

# Effect of Cybercrime on the Academic Performance of Students of Tertiary Institutions in Enugu State, Nigeria

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Abstract	<i>Journal of Policy and Development Studies (JPDS)</i>
<p><i>The contribution of internet to the development of the nation has been marred by cybercrime activities. Cybercrime is emerging as a very concrete threat, not only in Nigeria but to the entire world. The high level of insecurity on the internet is becoming worrisome so much in the sense that transactions on the internet have become a thing of doubt. This research intends to examine the effect cybercrime has on the academic performance of students of tertiary institutions in Enugu State Nigeria. Survey research method was used in which questionnaire was distributed to various respondents in the execution of the study. The population of the study was 8,034, while the sample size was 381 using Taro Yamani statistical formula. Chi-square and simple percentages were used in analyzing data. The study revealed that cybercrime has significant negative effect on study habit, learning outcome and to a large extent was engineered by such factors as uncertainty, and bad leadership. The recommendations suggest to include into the curriculum of instructions cybercrime as general course to be taught in tertiary institutions. Parents, religious bodies and traditional institutions should aggressively orientate youth on the menace of cybercrime. Creating awareness that hard-work brings prosperity. Meanwhile employment opportunities, empowerment and relief fund for both undergraduates and graduates should also be factored by the Government. Police and other security agencies should be made to undertake courses on cybercrime detection using technology as opposed to the current stop and search which is intruding into personal privacy</i></p>	<p>Vol. 15. Issue 1 (2024) ISSN(p) 0189-5958 ISSN (e) 2814-1091 Home page <a href="https://www.ajol.info/index.php/jpds">https://www.ajol.info/index.php/jpds</a></p> <p><b>ARTICLE INFO:</b> <b>Keyword:</b> Crime, students, academic curriculum, tertiary education</p> <p><b>Article History</b> Received 5<sup>th</sup> February 2024 Accepted: 17<sup>th</sup> March 2024 DOI: <a href="https://dx.doi.org/10.4314/jpds.v15i1.9">https://dx.doi.org/10.4314/jpds.v15i1.9</a></p>

## **1. Introduction**

The internet revolution in Nigeria has brought enormous changes to social and academic ways of life. The Internet brought numerous changes to the educational system in Nigeria (Osuji & Amadi, 2020). It changes the way instruction is being delivered from traditional teacher-directed classroom instruction to the use of computer-aided instruction and the use of search engine tools. The internet allows students to access huge data stored on computers around the world as opposed to going through fat reference material in the library. Also, it changes the way record is being managed from a manual system to the use of information and communication technology. It has also changed the payment system from a bank teller system to pay via online payment. Many changeovers happened from manual systems to computerized systems through the use of ICT. The Internet offers speedy processing and dissemination of data and information (Velmurugan & Ramesh, 2020). With the introduction of high-speed internet bandwidth in tertiary institutions, students and researchers could access online resources for improved assimilation.

The development has increased the form and nature of crimes that are committed against electronic equipment known as cybercrime. Students accessing the internet without restriction code led to misuse and abuse in the form of cybercrime. Access to the internet for other things aside from academics has the potential to lead students to cybercrime. Indiscriminate manners of browsing could lead students to become victims of cybercrime. Lin & Chiang (2017) opined that improper use of the internet could degrade students' academic performances. He further revealed that it could expose them to becoming the victim of cybercriminals because undesirable browsing could lead students to a malware site that could make them become compromised through hacking or identity theft. Rahman, Sairi, Zizi, & Khalid (2020) stated that undergraduates from tertiary institutions are capable of using computer and internet facilities for different kinds of cybercrime ranging from credit card fraud to pornography at the expense of their studies. Therefore, cyber-crime covers every crime committed in cyberspace with the use of electronic equipment. In view of the incidence of cybercrime in our society, this study tends to investigate its effect on academic performance of students of tertiary institutions in Enugu State, Nigeria.

### **1.1 Statement of the problem**

Currently over 80 per cent of businesses with online presence in Nigeria are susceptible to cyber-attacks and the increasing spate of Cyber-criminal activities was threatening the Nigeria economy. However, the web portals and web based applications of the Central Bank of Nigeria, Nigeria Stock Exchange, banks, pension fund administrators and switching/electronic payment companies had been found to be vulnerable to cyber-attacks due to inadequate security measures for safeguarding the platforms. Nigeria seems to be rated among one of the most corrupt countries of the world in cybercrime related issues. The contribution of internet to the development of the nation has been marred by the evolution of new waves of crime. The internet has also become an environment where the most lucrative and safest crime thrives.

