

# Impacts of Dark Web Engagement on Academic Achievement of Tertiary Institution Students in Ekiti-State, Nigeria

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## ABSTRACT

This study examines the relationship between dark web engagement and academic achievement among students in tertiary institutions in Ekiti State, Nigeria. Using a descriptive survey design, data were collected from 300 randomly selected students through a structured questionnaire. Pearson Product Moment Correlation analysis revealed a strong negative relationship between dark web usage and academic performance ( $r = 0.882$ ,  $p < 0.05$ ), indicating that increased engagement with the dark web correlates with lower academic achievement. An independent t-test also showed a significant difference in the effectiveness of strategies adopted by educational policymakers to address dark web usage among students ( $t = 6.752$ ,  $p = 0.000$ ). The findings highlight the need for comprehensive digital literacy programs, ethical internet use education, and collaboration with cyber security experts. Based on the results, it is recommended that institutions implement stricter disciplinary measures, strengthen student support services, and increase awareness campaigns to minimize the negative impacts of dark web engagement on student outcomes. This study provides valuable insights for policymakers, educators, and university administrators in fostering safer academic environments.

**Keywords:** Dark web, Engagement, academic achievement, tertiary students, cyber security.

## INTRODUCTION

The internet has significantly transformed the landscape of education, providing students with unprecedented access to information, research materials, and academic tools. However, alongside its educational benefits, the internet has also introduced new challenges, particularly with the rise of the dark web. The dark web, a hidden and unregulated section of the internet that is not indexed by traditional search engines, is often associated with illicit activities such as cybercrime, drug trafficking, and financial fraud (Kshetri, 2023). In the academic context, concerns have emerged regarding students' engagement with the dark web, especially in relation to unethical resources like academic cheating services, pirated research papers, and unauthorized academic networks (Oluwadare & Akinwunmi, 2022).

Students in tertiary institutions, who increasingly depend on the internet for academic tasks, may unknowingly or deliberately come into contact with dark web content. Research indicates that exposure to the dark web can lead to negative academic consequences, including a rise in plagiarism, diminished critical thinking, and a loss of academic integrity (Smith & Roberts, 2023). Furthermore, excessive internet use, especially involving dark web activities, has been shown to contribute to lower academic performance due to distractions and a shift in focus from conventional learning methods to shortcuts and illicit online resources (Sussman et al., 2023).

Researchers such as Kshetri (2017) and Wang et al. (2022) have identified the dark web as a hub for services that undermine academic integrity, including the sale of academic cheating services, pirated textbooks, and counterfeit academic credentials. For students, the dark web can offer tempting shortcuts to academic success such as buying completed assignments, accessing plagiarized research papers, or obtaining exam answers. While these services might promise quick academic gains, they come with long-term risks, such as promoting unethical behavior and diminishing the value of academic achievement (Oluwadare & Akinwunmi, 2022).

In a Nigerian context, research by Oluwadare and Akinwunmi (2022) has shown that many students turn to the dark web to bypass academic challenges. While some students see these practices as harmless shortcuts, they fail to recognize the negative impacts, such as compromised critical thinking skills and a weakened sense of academic integrity.

Furthermore, One of the most concerning aspects of dark web usage is its potential to erode academic integrity. Studies by Smith and Roberts (2023) suggest that exposure to dark web content can increase the likelihood of students engaging in academic dishonesty, such as plagiarism, cheating, and falsification of research. This dishonest behavior can significantly affect academic outcomes, as students relying on shortcuts may miss out on developing essential skills like critical thinking and independent research. Again, the tendency to seek easy solutions undermines intrinsic motivation, shifting focus from genuine academic effort to quicker, less meaningful approaches to success (Sussman et al., 2023).

Adeyemi (2023) further argues that prolonged engagement with unethical online resources, including those on the dark web, can result in academic disengagement. Students who rely on such resources may come to view academic success as something that can be bought, rather than earned through sustained intellectual effort. As a result, their long-term academic performance may deteriorate, despite potential short-term gains from illicit sources.

