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Perceived Effects of COVID-19 Lockdown on Cybercrime Activities and Attitude towards Education among University Students in Enugu State, Nigeria

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Abstract

Due to the COVID-19 lockdown, many migrated from physical contact and communication to virtual platforms. Reports have revealed that the COVID-19 lockdown increased worldwide internet traffic by 50%, making more people vulnerable to cybercrime attacks (Feldmann, 2021). In Nigeria, the Economic and Financial Crime Commission (EFCC) reported a significant increase in the arrest of young people suspected of being involved in cybercrime between 2020 and 2021. (Olaigbe, 2021). However, more study has yet to be conducted to determine how and to what extent the increased cybercrime activities as a result of COVID-19 have influenced the attitudes of students toward education in Enugu State, Nigeria. Thus, this research aims to assess the perceived effects of the COVID-19 pandemic on cybercrime activities and attitudes toward education among university students in Enugu State, Nigeria. A cross-sectional research design was used in this study. One tertiary institution in Enugu State was selected using random sampling. A total of 352 undergraduate students were used for the analysis. The respondents were selected using a multi-stage sampling technique. Data was collected using a structured questionnaire, and descriptive statistics were used to analyse the data using the Statistical Package for Social Science (SPSS) version 2.0. The study revealed that most undergraduate students do not perceive cybercrime as evil but still consider university education relevant. Also, the study found COVID-19 lockdown increased the vulnerability of students to engage in cybercrime activities and distracted them from focusing on their studies. There is a need to create more awareness of the dangers of cybercrime and provide employment opportunities to reduce the prevalence of cybercrime among students in Nigeria.

Keywords: *Attitude to Education, COVID-19 pandemic, Cybercrime, Enugu state, Perception*

Introduction

The internet is the most popular and innovative creation within the world of technology. The planet has now become internet-dependent due to its vast advantages. The world of Information, Communication and Technology has aided communication, sharing information and transferring knowledge from one internet user to another (Burgess, 2A). A recent report shows a worldview of 4.66 billion active internet users w (Statista, 2021). In Nigeria, statistic shows that 108.75 million people are active internet users (Kemp, 2021).

The world of technology-driven activities comes with its peculiar challenges. One of the challenges of ICT that have attracted global attention is cybercrime. The percentage of internet

users in selected countries who have ever experienced cybercrime from November to December 2021 is at an alarming stage (Statista, 2021). Based on survey results from November 15 to December 7, 2021, internet users in India were most likely to have fallen victim to cybercrime, as 76 percent of respondents in the country claimed to have ever experienced cybercrime. Internet users in Brazil were in second place, with 69 percent of U.S. respondents stating that they had been victimized online (Statista, 2021). In a recent media report, the USA Federal Bureau of Investigation (FBI) ranked Nigeria as 16th among the countries most affected by internet crime in the world in 2020 (Asadu, 2021). Another media report revealed that 80% of the Economic and Financial Crimes Commission (EFCC)'s 978 convictions of cybercrime are related mostly to students (Guardian Newspaper Nigeria, 2021).

The COVID-19 pandemic has drastically and extensively altered life (Hawdon et al, 2020). This global pandemic has forced organizations and individuals to embrace new practices such as social distancing, wearing a face mask, hand washing and remote working. The COVID-19 pandemic imposed lockdown led to more people being confined at home with many more hours to spend online each day and increasingly relying on the internet to access services; they usually obtain offline. The dangers of cybercrime have been there for years. Still, the increase in the percentage of the population connected to the internet and the time spent online, combined with the sense of confinement and the anxiety and fear generated by the lockdown, have provided more opportunities for cyber criminals to take advantage of the situation and make more money or create disruption (Hawdon et al, 2020). Feldmann (2021) revealed that the COVID-19 lockdown increased worldwide internet traffic by 50%, making more people vulnerable to cybercrime attacks. Another report discovered that 907,000 spam messages, 737 malware incidents, and 48,000 malicious URLs all related to COVID-19 were detected globally between January and April 2020. (INTERPOL, 2020). Furthermore, the COVID-19 pandemic disrupted educational activities and increased students' vulnerability to criminal activities like cybercrime. In Nigeria, the Economic and Financial Crime Commission (EFCC) reported a significant increase in the arrest of young people suspected of being involved in cybercrime between 2020 and 2021. (Olaigbe, 2021). Global tracking of cyber-attacks indicates that Nigeria is among countries with high cases of software piracy, intellectual property theft and malware attacks. This situation is a serious challenge to our resolve to take advantage of the enormous opportunities that the internet brings while balancing and managing its associated risks (Ewepu, 2016).