Cyber-crime has become a global threat from Europe to America, Africa to Asia. Cyber-crime has come as a surprise and a strange phenomenon that for now lives with us in Nigeria. With each passing day, we witness more and more alarming cases of cybercrimes in Nigeria, with each new case more shocking than the one before. Unfortunately, the country's image has also suffered as a result of the unscripted activities of some Nigerians using the internet as a channel for the perpetration of criminal spamming activities. The major implication of the unconscious acceptance of this menace in the Nigerian society in the nearest future has created a high level of disinterest in education and tutoring among students of tertiary institutions. In Nigeria today, graduates and undergraduates are the ones who engage in this form of anti-social behaviour for the purpose of living a life of splendour. This tends to affect their educational

pursuit and learning outcomes.

### **1.2 Objectives of the study**

- i. ascertain the influence of cyber-crime on the study habits of students of tertiary institution in Enugu State.
- ii. determine the relationship between cyber-crime and learning outcome
- iii. examine factors that tend to cause students involvement in cyber-crime in Enugu State.

### **1.3 Research Questions**

- i. What is the influence of cyber-crime on the study habits of students of tertiary institutions in Enugu State?
- ii. What is the relationship between cyber-crime and learning outcome?
- iii. What are the factors responsible for students' involvement in cyber-crime in Enugu State?

## **1.4 Hypotheses**

- i. There is no significant relationship between cyber-crime and students' study habits.
- ii. There is no significant association between cyber-crime and learning outcome in Enugu State.
- iii. Nigeria value system, social status, etc are some factors responsible for students involvement in cybercrime in higher institutions in Enugu State.

## **2. Review of Related Literature**

### **2.1 Conceptual Review**

Cybercrime is popularly referred to as Yahoo Yahoo, Yahoo plus or in ibo local parlance oke-iteh in Nigeria. Cybercrime, could be seen as a crime committed with phones and a computer through a communication device or a transmission medium referred to as the "cyberspace" and a global network called the "internet," Onyema, et,al (2019). Thus, cybercrime has been complex and the costs have been going up since corporations, governments, individuals, or people all over the world started using computers to do business.. Khan, et, al (2021) opined that any criminal offense committed using the internet or another computer network as a component of the crime is adjudged to be cybercrime. Akogwo (2018) argued that cyber-crimes constitute offenses done against individuals or groups of individuals with a criminal motive to intentionally harm the reputation of the victim or cause physical or mental harm to the victim directly or using indirect modern communication networks such as the internet and mobile devices/phones, such crimes may threaten the nation's security and financial health. Cybercrime is now committed by people of all ages, from young to old, but most often by undergraduates (Adesina, 2017).

Cybercrime is a well-known term that is also called, Yahoo yahoo, Maga, Sakawa, "G-boys," VIP export, Mugu client, and Scammers, Brain box of the internet, Bank cleaner, etc, (Monsurat, 2020). Cyber-crimes to a large extent has disparaged the integrity of Nigerians both home and abroad, especially in the global/world criminal report. The scourge of the crime was predominantly endemic in Nigeria as a result of widespread internet accessibility. The utilization of the internet, made it easier for swindlers and importers to hypnotize their clients, known as "maga," with strategies to become cyber-crime victims. However, this 21st century bystander heard different views of cybercrime scams and fraudulent cases as an international and global phenomenon, which, as a result, tainted Nigeria as the most corrupt and fraudster-enhancing country in the world (Monsurat, 2020). As a result of this, Osuji and Amadi (2020) emphasized that Nigeria has been fashioned as the origin of the most fraudulent spam most likely to appear in cyberspace.

### **Nature, causes and consequences of cybercrime in Tertiary institutions**

In Nigeria today, numerous internet assisted crimes are committed daily in various forms such as identity theft, desktop counterfeiting, internet chat room, cyber harassment, fraudulent electronic mails, Automated Teller Machine spoofing, pornography, piracy, hacking, phishing and spamming. Usually these crimes are committed in forms like sending of fraudulent and bogus financial proposals from cyber criminals to innocent internet users. The increasing rates of cybercrime in the society have become a strong threat to Nigeria's E-commerce growth and has led to ill-reputation internationally and consequently denied some innocent Nigerians certain opportunities abroad. Therefore, innocent internet users should inculcate the habit of continuously updating their knowledge about the ever changing nature of ICTs, through this, they can not only be well informed about the current trends in cybercrimes, but they will also have the knowledge about different forms of the said crimes and how the cyber criminals carry out their heinous activities. Internet fraud is one of the most rapidly increasing forms of computer crime. The advent of the 'yahoo-boys' subculture in tertiary institutions has introduced another dimension of undergraduates' involvement in cybercrime. Studies on Internet fraud in Nigeria have been biased to the emergence of the 'yahoo-boys' subculture while neglecting the importance of the structure sustaining it. Usman and Usman, (2017) argued that Internet fraud in tertiary institutions are socially organized, highly networked and increasingly becoming specialized and sustained by informal networks. This involves nefarious networking of fellow fraudsters and bank staff. The latter leak vital customer details to yahoo-boys and facilitate payment without alerting security agencies; while the former arranges bail-out option in crisis period. The money is paid through domiciliary accounts,

