Academic Performance of Students in Delta Central Senatorial District: The Role of Cybercrime

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ABSTRACT

The research focused on the role of cybercrime on academic performance among students in the Delta Central Senatorial District of Delta State. To guide the study, two research questions were asked and answered, and two hypotheses were formulated and tested at the 0.05 level of significance. A descriptive survey research design using the correlation method was adopted for the study. The population of this study consists of 48,318 secondary students in all 190 public secondary schools in Delta Central Senatorial District during the 2022–2023 academic session. The sample of the study consists of 360 students from 12 secondary schools. The sample was selected using a multistage sampling technique. The instrument of data collection in this study was a questionnaire and the students' performance proforma. The split-half method was utilised to assess the reliability of the instrument, and a coefficient of 0.85 was obtained. The questionnaire was administered by the researcher with the assistance of trained field research assistants to 360 students, but 333 copies, which represents 93% of the total, were retrieved. Descriptive and inferential statistical methods, such as frequency distribution tables, means, Pearson Product Moment Correlation Coefficient (r), and regressions, were employed for data analyses. The study's findings indicated a significant relationship between risk factors promoting involvement in cybercrime and secondary school students' academic performance, along with a significant relationship between the effects of cybercrime and academic performance. Based on these findings, recommendations were put forth, including the need for the government to enhance the capabilities of its security agencies responsible for combating cybercrimes in Nigeria.

Keywords: Academic Performance, Cybercrime

INTRODUCTION

It is widely acknowledged that the rise of information and communication technology (ICT), also referred to as IT, caters to various user needs encompassing education, entertainment, communication, and business. In Nigeria, the internet revolution has significantly transformed both social and academic lifestyles. An illustration of this transformation is evident in the educational sector, where the internet has brought about substantial changes. Traditional teacher-directed classroom instruction has evolved into computer-aided instruction, utilising search engine tools. According to Adegbola and Fadara (2022), the internet allows students to access vast amounts of data stored on computers worldwide, eliminating the need to sift through extensive reference materials in libraries. Despite the numerous advantages, technology has also given rise to a new wave of illicit activity known as cybercrime.

Cybercrime refers to illegal activities that occur through the use of technology. It involves the use of electronic networks and devices to commit crimes such as fraud, identity theft, hacking, cyberbullying, and more. These activities can have severe consequences, including financial loss, reputational damage, and even physical harm to victims. As outlined by Olubukola (2017), cybercrime refers to criminal activities carried out on the internet, utilising computers either as tools or as targeted victims. It encompasses various illegal activities conducted by individuals known as scammers, hackers, internet fraudsters, cyber citizens, or 419ners, employing the internet through networked computers, telephones, and other information and communications technology (ICT) equipment. It's important to note that cybercriminals target a range of devices, including laptops, tablets, mobile phones, entire networks, and even the bank accounts of their victims. Recent indicators point to a surge in cybercrime (Levi, 2017). For instance, in the UK, 13,357 cybercrime cases were reported between April and September 2018, resulting in victims losing £34.6 million (City of London Police, 2019). In 2017, estimated annual losses to cybercrimes were $649 million for Nigeria and $210 million for Kenya (Kshetri, 2019). Human behaviour is identified as a key facilitator of ictimization. Research suggests that humans are the weakest link in computer security, as their reasoning can be exploited through external manipulations (Akdemir and Lawless, 2020).

The impact of cybercrime on academic performance among Delta Central Senatorial District students can be multifaceted. Firstly, cybercrime can lead to distractions and disruptions during the learning process. Students may become engrossed in activities such as gaming, social media, or streaming, neglecting their studies. This lack of focus can negatively affect their academic performance. Secondly, cybercrime can expose students to cyber threats such as malware, viruses, and phishing scams. These threats can compromise the safety and security of their electronic devices and data, leading to unauthorized access or the loss of sensitive information. As a result, students may struggle to complete academic assignments, access educational

resources, or complete online exams. Further, cybercrime can severely damage the reputation of educational institutions. If students are found involved in cybercrime activities, it can have a negative impact on the reputation of the school, affecting its reputation and attracting fewer students in the future. This, in turn, can have a ripple effect on the academic performance of all students in the district.