Cybercrime is one of the most prevalent types of crime committed by tertiary institution students in Nigeria (Aransiola & Asindemade, 2011). The Department of Security Services Boss said that most of the cybercriminals in Nigeria are in Ladoke Akintola University of Technology (Wahab, 2017). Also, in March 2021, a final year student at the University of Ilorin (UNILORIN), Adigun Oladapo Oludele, was sentenced to one year in prison for offences bordering on internet fraud. Properties recovered include a Lexus vehicle, phones, wristwatches and money; all these were forfeited to the Federal Government. It has been discovered that a higher proportion of internet fraudsters are students. However, more study has yet to be conducted to determine how and to what extent the increased cybercrime activities as a result of COVID 19 have influenced the attitudes of students toward education in Enugu State, Nigeria. Thus, this research aims to investigate the perceived effects of the COVID-19 pandemic on cybercrime activities and attitudes toward education among university students in Enugu State, Nigeria.

Methods

The study used a cross-sectional survey design. The design is considered appropriate because it provides the process to capture students' behaviour on the effects from COVID 19 induced cybercrime activities on attitudes toward education. The study area is Enugu State University of Science and Technology (ESUT). ESUT is a public school and the only Government-owned University in Enugu state. The ESUT headquarter is located in Agbani, Nkanu West Local Government Areas of Enugu state, Nigeria. The students of ESUT are people from different states of the federation who are known for their youthfulness, with Enugu state having the highest number of students on the campus. There are nine faculties in ESUT, with thirty academic departments (<https://portal.esut.edu.ng/>).

The total population of undergraduate students in ESUT is 18,702 (<https://portal.esut.edu.ng/>). The ratio of male to female undergraduate students at ESUT is 57:43, with 10,660 male undergraduate students and 8,042 female undergraduate students of ESUT (<https://portal.esut.edu.ng/>). This study used the Taro Yamane formula for sample size determination. This formula provides simplistic steps for determining the appropriate sample size for a finite (known) population, using a 95% confidence level and a 5% margin of error. The sample size for the study is 352 students.

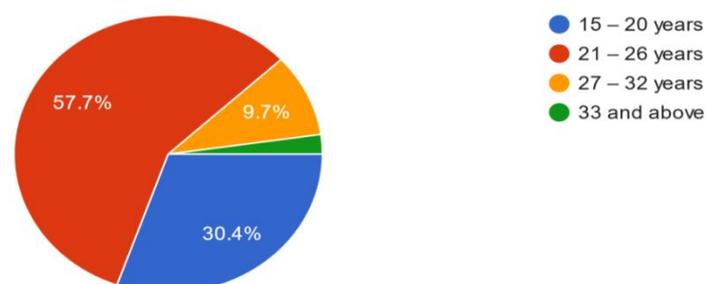
A Cluster sampling technique was used to divide the departments in ESUT along with arts/humanities-related disciplines and science-related disciplines. Simple random sampling was employed to select one department from the two cohorts (art/humanities and science-related disciplines). Furthermore, their respective departmental representatives obtained students' lists and phone contacts, and a simple random method was used to select the study participants by lottery method. Thereafter, the online google form structured questionnaire was distributed to the selected respondents using WhatsApp social media platform. The selected participants were sent an introduction letter explaining the research's purpose and sought their consent to participate in the study. Only those they gave oral or written consent were included in the study.