cheques, credit cards, Money Gram and Western Union. Cybercrime was reported to yield benefits in paying their school fees, acquire properties (cars and land), and sustain living. This informal network will continue to circumvent any genuine drive to stop cyber-criminality in Nigeria.

### **Study habits**

Hills (2000), stated that a very good and conducive learning environment encourages students study habit. It is argued that students of tertiary institution who cultivate certain habits (procrastination, evading study, studying in inappropriate conditions, chatting, loud sound of music or television during study etc) will perform differently from a student who has another set of study habit. It is believed that students who lack effective and efficient means of studying and indulge in cyber criminality would be building on shaking foundation and consequently have weak foundation or possibly drop out. Thus, the combination of both classroom learning and out of class room learning makes up students learning habit. Okon, (2005) argued that students with structured and organized study habit perform well during examination, which translates to effective learning. However, it is this study habit that tends to shape academic performance.

### **Learning outcome**

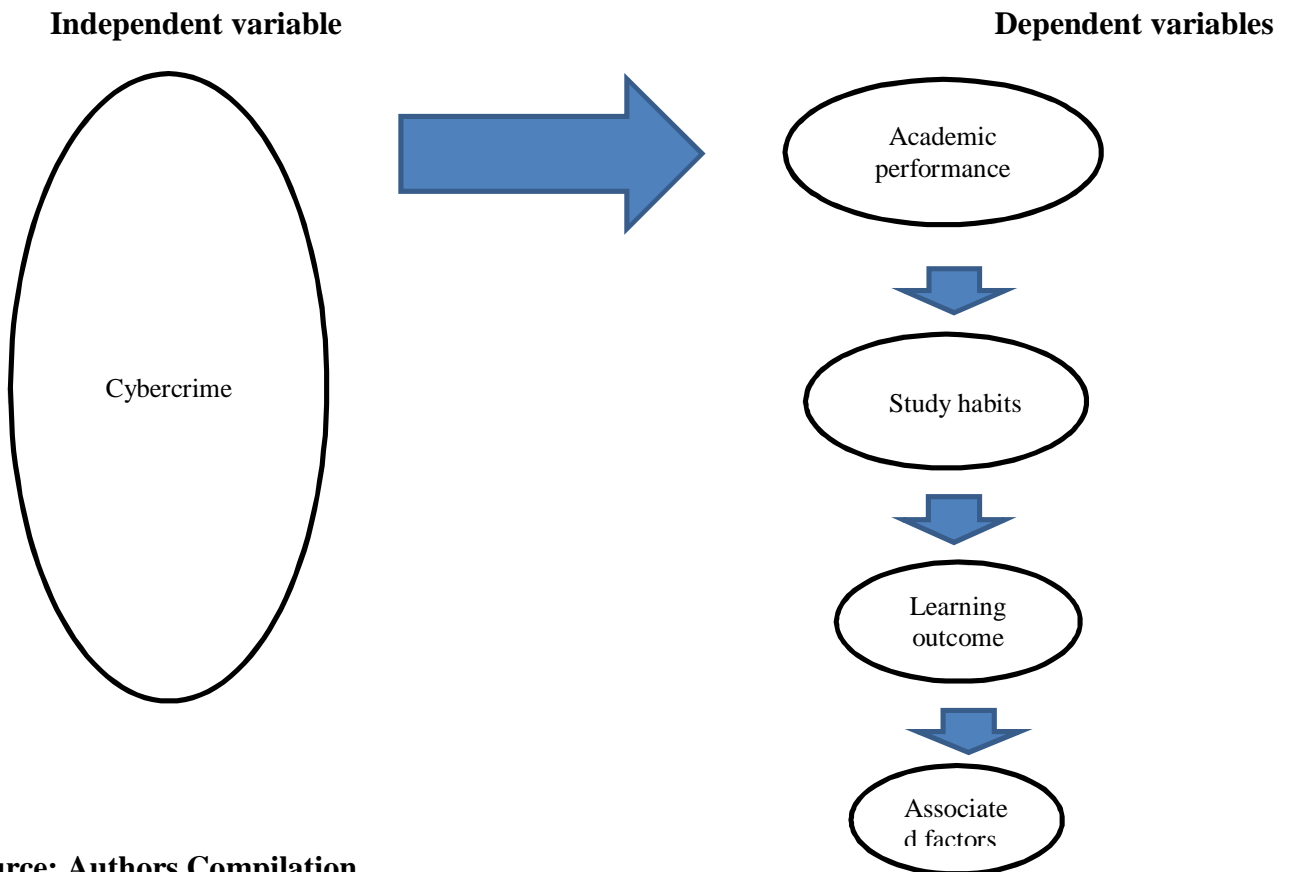
Student behavior plays a major role in academic performance, the behaviour and actions of a student can have a multiplier effect not only on her own capacity to learn but also on the circumstances in which others learn (Atubi & Obro, 2020). The effects that the behaviours of students can have on the ability to maintain a high level of instructional effectiveness are referred to as behavioural learning outcomes, commonly associated with being a good student, including arriving ready to work, regularly attending classes, paying attention and participating in class, and devoting time to study and completing assignment (Obro, 2020, Akinyetun, Adewale, Oke, Samuel & Abiodun, 2021). Student who do not have time for academic activities are prone to coming late to class, refusing to do their assignment, or studying. Hence, the outcome is examination malpractice, a low grade, and school dropout. Academic performance has since dropped drastically as the student does not consider education as a means to posterity. Rather, to them education is a shell, canopy or an umbrella to shield them, from regulatory bodies.