Despite these significant concerns, there is a lack of research exploring the direct impact of dark web use on students' academic performance, particularly within the Nigerian context. Most existing studies have focused on broader issues like cybercrime and internet security, leaving a gap in understanding how the dark web specifically affects students in Nigerian tertiary institutions (Adeyemi, 2023). This study aims to address that gap by investigating the influence of dark web engagement on the academic achievements of students in tertiary institutions in Ekiti State, Nigeria.

## Research Questions

The following research questions were put forward to be answered in the course of this study:

1. To what extent do students in tertiary institution in Ekiti- state use dark web for academic purposes and what specific services or resources do they typically access?
2. What is the correlation between dark web usage and students' academic achievement particularly in relating to their critical thinking skills, research capabilities and overall academic achievement in tertiary institution in Ekiiti-state?
3. What strategies can be implemented by educators, policymakers and universities administrators to minimize negative impact of dark web engagement among students of tertiary institutions in Ekiti-state?

## Research Hypotheses

The following null hypotheses were postulated to guide the study:

H<sub>01</sub>: There is no significant relationship between the extent of dark web engagement and students' academic performance in tertiary institutions in Ekiti State, Nigeria.

H<sub>02</sub>: There is no significant difference between strategies adopted by educational policymakers and dark web engagement among students of tertiary institutions in Ekiti State.

## METHODOLOGY

The study employed descriptive research design of the survey type. The population for this study consisted of students from various tertiary institutions in Ekiti State, Nigeria. These institutions include both public and private universities, and polytechnics in Ekiti-State.

A sample size of 300 students from 200 level of various disciplines were selected using multi-stage random sampling technique. The students were selected based on the following criteria:

- (i) the students are currently enrolled in a tertiary institution in Ekiti State.
- (ii) the students have access to the internet and engage with online resources for academic purposes.
- (iii) the students are willing to voluntarily participate in the study.

A self-design instrument titled "Dark Web Engagement and Academic Achievement" (DWEAA) among students of tertiary institution in Ekiti-state was used for data collection. The structured questionnaire consists sections A and B. Section A contains the Bio-data of the respondents while section B was designed to elicit some relevant information such as:

- (i). the extent to which students engage with the dark web
- (ii). the impact of dark web usage on students' academic integrity.
- (iii). assessed the potential risks of dark web access by students
- (iv). strategies that could be implemented to mitigate the negative effects of dark web usage and promote academic integrity

The instrument was validated by experts from test and measurement and two experienced cyber security experts. The reliability of the instrument was determined by Test-retest method in which a pilot test was conducted with 20 students outside the target population and a reliability coefficient of 0.85 was obtained indicating high reliability value sufficient for the study. Data collected were analyzed using frequency counts, percentages mean and standard deviation. The hypotheses formulated were tested at 0.05 level of significant using t-test.

**Research Question 1: To what extent do students in tertiary institution in Ekiti- state use dark web for academic purposes and what specific services or resources do they typically access?**

Table 1: The extent in which students in tertiary institution in Ekiti- state use dark web for academic purposes and the specific services or resources they typically accessed.

S/N	Item	Rating	Freq.	Percentage	Mean scores
1	How often do you access the dark for academic purposes	Always	180	60%	3.37
		Occasionally	70	23.33%	
		Rarely	30	10%	
		Never	20	6.67%	
2	What types of academic resources do typically access	Academic cheating services	150	50%	3.50
		Plagiarize research paper	40	13.33%	
		Pirated paper	110	36.67%	
		None	-	-	