This study employed a structured online questionnaire as the only instrument for Data collection. One-day pre-test data collection exercise was conducted to validate the reliability of the instruments in providing accurate results. The researchers engaged two research assistants to help distribute the questionnaire to the selected respondents online. The data collection process happened from September to October, 2021. The Statistical Package for Social Sciences (SPSS) software was used to process the data collected. Questionnaire data obtained were presented, analyzed and interpreted using descriptive statistical tools such as simple percentages in table, pie chart and bar charts.

Results

Socio-demographic Characteristics of the Respondents

1. What is your age range?
352 responses



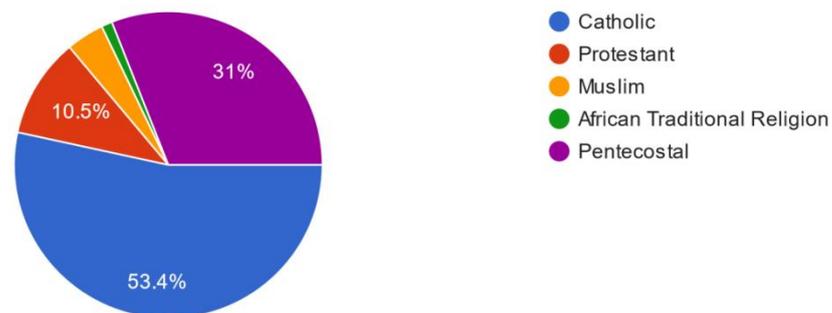
Source: Online Survey, 2021

Figure 1: Distribution of Respondents by Age

The above chart shows the distribution of respondents based on their age. It can be seen that most of the respondents are aged between 21-26 years, representing 57.7% of the total respondents. This is followed by respondents aged between 15-20 years, representing 30.4% of the total respondents. Respondents aged between 27-32 years come next, with 9.7% of the total respondents. The minority is 33 years and above, with 2.2% of the total respondents.

2. What is your religious affiliation?

352 responses



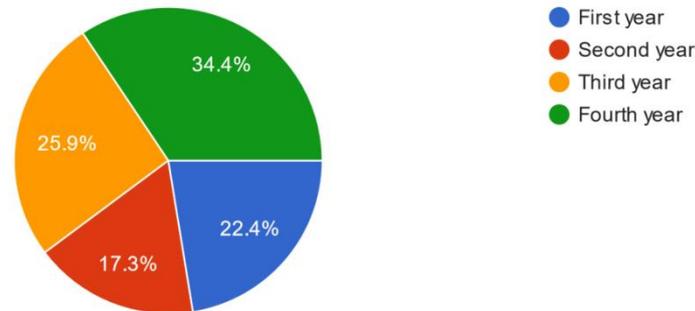
Source: Online Survey, 2021

Figure 2: Distribution of Respondents by Religious Affiliation

The chart above shows the distribution of respondents based on their religious affiliation. It shows that most respondents are Catholics, representing 53.4%, with 31% representing Pentecostals. Protestants are represented by 10.5% of the total responses, while Muslims and African Traditionalists have the lowest representatives, with 3% and 2.1%, respectively, of the total respondents.