### **Challenges of cybercrime in Nigeria**

Cyber space is a mix of good and bad, the internet despite its advantages, has its dark side. Cybercrime is not without cost and these cost increase daily. Cybercrime manifest in various ways such as loss of life, loss of dignity and loss of employment. The effects of cybercrime is not only limited to the victim, it spreads its effects on the society. The consequences of cybercrime on the economy to include loss of revenue, wasted time, damaged the reputation and reduced productivity among others (Ringwelski, 2008).

Nigeria Loses over \$500m annually to all forms of cybercrime including hacking, identity theft, cyber terrorism, harassment and internet fraud, (Punch, 22 Nov. 2023). 174% increase was recorded between January and June 2022 in phishing and scams only while it was observed that Nigeria suffered about 2,175 cyber-attacks in 2015 alone (Punch, 22 Nov. 2023). According to Patamin (2015) during the inauguration of a committee on cyber security, about 14 per cent of the 97 million Internet users in Nigeria suffered cyber-attacks, which he said had necessitated the setting up of a Cyber Security Committee. Indeed, over the past 20 years, immoral cyberspace users have continued to use the internet to commit crimes; this has evoked mixed feelings of admiration and fear in the general populace along with a growing unease about the state of cyber and personal security. This phenomenon has seen sophisticated and extraordinary increase recently and has called for quick response in fast tracking the implementation of Cybercrime Act, which was passed into law in May 2015, which is expected to protect the cyber space and its users.

## Conceptual Framework



Source: Authors Compilation

### 2.2 Theoretical Framework

The theory that best interrogates the study is differential association theory and was propounded by Sutherland in 1949. He coined the phrase “differential association” to address the issue of how people learn deviance. This theory explains deviance regarding the individual social relationships. The theory sees the environment as playing a major role in deciding which norms people learn to violate. Specifically, people within a particular reference group provide norms of conformity and deviance. The theory is significant because it puts an individual social environment into context as a means to explain why some individuals engage in criminal behaviour.

The theory has the following assumptions, which is related to this study; that criminal behaviour is learned, meaning that criminal behaviour is not inherited as such the person who is not already trained in crime does not invent criminal behaviour. This assumption proposes that individuals are inherently good and only turn towards deviant behaviour as a result of learning the behaviour. Secondly, criminal behaviour is learned in interaction with other persons in the process of communication. An individual is influenced to participate in criminal behaviour through watching and interacting with other individuals who are engaging in the criminal behaviour (Sutherland, 1949). Hence the principal part of the learning of criminal behaviour occurs within intimate personal groups this would be any group that has a significant influence over them such as their family or close friends this factor makes a great deal of sense. Since the process of socialisation and growing up is heavily influenced by the groups of people that an individual is a part of. Most families try to institute a positive influence on a member of their own, however, if a juvenile comes from a family that is broken and develop strong emotional ties with friends engaged in deviant behaviour then this is likely also to drive them into the same deviant behaviour. Finally, This theory was propounded to help explain white-collar crime, fits in with those who violate or commit cybercrime, when criminal behaviour is learnt, the learning includes techniques of committing the crime, which is sometimes very complicated, sometimes simple and they learn the

specific direction of motives, drives, rationalisations and attitudes for committing a crime. This means that an individual will be influenced into believing that the behaviour which they may have previously believed was wrong, into believing that it is right through rationalisation of the actions. For example, an individual from a disadvantaged background may rationalise cybercrime as taking from those who have wealth to make things fair, among others.