Academic performance refers to how well a student is accomplishing his or her tasks and studies (Scortt, 2012). Grades are certainly the most well-known indicator of academic performance. Grades are the student's "score" for their classes and overall tenure. Grading systems vary greatly by county and school; common scales include a percentage from 1-100, lettering systems from A-F, and grade point averages (GPA) from 0-4.0 or above. Education at the secondary school level is supposed to be the bedrock and the foundation towards higher knowledge in tertiary institutions (Brew, Nketiah, & Koranteng, 2021). Regrettably, inconsistent academic performance at senior secondary schools is a threat to every country's educational system, especially Nigeria. Academic performance is affected by many factors, including parents' education levels and income, teachers' knowledge of the subject, truancy, textbook availability and accessibility, libraries, practical laboratories, meal provision, and many other factors (Chinyoka and Naidu, 2013). Parents, teachers, curriculum planners, experts, and evaluators have expressed considerable concern over the deteriorating students' performance in public examinations.

Several independent studies have documented a strong connection between alcohol and drug abuse and criminal activities. These studies, although conducted separately, have highlighted the risk factors and effects of cybercrime on students' academic performance (Chado, 2020; Namada and Karimi, 2021; Okari, 2018). Therefore, both issues of cybercrime can be held accountable for the declining performance of secondary school students in examinations and their overall well-being. This study is deemed crucial and timely, considering its relevance to public health, security implications, and human capital development. It aims to explore measures that can be implemented to prevent these issues from affecting students' academic performance, society, and the nation as a whole.

Statement of the Problem

The challenges of cybercrime, particularly affecting secondary school students, have become a significant concern for both society and the government. Despite the implementation of various international, federal, and state drug laws, regulations, policies, and strategic plans to combat it, the problem is persistently growing and assuming more alarming proportions.

Cybercrime has rapidly transformed from the activities of dubious cybervandals into a range of profit-driven criminal endeavours in a remarkably brief period. Certainly, criminals, like any individuals with access, utilise the Internet for communication and information gathering, thereby facilitating various traditional organised crime activities. However, the increasing significance of the Internet and our collective dependence on it have also given rise to numerous new criminal opportunities.

Despite interventions by organisations such as the National Agency for Food and Drug Administration and Control (NAFDAC), the National Drug Law Enforcement Agency (NDLEA), the Economic and Financial Crimes Commission (EFCC), the Nigerian Police, and others, both drug abuse and cybercrime are on the rise, with over 40% of students engaging in various forms of drug abuse (Ekpenyong & Aakpege, 2012). Given that young people represent the most valuable asset for sustainable social development in any society, it is crucial to note that a significant portion of this population lacks awareness of drug and substance addiction. This lack of awareness hinders

their ability to steer clear of drug abuse and cybercrime.This research is deemed essential to address this gap by providing much-needed education to students on cybercrime, to which they have had limited exposure, thereby bridging the knowledge gap.

Research Questions

To guide this study, the following research questions were raised:

1. What are the risk factors of Cybercrime associated with secondary schools   students' academic performance?

2. What is the effect of Cybercrime on secondary schools' students' academic   performance?

Purpose of the Study

The main purpose of this study is to examine the role of Cybercrime on academic performance of secondary school students in Delta Central Senatorial District. The specific objectives of the study were to:

1. Identify the risk factors of Cybercrime associated with secondary school students' academic performance.

2. Examine the effect of Cybercrime on secondary schools' **students'** academic performance.

Hypotheses

The following hypotheses (null) were formulated for testing at the 0.05 level of significance.

1. There is no significant relationship between risk factors promoting secondary school students' involvement in cybercrime and their academic performance.

2. There is no significant relationship between secondary school students' involvement in cybercrime and its attendant effects on their academic performance.

Research method

A descriptive research design using correlation was adopted for this study The population of this study consists of 48,318 senior secondary students in all the 190 public secondary schools in Delta Central Senatorial District of Delta State during the 2022/2023 academic session. The sample of the study consist of 360 students from 12 secondary schools in schools in Delta Central Senatorial District of Delta State. The sample was selected using a multistage sampling technique.

The instrument of data collection in this study was a questionnaire and performance proforma. The instrument is a five-point Likert scale that ranges from SA (strongly agree) = 5, A (agree) = 4, UD (undecided) = 3, D (disagree) = 2, and SD (strongly disagree) = 1. The questionnaire comprised two sections: A and B. Section "A" focused on gathering demographic details from respondents, containing two items. Section "B" addressed the research objectives and questions and included twenty items. Respondents were required to mark their responses on the provided Likert scale, and these items were centred on the topics of drug abuse, cybercrime, and the academic performance of secondary school students in the Delta Central Senatorial District of Delta State.