3. What is your current academic level?

352 responses



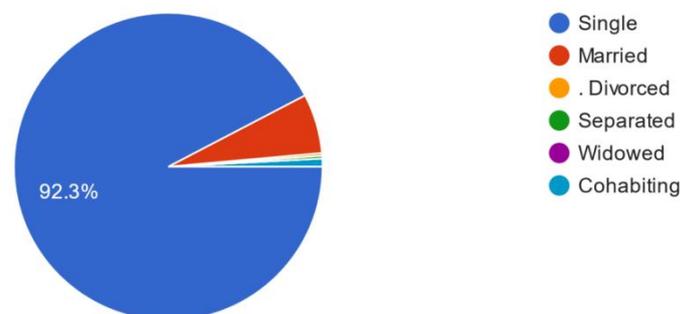
Source: Online Survey, 2021

Figure 3: Distribution of Respondents by Year of Study

The chart above shows the distribution of respondents by their year of study. Most of the respondents are in their Fourth year of study, representing 34.4% of the total respondents in this study. The Third year students are the next which, represents 25.9% of the total respondents in this study. Followed by First-year students, who represent 22.4% of the total respondents in this study. While Second-year students are the least represented, with only 17.3% responses of the total respondents. Therefore, the Fourth year students have the highest responses in this study.

What is your marital status?

352 responses



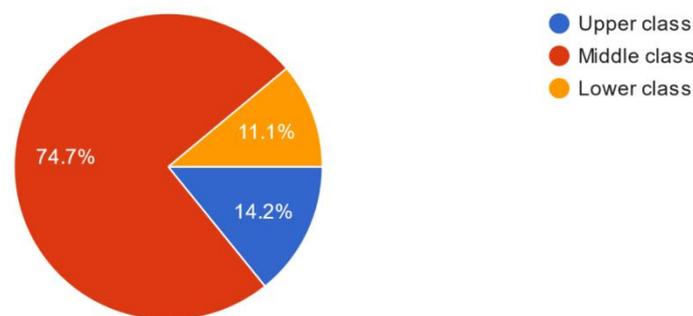
Source: Online Survey, 2021

Figure 4: Distribution of Respondents by Marital status

The above chart shows the distribution of respondents based on marital status. It can be seen that single people have the highest responses in this study, with 92.3% responses of the total respondents. Married people have 5.7% responses of the total respondents. Cohabiting people had only 2% responses of the total respondents in this study. It can also be observed from this study that there are no divorced, separated and widowed persons in this research, as they all recorded 0 responses. It is expected that students in that age range may probably be single

5. What describes your family economic background?

352 responses



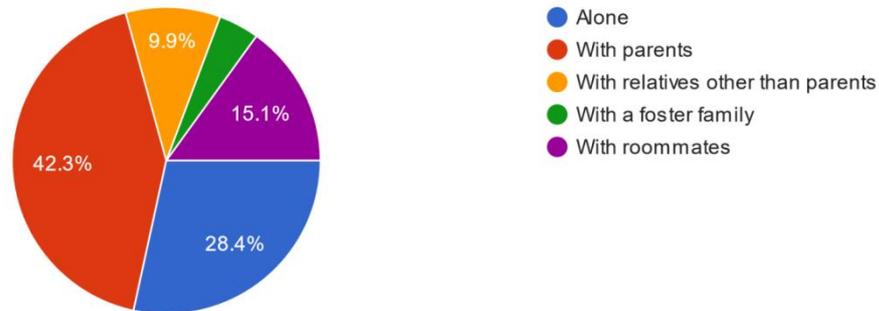
Source: Online Survey, 2021

Figure 5: Distribution of Respondents by Economic status

The chart above shows the distribution of respondents by economic status. From the chart above, it can be seen that 74.7% respondents of the total respondents belong to the middle class. 14.2% responses of the total respondents are people in the upper class. People in the lower class have the least responses of, 11.1% of the total respondents in this study. Hence, the people in the middle class have the majority responses of the total respondents in this study.