3	To what extent do you rely on the dark web for academic support?	Highly	190	63.33%	3.40
		Moderately	60	20%	
		Slightly	30	10%	
		Not at all	20	6.67%	
4	How confident are you that the academic resources you find on the dark web are reliable and of good quality?	Very confident	20	6.67%	1.4
		Moderately confident	10	3.33%	
		Slightly confident	40	13.33%	
		Not confident at all	230	76.67%	
5	Do you consider using the dark web for academic purposes to be an ethical practice?	Very ethical	20	6.67%	2.17
		Slightly ethical	25	8.33%	
		Not ethical at all	240	80%	
		Neutral	15	5%	
6	In your opinion, how effective are the resources accessed from the dark web in improving your academic performance?	Highly effective	40	13.13%	2.33
		Moderately effective	30	10%	
		Not effective at all	220	73.33%	
		Neutral	10	3.3%	

The analysis of the responses to this question provides valuable insights into how students in tertiary institutions in Ekiti State engage with the dark web, the types of resources they access, their reliance on these resources, and their perceptions of their ethicality and effectiveness.

From table 1 it was observed that 60% of the respondents reported that students always access the dark web for academic purposes, while 23.33% of the students accessed the dark web occasionally for academic purposes. However only 10% of the students used it rarely for academic purposes. While 6.67% of the students never accessed the dark web for academic purposes. A mean score of 3.37 was observed which indicates that the majority of students use the dark web frequently for academic purposes, suggesting a high level of engagement.

When asked about the specific types of academic resources accessed on the dark web, 50% of the students reported of accessing academic cheating services, such as purchasing completed assignments, exam papers, or getting answers to questions ; while 36.67% of the students accessed pirated academic papers, such as unauthorized versions of textbooks or research papers. Also 13.33% of the students access plagiarized research papers on the dark web.

Also a mean score of 3.50 was observed indicating that a significant portion of students rely on the dark web for academic cheating services and pirated papers, making these the most common resources accessed. This suggests that students primarily use the dark web as a shortcut to academic success, relying on dishonest practices such as cheating or using pirated materials.

Students were also asked about their reliance on the dark web for academic support. The responses revealed that 3.33% of the students relied highly on the dark web for academic support. While 20% of students moderately relied on the dark web for academic support. 10% of the students slightly relied on it .However Only 6.67% of

the students did not relied at all on the dark web for academic support. A mean score of 3.40 was observed, indicating that a significant majority of students relied highly on the dark web for academic purposes. This suggests that dark web is considered an important tool by many students in Ekiti State, especially when it comes to addressing academic challenges.

Furthermore, When asked how confident they were in the reliability and quality of academic resources found on the dark web, 76.67% of the students were not confident at all about the quality and reliability of the resources they found; while 13.33% of the students were slightly confident .However 6.67% of the students were very confident of the reliability and quality of academic resources found on the dark web. Also a mean score of 1.4 was observed indicating that most students do not trust the resources they access on the dark web. This suggests that while students may rely on the dark web for academic resources, they are aware of the low quality and questionable nature of those resources.

Again, on the ethical concern of using the dark web for academic purposes, 80% of the students considered using the dark web for academic purposes as not ethical at all, while 8.33% of the students felt it was slightly ethical. Also a mean score of 2.17 was observed suggesting that the overwhelming majority of students perceived using the dark web for academic purposes as unethical, even though many continue to use it.

When asked about the effectiveness of resources accessed on the dark web in improving academic performance, 73.33% of the students believed that these resources were not effective at all in improving academic performance while 13.33% of students thought they were highly effective . Also a mean score of 2.33 was observed indicating that majority of students felt that resources from the dark web do not contribute to improved academic performance. This supports the notion that although students use the dark web, it does not lead to meaningful academic success or intellectual growth.

**Research Question 2: What is the correlation between dark web usage and students’ academic achievement particularly in relating to their critical thinking skills, research capabilities and overall academic achievement in tertiary institution in Ekiiti-state.**

Table 2: Correlation between dark web usage and academic achievement particularly in relating to their critical thinking skills, research capabilities and overall academic achievement in tertiary institution in Ekiiti-state.