## **2.3 Empirical Review**

### **Cybercrime and Study Habits**

Atubi and Obro (2020) did a study on Covid-19 pandemic lock down and the upsurge of online learning: Prospects for social studies in Nigeria. They employed historical and explanatory research method analysis and identified some challenges of online learning with some degree of prospects.

In a study on the internet and the quality of social studies education for sustainable development in post-covid-19: A review, Obro (2021) using explanatory research design found out that there is significant positive effect on the social studies education for sustainable development.

Adegbola and Fabara (2022) researched on cybercrime among mathematical science students: Implication on their academic performance. They used qualitative research method as a means of analysis and discovered that cybercrime undermines mathematics science students academic performance.

### **Cybercrime and Learning Outcome**

Onyema, Ogechukwu and Anthonia (2019) worked on potential of mobile technologies in enhancing the effectiveness of inquiry-based learning approach. Using a documentary method of data collection and content analysis, the study revealed that distance learning approach may not really promote sound education.

Al-barashdi and Jabur (2015) in their study on smartphone addiction among university undergraduate using content analysis, they revealed that social influence among students of tertiary institutions affected their academic performance.

Frank (2019) in his work titled Nigeria: Sign in the dark, he discovered using documentary research design that virtually all sectors of the country, especially education is affected due to negative influence of cyberspace.

### **Cybercrime and Academic Performance**

In his work on cybercrime and poverty in Nigeria, Adesina (2017) adopting logical argumentation found that lack of sustainability, inequality, issues of effectiveness, power supply, etc are challenges to the utilization of ICT in Nigeria.

Monsurat (2020) studied African insurance and the success rate of cyber criminals in Nigeria: A study of the Yahoo boys in Illorin, Nigeria. Adopting a survey research design, the study discovered that most of the policy makers in the Western Region of the country do not see cybercrime as a national issue. Edeoghon and Mobote (2020) did a work on cybercrime in Nigeria: Sociotechnical implication, preventive and counter measures. They used content analysis and discovered that some measures such as legislation, cyber security and improved security is the option a developing country like Nigeria must embrace.

Akinyetun and Abiodu (2021) researched on the effects of Covid-19 on youth unemployment, cybercrime and national security in Nigeria. Using theoretical approach, the study revealed that the effect of Covid-19 on youth unemployment is the bane militating against national security in Nigeria.

### 3. Methodology

The study employed descriptive research design which according to Chukwuemeka (2019) is broadly viewed as steps a researcher intends to take in carrying out his research project, dissertation or thesis. To generate data for this study both survey and documentary methods of data collection (mixed method) were used. The survey design was used in getting first-hand information from primary data elicited from the target population. To this end, the primary data for the study was obtained through Questionnaires, which was designed to achieve the study objectives and test the hypothesis.

Based on the instrumentation and validity of data, the number of respondents in four selected tertiary institutions of the State, representing the four categories of tertiary institution in the state metropolis; Enugu State University of Science and Technology, Institute of Management and Technology, Federal College of Dental Technology, and Enugu State College of Education Technical, stood at 8,043. Consequently, the sample size used for the data collection and analysis was drawn using Taro Yamani (1968) formula, of which is a total of 381 representing the sample size of the population under investigation.

**Table 3.1: Population Distribution**

Tertiary institutions	Population	Sample Size	Percentage (%)
Enugu State University of Science and Tech	2,937	137	36
Institute of Management and Technology	3,714	187	50
Federal School of Dental Technology	810	34	9
Enugu State College of Education Technical	573	23	5
<b>Total</b>	<b>8,034</b>	<b>381</b>	<b>100</b>

**Source: Authors field survey 2024**

#### Sample Size Determination

In determining the sample size of the study the researcher applied Taro Yamani (1964) statistical formula as quoted in Obi & Ugwu (2012) to reduce the population to a researchable size as shown below.

$$n = \frac{N}{1 + N(e)^2}$$

- Where n = Sample size  
 N = Population size  
 e = Error margin allowed  
 1 = Constant

The researcher chooses five percent (0.05) as error margin allowed. The translation of the formula is shown below.

$$n = \frac{8,034}{1 + 8,034 (0.05)^2}$$

$$n = \frac{8,034}{1 + 8,034 (0.0025)}$$

$$n = \frac{8,034}{1 + 20,085}$$



$$\begin{array}{r} 8,034 \\ \hline n - 21.084 \\ n = 381 \end{array}$$

## 4.Data Presentation and Analysis

### 4.1 Data Presentation

Data collected were presented and analysed according to the research questions and objectives posed for the study. The interpretation of the exercise was also made to arrive at the findings of the research work. The research questions were presented and analysed using frequency percentage and table and in a likert scale. A total of 306 of the 381 questionnaires that were issued had been returned. The hypotheses were put to test using chi-square.

