice of novel ways to deviate. Due to the great stride in ICT over the time, in today's world, a major Channel via which youths learn novel things is social media. Undergraduates are expected to be proficient with the use of ICT in general and are therefore more exposed and prone to learn and practice these deviant acts that thrive in cyberspace. This study investigated sex and social media addiction as predictors of deviance in cyberspace. It was discovered that sex and social media addiction did in fact have significant joint and independent influence on deviance in cyber space. However, it was also found that male students were more likely to be cyber deviants than the females. This study will prove relevant to Tertiary Educational Institutions in general, to internet crime investigation agencies, and to parents.

RECOMMENDATIONS

Programmes targeted at incoming and existing undergraduates should be set up to identify social media addicts so as to provide interventions and guidance earlier on. Programs targeted at male undergraduates should also be put in place to identify cyber deviants among them and provide guided interventions. Future studies should be tailored to discover other factors that can influence social media addiction.

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