6. With whom do you currently live with?

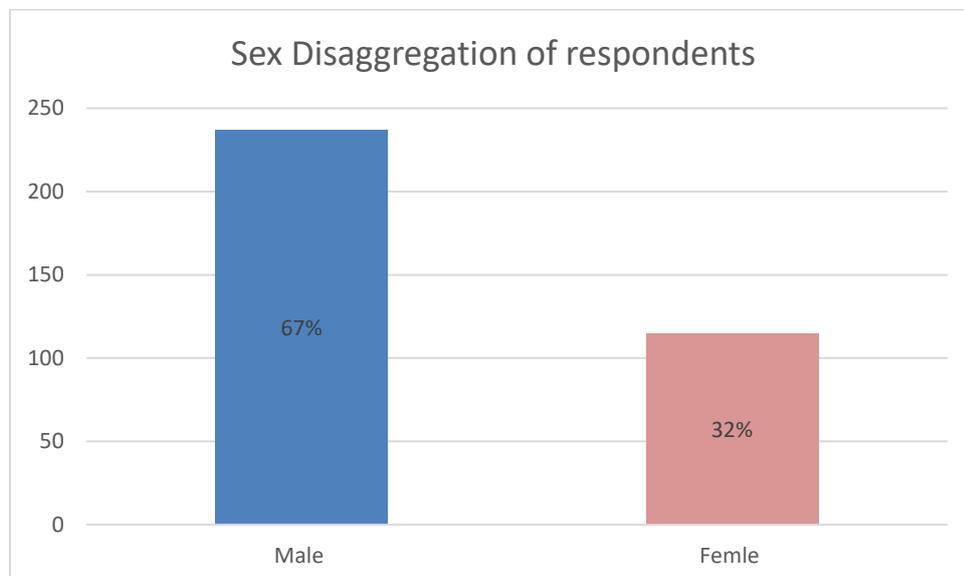
352 responses



Source: Online Survey, 2021

Figure 6: Distribution of Respondents by whom they currently live with

The above chart shows the distribution of respondents based on whom they live with. It shows that most of the respondents live with their parents, representing 42.3% of the total respondents. The second are the people living alone, with 28.4% responses of the total respondents. Next are the people living with roommates, representing 15.1% responses of the total respondents. The fourth are the people living with relatives other than parents, representing 9.9% responses of the total respondents. People living with a foster family have the least responses representing 4.3% of the total respondents.



Source: Online Survey, 2021

Figure 7: Distribution of Respondents' Sex

The majority of the respondents, 67% were males, while 32% were females. This may be a result that cybercrime is being seen as male related issues.

Substantive Issues

Students' Perception of Cybercrime

Table 1: Distribution of respondents' perception of cybercrime

Responses	Frequency	Percentage
It is a way of paying back the colonial masters	54	15.3%
It is not evil	150	42.6%
It is a business	61	17.3%
It is the easiest way to get rich	87	24.7%
Total	352	100%

Source: Field Survey, 2021

Table 1 shows that most of the undergraduate students of ESUT (42.6%) do not perceive cybercrime as evil; 87 responses representing 24.7% of the total respondents, perceive cybercrime as the easiest way to get rich. While 61 responses which represents 17.3% of the total respondents in this study, perceive cybercrime as a business. The least responses were gotten from respondents that perceive cybercrime as a way of paying back the colonial masters, with 54 responses which represent 15.3%.

Attitude toward Education

Table 2: Distribution of respondents by perception whether going to school is a scam

Responses	Frequency	Percentage
Yes	10	2.8%
No	295	83.8%
Maybe	47	13.4%
Total	352	100%

Source: Online Survey, 2021

Table 2 shows a majority of the respondents (83.8%) opined that going to school is not a scam (waste of time), While 47 responses representing 13.4% of the total respondents, were gotten from students that said maybe going to school is a scam (waste of time). The least responses were gotten from students that said yes that going to school is a scam (waste of time), with 10 responses representing 2.8% of the total respondents. This indicates that many students still hold positive attitudes toward education.