Research Question One: What is the influence of cybercrime on the study habits of students of tertiary institutions in Enugu State.

Table 4.1. Influence of cybercrime on students study habits

Responses	Very high extent	High extent	Don't know	Low extent	Very low extent	Total
Poor attitude to studies and habitual trauncy	63 21%	142 46%	19 6%	46 15%	36 12%	306 100%
Lack of concentration due to internet engagement	112 38%	76 25%	25 8%	55 20%	38 12%	306 100%
Late night surfing as opposed to reading	70 23%	105 34%	14 5%	73 24%	44 14%	306 100%
Porosity of cyberspace encourages undergraduate into cybercrime	75 25%	136 44%	19 6%	49 16%	27 9%	306 100%
Most undergraduate students are unable to define why they are in school	50 16%	156 51%	26 8%	43 14%	31 10%	306 100%
Staying more with security agencies to resolve crimes issues makes students miss classes etc.	131 43%	72 23%	27 9%	55 18%	21 7%	306 100%

Source: Field Survey, 2024

Table 4.1 reveals the influence of cybercrime on students study habits

The pattern of responses presented and analyzed in the table above shows that cybercrime contributed significantly to poor attitude to studies, lack of concentration due to internet engagements, late night surfing, cyberspace engagement, undefined reasons for being admitted, staying more with security agencies to resolve crimes, etc.

### Research Question Two

What is the relationship between cybercrime and learning outcome in Enugu State of Nigeria between 2015-2023?

Table 4.2: Relationship between cybercrime and learning outcome in Enugu State

Responses	Very high extent	High extent	Don't know	Low extent	Very low extent	Total
Deviant behaviours involving cybercrime is common among higher level classes.	210 69%	53 17%	19 6%	16 5%	8 3%	306 100%
Poor attitude to class activities including quiz and exams	193 63%	47 16%	19 6%	32 10%	15 5%	306 100%
Overriding influence of internet as opposed to class studies	203 66%	55 18%	16 5%	22 8%	11 3%	306 100%
Culprits of cybercrimes not being punished by security agents and compromise	222 72%	59 19%	8 3%	6 2%	11 4%	306 100%
Poor parenting	219 72%	43 14%	16 5%	16 5%	12 4%	306 100%
Easy access to smart devices	192 63%	58 19%	10 4%	22 7%	24 8%	306 100%

**Source: Field Survey, 2024**

Table 4.2 reveals the relationship between cybercrime and learning outcome in Enugu State.

The pattern of responses presented and analyzed in the table above shows that cybercrime has significant negative effect on academic performance in the area of deviant behavior, poor attitude to class activities, overriding influence of internet as opposed to class studies, culprits not been punished, poor parenting and easy access to smart devices, are all contributory factors to cybercrime.

### Research Question Three

What are the factors responsible for students involvement in cybercrime in Enugu **Tables 4.3: Factors responsible for students involvement in cybercrime in Enugu state**

Options	Very high extent	High extent	Do n't know	Low extent	Very low extent	Total
Social status	162 53%	62 20%	16 5%	35 12%	31 10%	306 100%
Get rich quick syndrome	214 70%	47 16%	10 3%	19 6%	16 5%	306 100%
Negative influence from student involved in cybercrime	131 43%	72 23%	27 9%	21 7%	55 18%	306 100%
Phobia of not getting a well paid job after graduation	61 20%	172 56%	14 5%	26 8%	33 11%	306 100%
Leadership failure in Nigeria	34 11%	225 75%	9 3%	12 4%	26 9%	306 100%
Nigerian value system	202 66%	55 18%	19 6%	21 7%	9 3%	306 100%

**Source: Field Survey, 2024**

Table 4.3 revealed the factors responsible for students involvement in cybercrime. The pattern of responses presented and analyzed in the table shows that factors responsible for students involvement in cybercrime are social status, get rich quick syndrome, negative influence from fellow students, phobia of not getting a well paid job after graduation, leadership failure and nigerian value system.