S/N	Items	Rating	Freq.	Percentage	Mean scores
1	To what extent has using the dark web influenced your ability to complete assignments or academic tasks on time?	Significant positive impact	160	53.33%	3.13
		Moderate positive impact	60	20%	
		No impact	40	13.33%	
		Minor impact	40	13.33%	
2	To what extent do you believe that relying on the dark web for academic resources (e.g., research papers, completed assignments) improves your academic performance?	Significantly	40	13.33%	2.43
		Moderately	60	20%	
		Not at all	190	63,33%	
		Neutral	10	3.33%	
3	Has using the dark web for academic purposes ever interfered with your ability to think critically	Always	200	66.67%	3.50
		occasionally	60	20%	
		Rarely	30	10%	

	or solve problems independently in your coursework?	Never	10	3.33%	
4	How would you rate your research abilities after engaging with academic resources on the dark web compared to before	Significant improvement	20	6.67%	2.4
		No improvement	150	50%	
		Slight improvement	60	20%	
		Neutral	70	23.23%	
5	Has your academic achievement (grades, exam scores, assignment outcomes) improves a result of accessing academic resources on the dark web?	Significant improvement	10	3.33%	2.27
		No improvement	152	50.67%	
		Moderate improvement	48	16%	
		Minor improvement	90	30%	
6	How often do you rely on the dark web for shortcuts (e.g., buying completed assignments or plagiarized content) rather than engaging in original research or studying independently?	Always	190	63.33%	3.58
		Occasionally	100	33.33%	
		Rarely	5	1.67%	
		Never	5	1.67%	
7	In your opinion, how does the dark web affect your overall academic achievement (e.g., grades, academic standing, graduation prospects)?	Significantly negative impact	200	66.67%	3.53
		Moderately negative impact	60	20%	
		No impact	40	13.33%	
		Neutral	-	-	

Table 2 above shows the correlation between dark web usage and academic achievement particularly in relating to their critical thinking skills, research capabilities and overall academic achievement in tertiary institution in Ekiiti-state. On the extent to which dark web usage influenced students' ability to complete assignments or academic tasks on time, it was revealed that 53.33% of the students reported that using the dark web had a significant positive impact on their ability to complete academic tasks on time. While 13.33% of the students felt that using the dark web had no impact on their timeliness.

Also a mean score of 3.13 was observed which indicates that majority of students believe that the dark web has a positive impact on their ability to complete academic tasks on time. This suggests that students may use dark web resources to help them meet deadlines or complete assignments quickly, potentially through purchasing completed tasks or accessing ready-made materials.

On the Impact of dark web usage and academic achievement of the students, 63.33% of the students indicated that using the dark web had no impact on their academic achievement. While only 20% of the students felt that the dark web had a moderate improvement on their academic achievement. Also a mean score of 2.43 was observed indicating that while some students feel that the dark web improves their academic achievement, the majority of students believe that it has no positive impact on their academic outcomes. This suggests that even though students might use the dark web, they do not perceive it to significantly enhance their academic achievement.

Furthermore, on impact of dark web usage and critical thinking and Independent Problem Solving ability of the students 66.67% of the students reported that dark web usage always interfered with their ability to think critically or solve problems independently. While only 10% of the students indicated that it rarely interfered with their ability to think critically. Also a mean score of 3.50 was observed indicating that a majority of students feel that the dark web has a strong negative impact on their ability to think critically and solve problems independently. This suggests that reliance on the dark web for academic resources may diminish students' intellectual engagement, hindering their development of critical thinking skills.

Also with reference to research ability and dark web usage of the students 50% of the students indicated that their research abilities showed no improvement after using dark web resources while 6.67% of the students experienced significant improvement in their research abilities. Again a mean score of 2.4 was observed suggesting that a majority of students did not perceive significant improvement in their research abilities after using dark web resources. This suggests that while students may use the dark web to access materials, it does not contribute to the development of their research skills, which are essential for academic success.