Table 3: Distribution of respondents on whether COVID 19 increased the vulnerability of Students to engage in cybercrime activities

Responses	Frequency	Percentage
Yes	243	69%
No	83	23.6%
I don't know	26	7.4%
Total	352	100%

Source: Field Survey, 2021

Table 3 shows that a majority 69% affirmed that COVID 19 increased the vulnerability of students to engage in cybercrime activities. Only 23% indicated negative responses, while 7.4% were indifferent. The implication is that COVID 19 related issues may have influenced the students negatively to engage more in cybercrime in the study area.

Table 4: Distribution of respondents on whether COVID 19 lockdown negatively affected students' academic performance

Responses	Frequency	Percentage
True	276	78.4%
False	31	8.8%
Don't know	45	12.8%
Total	352	100%

Source: Field Survey, 2021

The above table shows that more than half of the respondents (78.4%) agree that COVID 19 lockdown negatively affected students' academic performance. A total of 45 respondents, which represent 12.8% said that they don't know if COVID 19 lockdown affected the academic performance of students. The least responses were obtained from 31 respondents only, which represent 8.8% of the total respondents who said that COVID 19 lockdown did not affect the academic performance of students.

Table 5: Distribution of respondents on how cybercrime affect student's attitude towards university education

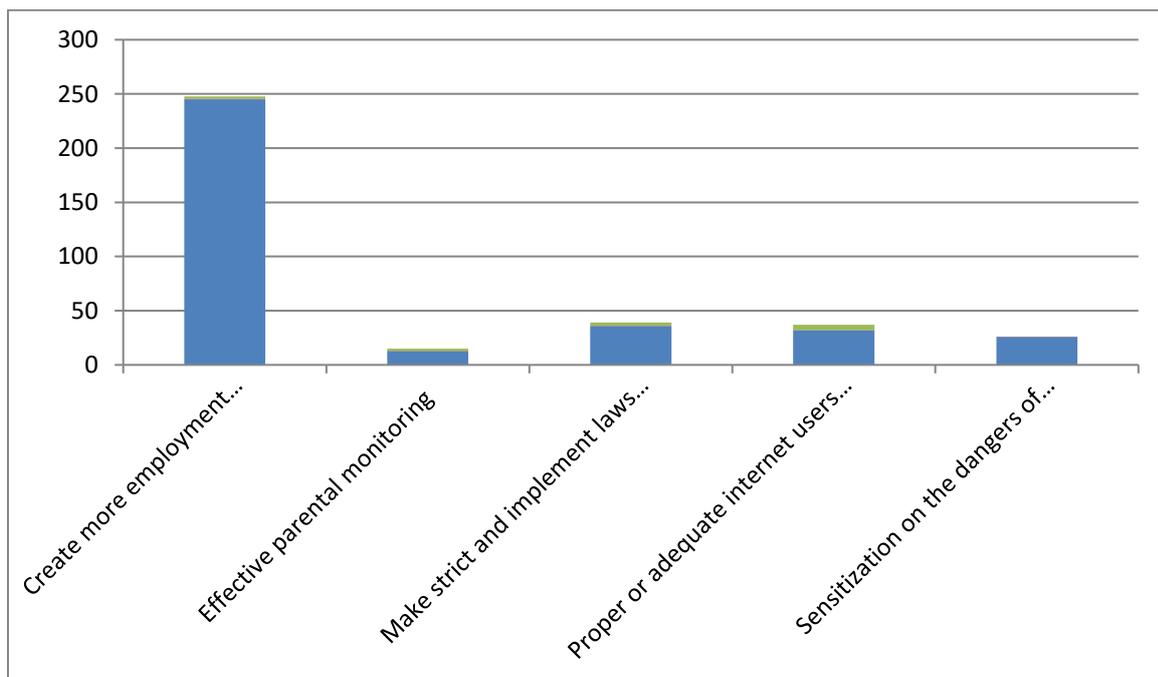
Responses	Frequency	Percentage
Bring bad image to the school/country	48	13.6%
Decrease ability to concentrate on his/her studies	184	52.3%
Increase school drop out	69	19.6%
Increase cult/criminal activities in school	28	8.3%