#### Test of Hypotheses

The hypotheses were also tested using chi-square ( $\chi^2$ ) at significant level of 0.05. When the computed value of chi-square ( $\chi^2$ ) is greater than (>) the table value of chi-square ( $\chi^2$ ), the hypothesis one is accepted.

#### 4.4 Test of Hypothesis One

I. There is no significant relationship between cyber-crime and students' study habits in Enugu State.

**Table 4.4 Test Statistics**

	Poor attitude to studies and habitual truancy	Lack of concentration to internet engagement.	Night surfing as opposed to reading	Porosity of cyberspace encourages undergraduate into cybercrime	Staying more with security agents to resolve crimes issues makes students miss classes.
Chi-Square	540.858 <sup>a</sup>	206.316 <sup>b</sup>	137.011 <sup>a</sup>	775.600 <sup>c</sup>	485.495 <sup>c</sup>
Df (5-1)	4	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000	.000
a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 126.7.					
b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 190.0.					
c. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 95.0.					

Calculation of Degree of freedom (DF)

$$DF = (R-1) (C-1)$$

Where R = Number of Row in the contingency table

C = Number of columns in the contingency table

$$DF = (6-1) (5-1)$$

$$= 5 \times 4$$

$$= \mathbf{20}$$

At 0.05 significant level and 20 degree of freedom the table value of chi-square = **31.41**

Computation of chi-square ( $x^2$ )

$$x^2 = \sum \frac{(O - e)^2}{e}$$

Where O = Observed frequency

e = Expected frequency

Expected frequency (e) is giving by  $\frac{RT \times CT}{GT}$

Where RT = Row total

CT = Colum total

GT = Grand total

**Decision:** Since the computed value of chi-square ( $x^2$ ) of 126.7 is greater than (>) the table value of chi-square of 31.41, hypothesis one is accepted. The statistical result therefore indicated that cybercrime has significant negative effect on students study habits in Enugu State between 2015 and 2023.

### Test of Hypothesis Two

ii. There is no significant association between cyber-crime and learning outcome in Enugu State of Nigeria between 2015-2023.

**Table 4.5: Test Statistics**

	Deviant behavior involving cybercrime is common among high level classes	Poor attitude to class activities, etc	Overriding influence of other undergraduates	Cilprotos not being furnished, for cybercrime	Poor parenting and easy access to smat devices
Chi-Square	762.084 <sup>a</sup>	681.874 <sup>a</sup>	505.900 <sup>b</sup>	603.053 <sup>a</sup>	416.737 <sup>a</sup>
Df (5-1=4)	4	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 95.0.

b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 125.8.

Calculation of Degree of freedom (DF)

$$DF = (R-1) (C-1)$$

Where R = Number of Row in the contingency table

C = Number of columns in the contingency table

$$DF = (6-1) (5-1)$$

$$= 5 \times 4$$

$$= \mathbf{20}$$

At 0.05 significant level and 20 degree of freedom the table value of chi-square = **31.41**

Computation of chi-square ( $x^2$ )

$$x^2 = \sum \frac{(O-e)^2}{e} \text{ Where } O = \text{Observed frequency}$$

e = Expected frequency

Expected frequency (e) is giving by  $\frac{RT \times CT}{GT}$

Where RT = Row total

CT = Colum total

GT = Grand total

**Decision:** Since the computed value of chi-square ( $x^2$ ) of 125.8 is greater than (>) the table value of chi-square of 31.41, hypothesis two is accepted. The statistical test therefore affirmed that cybercrime has significant negative effect on students learning outcome in Enugu State of Nigeria between 2015-2023.

### Test of Hypothesis Three

iii. Nigeria value system, social status, etc are some of the factors responsible for students' involvement in cybercrime in Enugu State, Nigeria between 2015-2023.

**Table 4.6: Test Statistics**

	Social status	Get rich quick syndrome	Negative influence from students already in cybercrime	Phobia of not getting a well paid job after graduation	Nigerian value system
Chi-Square	681.874 <sup>a</sup>	505.900 <sup>b</sup>	603.053 <sup>a</sup>	416.737 <sup>a</sup>	604.442 <sup>a</sup>
Df (5-1=4)	4	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 95.0.

b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 129.3.