On the overall effects of dark web usage and academic achievement of student with respect to Grades, Academic Standing, Graduation Prospects 66.67% of students felt that the dark web had a significantly negative impact on their academic achievement. Also 20% of the students perceived it as having a moderately negative impact. While 13.33% of the students reported that dark web usage has no impact on their academic achievement. Again a mean score of 3.53 was observed indicating that the majority of students believe the dark web has a strongly negative impact on their academic achievements. This suggests that despite its frequent use, the dark web may lead to long-term academic consequences, such as poor performance and hindered academic progress.

**Research Question 3:** What strategies can be implemented by educators, policymakers and universities administrators to minimize negative impact of dark web engagement among students of tertiary institutions in Ekiti-state.

Table 3: strategies to be implemented by educators, policymakers and universities administrators to minimize negative impact of dark web engagement among students of tertiary institutions in Ekiti-state.

S/N	Items	Rating	Freq.	Percentage	Mean
1.	How effective do you think it would be for universities to implement digital literacy programs that educate students on the risks associated with the dark web?	Very effective	150	50%	3.45
		Moderately effective	140	34.67%	
		Not effective at all	5	1.67%	
		Neutral	5	1.67%	
2.	Would you support the inclusion of a mandatory course or seminar on academic integrity and responsible internet use as part of university curricula?	Strongly supported	190	63.33%	3.23
		Not supported	40	13.33%	
		Somewhat supported	20	6.67%	
		Neutral	50	16.67%	
3.		very important	180	60.0%	3.52

	In your opinion, how important is it for university administrators to create awareness campaigns about the ethical and academic risks of using the dark web for educational purposes?	moderately important	100	33.33%	
		not important at all	15	5.0%	
		Neutral	5	1.67%	
4.	To what extent do you think universities should provide students with more academic support (e.g., tutoring, counseling, writing workshops) to reduce the temptation to use the dark web for academic shortcuts?	Significantly	190	63.33%	3.47
		Moderately	70	23.33%	
		Not at all	30	10.0%	
		Neutral	10	3.33%	
5.	Should universities collaborate with cyber security experts to educate students on safe and ethical online practices to reduce engagement with the dark web?	Yes, definitely	200	66.67%	3.52
		Yes, somewhat	70	23.33%	
		No, not necessary	10	3.33%	
		Neutral	20	6.67%	
6.	To what extent do you believe that implementing clear disciplinary measures (e.g., suspension, expulsion) for students caught engaging in unethical academic behavior linked to the dark web would deter such practices?	significantly	190	63.33%	3.47
		moderately	70	23.33%	
		not at all	30	10.0%	
		Neutral	10	3.33%	

Table 3 above provides insight into strategies that can be implemented by educators, policymakers, and university administrators to curb the negative effects of dark web usage among students. With regards to providing Digital Literacy Programs for students in the tertiary institution in Ekiti-state, the findings indicate that 50% of students believe that digital literacy programs would be very effective for curbing the negative effects of dark web usage among students. while Only 1.67% of the students opined that digital literacy programs would not be effective at all. Also a mean score of 3.45 was observed which suggests that students recognize the importance of digital literacy in mitigating dark web engagement. This implies that universities should introduce digital literacy courses to educate students on the risks and dangers associated with accessing academic resources through the dark web.

Furthermore, the study equally reveals that 63.33% of the students are in support of making a course on academic integrity and responsible internet use mandatory, However, 13.33% did not support this idea. Again a mean score of 3.23 was observed which suggests that most students favor the inclusion of a course on academic integrity and responsible use of internet mandatory, in university curricula. This means universities could incorporate topics such as plagiarism, ethical research practices, and cyber security awareness in their academic programs.

Also with regards to Awareness Campaigns on Ethical and Academic Risks posed by dark web usage it was revealed that 60% of the students were of the opinion that awareness campaigns are very important to curb unethical use of dark web among the students; while only 5% of the students feel that Awareness Campaigns on Ethical and Academic Risks posed by dark web usage are not important. Also a mean score of 3.52 was observed

which suggests that most students acknowledged the need for universities to actively educate them on the academic risks of using the dark web. Administrators should consider launching frequent awareness programs, including seminars, posters, and social media campaigns.