Increase population of students in prison	23	6.2%
Total	352	100%

Source: Field Survey, 2021

From the table above, the highest number of responses (52.3%) was gotten from people that said a COVID-19 induced cybercrime activities decreased the ability of the students to concentrate on their studies. In contrast, respondents, who represent 19.6% of the total respondents, said that increase in school dropouts is a way cybercrime has affected students' attitudes towards university education. Also, 48 respondents representing 13.6%, agree that cybercrime brings a bad image to the school/country. 28 respondents which represent 8.3% of the total respondents have the opinion that cybercrime can increase cult/criminal activities in school. Only 23 respondents, which represent 6.2% of the total population, said that cybercrime can increase the population of students in prison. From this table, it can be seen that a majority of the undergraduate students of ESUT have the opinion that cybercrime activities during COVID 19 significantly decreased the ability of students to concentrate on their studies.

Ways to Reduce cybercrime among students



Source: Field Survey 2021

Figure 8: Distribution of respondents on what the government can do to reduce cybercrime among students

The above chart shows that the overwhelming majority of the respondents (69.6%) indicated the government should create more employment opportunities to reduce cybercrime among students. These 36 responses represent 10.2% of the total respondents who said that government should make strict and implement laws against cybercrime to reduce it among students. While 32 responses which represent 9.1%, were gotten from people that said the government should set up proper or adequate internet users regulations/monitoring. Only 26 responses which represent 7.4% of the total respondents, said that government can reduce cybercrime among students by sensitizing them to the dangers of cybercrime. Meanwhile, the least responses were gotten from people that said effective parental monitoring can reduce cybercrime among students, with only 13 respondents which represent 3.7% of the total respondents.

Table 6: Distribution of respondents on how school management can stop cybercrime

Responses	Frequency	Percentage
Dismiss any students found to be involved in cyber crime	20	5.6%
Creating recreational activities	16	4.5%
Cyber security	42	11.9%
Create employment opportunities	48	13.6%
Enforce law against cyber crime	45	12.7%
Create awareness on the dangers of cyber crime	72	20.4%
Nothing	43	12.3%
No idea	37	10.5%
Reducing cost of education	29	8.3%
Total	352	100%

Source: Online Survey, 2021

Table 6 shows that a majority of the respondents opted that the school management should create awareness on the dangers of cybercrime with 72 responses representing 20.4% of the total respondents. 48 respondents representing 13.6%, agreed that the school management should create students' employment opportunities. While 45 respondents representing 12.7% of the total respondents, opted that the school management should enforce laws against cybercrime. 43 respondents represent 12.3% of the total respondents' school management can

do nothing to stop cybercrime. Also, 42, representing 11.9% of the total respondents, agreed that school management should provide cyber security. 37 respondents representing 10.5% of the total respondents, said they have no idea what the school management can do to stop cybercrime.

Discussion

The study revealed that most undergraduate students do not perceive cybercrime as evil. This finding is in agreement with previous studies in Nigeria. A study to assess students' perception of Cybercrime in Edo State, Nigeria, showed that most students agreed that sending scam mail is not evil (Olusi et al., 2009). A recent study also maintains this position to understand youths' perception and factors advancing cybercrime (yahoo-yahoo) in Ado-Ekiti, Ekiti State, Nigeria, which revealed that students perceive cybercrime as routine work where the wage is expected to come someday (Ojolo & Adeoluwa Adewumi, 2020). This finding implies that students have rationalised cybercrime as an accepted way of life. This perception among students will exacerbate cybercrime activities with significant socio-cultural and economic consequences to the country if it remains unchecked.