To ensure the validity of the instrument in this study, the face validity method was utilized. The self-designed questionnaire was submitted to the researcher's supervisor and three additional lecturers from the Department of Guidance and Counselling in the Faculty of Education at Delta State University, Abraka. The split-half method was utilised to assess the reliability of the instrument. The researcher divided the instrument into two halves and administered it to another set of participants, comprising 40 students not included in the study sample. This process occurred two weeks after the initial questionnaire administration. The two sets of questionnaires were individually scored, and the correlation coefficient was computed using Pearson's product-moment correlation coefficient (r). The result revealed a positive correlation coefficient of 0.85, indicating the instrument's reliability. The instruments for this study were self-administered to the selected respondents. To facilitate the data collection process, three trained field research assistants, familiar with the local terrain, were employed.

Method of Data Analysis

The study utilised both descriptive and inferential statistics for data analysis. Descriptive statistics, including frequency distribution tables, percentages (%), and arithmetic mean scores, were employed for the presentation and analysis of the data collected from the respondents. Inferential statistics, such as regression methods, were used to test the research hypotheses. IBM SPSS Statistics version 20.0 was employed for the analysis and interpretation of the data. The decision rule for agreeing or disagreeing with an item was based on an arithmetic mean score range of 0–2.99 indicating disagreement and a mean range of 3.0–5.0 indicating agreement, with a significance level set at 0.05.

Results and Discussion

Research Question 1: What are the risk factors for cybercrime associated with secondary school students' academic performance?

Table 1: Mean response to risk factors of cybercrime associated with secondary school students' academic performance.

S/N	Description of items	SA 5	A 4	U 3	D2	SD 1	Mean	Remark
22.	Pressure from peer groups or friends involved in online misconduct is a motivating factor.	109	172	29	6	18	4.0	Accept
23.	Individuals' lifestyles, which increase exposure and proximity to motivated offenders, enhance the chances of being a victim of a crime.	143	158	27	0	6	4.3	Accept
24.	Limited parental or educational supervision of online activities can lead a student to experiment with cybercrime.	110	137	58	7	22	3.9	Accrpt
25.	Easy access to technology and internet services can provide the enabling tools for students to engage in cybercriminal activities.	96	130	60	7	41	3.7	Accept

26.	Students facing financial difficulties may be more susceptible to cybercrime as a means of making quick money and chilling with the big boys.	101	136	37	8	52	3.7	Accept

Source: Field survey 2023

Table 2 illustrates that all the items scored a mean above 3.0, indicating unanimous agreement among respondents. This signifies that the respondents endorsed the items, demonstrating the risk factors of cybercrime associated with secondary school students' academic performance.

Research Question 2: What are the effects of cybercrime on secondary school students' academic performance?

Table 2: **Mean Response to The Effect of Cybercrime On Secondary School Students" Academic Performance.**

S/N	Description of items	SA 5	A 4	U 3	D2	SD 1	Mean	Remark
27.	Legal fees, fines, or restitution payments associated with cybercrime can create financial burdens for students and their families.	143	152	10	18	11	4.2	Accept
28.	Cybercrime can damage a student's reputation, affect relationships with peers and educators, and lead to social isolation.	109	162	38	11	14	4.0	Accept
29.	Involvement in cybercrime can result in legal troubles such as arrests or charges, which can disrupt a student's performance.	113	207	10	0	4	4.3	Accrpt
30.	Fear of getting caught, coupled with the guilt associated with engaging in illegal activities, can lead to emotional stress and negatively impact mental well-being and, hence, performance.	138	151	12	13	20	4.1	Accept
31.	Engaging in cybercrime can divert students's attention away from their studies, leading to reduced time spent on academic tasks.	146	150	18	20	0	4.3	Accept

Source: Field survey, 2023

Table 2 illustrates that all the items scored a mean above 3.0, indicating unanimous agreement among respondents. This signifies that the respondents endorsed the items, demonstrating the effect of cybercrime on secondary school students' academic performance.

Hypothesis 1: There is no significant relationship between risk factors promoting involvement in Cybercrime and secondary school students' academic performance.