Calculation of Degree of freedom (DF)

$$DF = (R-1) (C-1)$$

Where R = Number of Row in the contingency table

C = Number of columns in the contingency table

$$DF = (6-1) (5-1)$$

$$= 5 \times 4$$

$$= \mathbf{20}$$

At 0.05 significant level and 20 degree of freedom the table value of chi-square = **31.41**

Computation of chi-square ( $x^2$ )

$$x^2 = \sum \frac{(O - e)^2}{e}$$

Where o = Observed frequency

e = Expected frequency

Expected frequency (e) is giving by  $\frac{RT \times CT}{GT}$

Where RT = Row total

CT = Colum total

GT = Grand total

**Decision:** Since the computed value of chi-square ( $x^2$ ) of 129.3 is greater than (>) the table value of chi-square of 31.41, the third hypothesis is accepted. The statistical analysis therefore indicated that Nigeria value system, social status, etc are some of the factors responsible for students involvement in cybercrime in higher institutions in Enugu State, Nigeria between 2015-2023.

#### 4.5 Discussion of Findings

**Hypothesis One:** The result of the analysis in hypothesis one affirms that the majority of students have an understanding of how cybercrime is being perpetrated, it is very common among undergraduate students and every student has the potential to engage in it with any available opportunity. Respondents refused to see cybercrime as a crime and see it as a means to an end. The study revealed that graduating classes formed the bulk of the perpetrator of cybercrime. While fresher's represent very few of the perpetrators. This further revealed that undergraduate got influenced by cybercrime during their middle year in Tertiary institutions. The study also revealed that respondents identified undue imitation of friends and neighbours, poor parenting style, the greed for quick riches and Security agencies compromising their duties which make cybercriminals go unpunished as major things that entice students of tertiary

institutions into cybercrime. Therefore, the study concludes that involvement in cybercrime has a significant relationship with students' academic performance. This greatly threatens the future of the Nigerian educational system and national development.

**Hypothesis Two:** From the findings of this study, it could be asserted that cybercrime has become a cankerworm in Nigeria's educational system. It presents itself in various ways ranging from identity theft to betting. The presence of technology in Nigeria tertiary institutions in form of smart devices did not have a positive effect on the academic performance of students of tertiary institutions. By using smart devices, the teaching- learning process should become more comprehensible to the learner. Smart devices appeal to learners' senses, ability to attract and hold attention and focus on the essential classroom learning process. The reverse is the case in the selected study. It is rather a tool that causes distractions in the learning process activities. However, it's a known fact that students of tertiary institution now use Information and communication technology gadgets to perpetrate cybercrime as opposed to using them to access e-library for online resources about their studies.

**Hypothesis Three:** From the findings it could be deduced that there are factors that led to students' involvement in cybercrime as revealed in the study, that there are many graduates who excel in their various studies but are still out on the job market for years, until they catch up with cyber criminals with luxurious and valuable property. It is noted that one of the problems with cybercrime in Nigeria is that there are no jobs, and those that are available are taken by the children of the elites and connected people. A problem that affects economies all around the world is unemployment, which is widely recognized as the primary driver of poverty. Hence, the failure of leadership at all levels in Nigeria to promote positive values for the youth has often translated into social incongruence. Nigerian undergraduates appear to have developed a spirit of fear of the future in that they think of fast ways to break through financial bounds once they have graduated. As a result, they negatively engage in sharp cybercrime practices, to be specific, in order to meet their life expectancies.



## 5. Summary of Findings, Conclusion and Recommendations

### 5.1 Summary of Findings

Based on the findings, the study revealed that, cybercrime has a significant negative effect on students study habits in tertiary institutions in Enugu State in the year under study.

Secondly, that cybercrime has significant negative effect on students learning outcome in tertiary institutions in Enugu State.

Finally, Nigerian value system, social status, etc are some of the factors responsible for students' involvement in cybercrime in higher institutions in Enugu State.

### 5.2 Conclusion

As students of tertiary institution becomes increasingly refined in their understanding and use of computers and as the technologies associated with computing become more powerful, there is a strong possibility that cyber-crimes will become more common and on the increase. Nigeria is rated as one of the countries with the highest levels of e-crime activities. Cyber security must be addressed seriously as it is affecting the image of the country in the outside world and causing damage to the educational system.

### 5.3 Recommendations

The outcome of the study shows that cybercrime is increasing at an alarming rate and undergraduates are seeing it as a means of livelihood. The study, therefore, recommends the following;

i. As a matter of urgency government should endeavour to include into the curriculum of instructions cybercrime as general course to be thought in tertiary institutions.

ii. Parents, religious bodies and traditional institutions should aggressively orientate youth on the menace of cybercrime. Creating awareness that hard-work brings prosperity. Meanwhile employment opportunities, empowerment and relief fund for both undergraduates and graduates should also be factored by the Government.

iii. Police and other security agencies should be made to undertake courses on cybercrime detection using technology as opposed to the current stop and search which is intruding into personal privacy and embarrassing the innocent citizen, as is currently practiced in Senegal and other African countries.

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