Furthermore, the study found that students perceive university education positively because most respondents indicated that education is not a scam. This is contrary to the general notion among many youths in Nigeria that denotes that education has lost its relevance; hence it is a scam. According to Marian (2019), it appears many youths use the names of Bill Gates, Mark Zuckerberg and other wealthy American dropouts as an excuse to relegate the relevance of education, while others have argued that many university graduates in Nigeria who studied professional courses but ended up doing menial jobs because of the high rate of unemployment. The perception that education has lost its relevance among youths may have dared them to rationalise cybercrime as an acceptable lifestyle. However, the positive attitude towards education by students in this current study may be because the campaigners of the mantra that education is a scam are primarily artists, unemployed and underemployed members of society, unlike undergraduate students with high hopes and expectations of a bright career. Nevertheless, it can be induced that Nigeria's dysfunctional education system could be the problem of the negative perception of the relevance of education among Nigerian youths because education remains a crucial driver of societal growth and progress in the world (Deji-Folultile, 2021).

Similarly, the study investigated how the COVID-19 lockdown may have affected students' learning abilities. The study revealed that the majority of the respondents indicated that the COVID-19 lockdown constituted a distraction that decreased their ability to concentrate on his/her studies. The finding aligns with another study conducted in 92 different countries on the impact of COVID-19 pandemic on the academic performance of veterinary medical students, which showed that the lockdown affected the academic performance of most participants (96.7%) with varying degrees (Mahdy, 2020). This is a clear indication that COVID 19 had a significant impact not only on exposing students to criminal behaviour, such as cybercrime but also had an impact on their academic performance. It is even more devastating for students in developing countries like Nigeria, who are forced to migrate to online classes without adequate facilities and lack the skills to meet such academic expectations.

Also, the study found that the COVID-19 lockdown increased the vulnerability of students to engage in cybercrime activities. This may have contributed to the high prevalence of cybercrime activities recorded during that lockdown period. In Nigeria, the Economic and Financial Crime Commission (EFCC) reported a significant increase in the arrest of young people suspected of being involved in cybercrime between 2020 and 2021. (Olaigbe, 2021). This finding implies that many students who may have been exposed to cybercrime due to the COVID-19 lockdown are likely to have continued the criminal behaviour to the detriment of their lives and society.

On the ways to reduce cybercrime among students, this study found that creating awareness of the dangers of cybercrime by university management and creating employment opportunities by the government could significantly contribute to reducing the prevalence of cybercrime among university students in Nigeria. In a similar study, it was also found that government policy toward providing basic amenities, job opportunities and better cybersecurity technologies emerged as the primary solution to cybercrime among students (Edeoghon, & Mobote, 2020). In addition, it was found in a related study that if the Federal Government of Nigeria could increase its activities in promoting social inclusion, social protection, agropreneurship and technopreneurship to address youth unemployment in the country, cybercrime among youth would be reduced (Akinyetun et al, 2021).

Conclusions

The incidence of cybercrime increased as a result of COVID 19 related challenges among tertiary institution students. The implication is that many students have become more vulnerable to cybercrime-related activities, which will pose enormous challenges to students and society in general. Specifically, the consequences of this on our educational sector will leave a catastrophic impact on the future of Nigeria toward sustainable development. This is because the energy and potential of the students that would have been used for productive endeavours will be diverted to criminality which will do the society no good. Also, countries' economies lost from the activities cyber fraudsters will be exacerbated as a result of students' vulnerability to engage in cybercrime in Nigeria.

Recommendations

The following recommendations were made based on the findings of this study:

1. Institutions, stake holders, government and non-government organizations should sponsor skills to be taught in schools so that students can be self-employed.
2. Cyber laws that would govern the country's cyber space and give the nation adequate cyber security measures should be created.
3. Government and other related stakeholders should try and create more employment opportunities for young graduates and undergraduates in order to alleviate their involvement in cybercrime.
4. Massive awareness and sensitization exercise against the menace of cybercrime should be supported and encouraged by stakeholders in the university environment
5. Youth recreational centers should be built by the government and administrations; in order for young people to be engaged in creative works and development that would keep their minds busy.

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