Table 3: Relationship Between Risk Factors Promoting Involvement in Cybercrime and Secondary School Students' Academic Performance

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	23	1	20.23	5.05	.010[b]
Residual	1329.68	332	4.01		
Total	1329.92	333			

In Table 3, the regression output shows a linear relationship between risk factors promoting cybercrime and secondary school students' academic performance. The computed $F_{(1,332)} = 5.05$, $p < 0.05$. Thus, the null hypothesis was not accepted. This revealed that there was a significant relationship between risk factors promoting cybercrime and secondary school students' academic performance.

Hypothesis 2: There is no significant relationship between Cybercrime effects and secondary school students' academic performance.

Table 4: Relationship Between Cybercrime Effects and Secondary Schools Students' Academic Performance

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	19.99	1	19.99	7.38	.03[b]
Residual	899.87	332	2.71		
Total	919.87	333			

Table 4 indicated that the regression output showed a linear relationship between cybercrime effects and secondary school students' academic performance. The computed F (1, 332) was 7.38, P<0.05. Therefore, the null hypothesis, which states that there was no significant relationship between cybercrime effects and secondary school students' academic performance, was rejected. This indicated that there was a significant relationship between cybercrime effects and secondary school students' academic performance.

Discussion of Results

The first finding indicated that there was a significant relationship between risk factors promoting involvement in cybercrime and secondary school students' academic performance. The possible explanation for this finding could be that students who are heavily involved in cybercrime-related activities may allocate significant amounts of time to these pursuits, detracting from time that could be spent on academic studies. This time displacement can lead to neglect of homework, reduced study time, and ultimately lower academic performance. Involvement in cybercrime may serve as a significant distraction from academic responsibilities. Engaging in illicit online activities, such as hacking or online scams, can consume students' attention and mental energy, impairing their ability to concentrate on schoolwork and leading to decreased academic performance. The finding is in conformity with Abdul-Rahim (2021); Adejoh, Alabi, Adisa, & Emezie (2019); and Okeshola and Adeta (2013), who outlined several factors contributing to the engagement of youths in cybercrime, including a getting-rich-quick attitude and peer pressure. societal recognition and celebration of wealth, high rates of youth unemployment, weak parental control, weak cybercrime laws and legislation, and availability and accessibility to the internet and technology.

The second finding revealed that there was a significant relationship between cybercrime effects and secondary school students' academic performance. The possible reason for this finding is that students who experience cybercrime effects, such as online harassment or cyberbullying, may develop negative attitudes towards school, learning, and academic achievement. These negative perceptions may manifest as disengagement, truancy, or avoidance of academic activities, resulting in lower academic performance outcomes. This finding is in concordance with the Abdul-Rahim (2021) study, which outlined the multifaceted effects of cybercrime to include school dropout, defamation of image, data, and financial loss, as well as emotional or psychological effects. Oyebade (2019) findings, which highlighted the effects of cybercrime on students, underscoring its tarnishing impact on their reputation, the integrity of their educational institutions, and that of their parents and guardians, also corroborate this present finding. Finally, the Igba *et al.* (2018) study found that the consequences of cybercrime extend beyond individual victims, permeating society and adversely affecting the economy; the economic fallout includes loss of revenue, wasted time, damaged reputation, and reduced productivity.

Conclusion

The research has clearly demonstrated that students' engagement in cybercrime is influenced by various factors, including but not limited to a high unemployment rate, poverty, and easy access to the internet, technology, smartphones, weak legal and legislative systems, and ineffective enforcement agencies. In conclusion, the findings of this study indicate a significant relationship between cybercrime effects and secondary school students' academic performance. The data collected and analyzed revealed a statistically significant correlation between the occurrence of cybercrime incidents and the academic performance of secondary school students. This relationship suggests that when students are impacted by cybercrime, it can have detrimental effects on their academic performance.

Recommendations

Based on the findings of this study, the following recommendations have been put forth:

1. Collaborative efforts involving the state ministry of education, educational psychologists, teachers, school administrators, policymakers, planners, counselors, psychometricians, and parent-teacher associations (PTA) are recommended. Intensive sensitization programs, including seminars and workshops, should be organized to raise awareness about the detrimental effects of cybercrime involvement.

2. The government should enhance the capabilities of its security agencies responsible for combating cybercrimes in Nigeria. Establishing mechanisms to track and investigate cybercriminals within and outside institutions is crucial to address the growing threat.

3. Intensified campaigns on cybercrime awareness among Nigerian students are essential. Students should be made aware that engaging in cybercrime is a criminal offense punishable under the law, with potential adverse consequences on their educational achievements if convicted.

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