Again, from the findings in table 3, 63.33% of students were of the opinion that providing academic support such as regular tutoring, counseling, and writing workshops would significantly reduce the temptation to use the dark web, while Only 10% of the students were of the opinion that it would not help at all. Also a mean score of 3.47 was observed which indicates that a lack of academic support is one of the factors pushing students toward dark web resources. Universities should therefore enhance their academic support systems by offering mentorship, research guidance, and writing assistance.

With regards to collaborating with cyber security experts as one of the strategies that can be used by stakeholders to minimize negative impact of dark web engagement among students of tertiary institutions in Ekiti-state, 66.67% of the students support universities collaborating with cyber security experts to educate students on safe and ethical online practices, while Only 3.33% of the respondent believe it is unnecessary. Also a mean score of 3.52 was observed which underscores the importance of expert-led cyber security education. Universities should consider organizing workshops with cyber security professionals to educate students on ethical and secure online practices.

Finally, 63.33 of the respondent agreed that it would be highly effective to implement disciplinary measures to curb negative impact of dark web engagement among students of tertiary institutions while Only 10% of the respondents believed disciplinary actions would not be effective. A mean score of 3.47 was observed which suggests that students recognize that strict enforcement of academic policies may discourage dark web engagement. This implies that universities should establish clear academic misconduct policies with defined consequences.

**Hypothesis one: There is no significant relationship between the extent of dark web engagement and students' academic performance in tertiary institutions in Ekiti State, Nigeria.**

Table 4 Pearson Correlation analysis of dark web usage and students' academic achievement in tertiary institutions in Ekiti State, Nigeria.

Variables	N	Mean	S.D.	R	Sig(p-value)	Decision
Dark web engagement	300	2.72	0.26	0.882	0.000	Reject null hypothesis
Academic achievement	300	2.91	0.24			

P < 0.05.

Table 4 revealed the p-value of 0.000 is less than 0.05, which indicates that the correlation between dark web engagement and academic achievement is statistically significant. Therefore, we reject the null hypothesis. This finding suggests that there is indeed a significant relationship between the extent of dark web engagement and students' academic achievement in the sampled institutions.

**Hypothesis Two: There is no significant difference between strategies adopted by educational policymakers and dark web engagement among students of tertiary institutions in Ekiti State.**

Table 5: Summary of paired sample t-test showing difference between strategies adopted by educational policymakers and dark web engagement among students of tertiary institutions in Ekiti State.

Variables	N	Mean	Std. Deviation	t-value	df	Sig. (2-tailed)
Strategies by policymakers	300	3.45	0.57	4.86	298	0.000
Dark web engagement	300	2.72	0.64			

Table 5 revealed that the t-value obtained is 4.86, with a p-value of 0.000 ( $p < 0.05$ ), indicating statistical significance. Since the p-value is less than 0.05, hence the null hypothesis is rejected which indicates there is a significant difference between the strategies adopted by educational policymakers and students' engagement with the dark web.

## DISCUSSION

The findings of this study provide critical insights into the relationship between dark web engagement and students' academic performance in tertiary institutions in Ekiti State. The study utilized Pearson Product Moment Correlation Analysis and t-test analysis to examine the extent to which students engage with the dark web for academic purposes, its impact on their academic performance, and the effectiveness of strategies implemented by policymakers and educators to mitigate its negative effects.

With regards to dark web engagement by tertiary education students in Ekiti state and their academic performance, the Pearson correlation analysis revealed a strong positive correlation ( $r = 0.882$ ,  $p < 0.05$ ) between dark web engagement and students' academic performance, leading to the rejection of the null hypothesis that no significant relationship exists. This indicates that higher engagement with the dark web correlates with lower academic achievement of tertiary education students in Ekiti state. This finding is consistent with Adebayo & Ogunleye (2021), who found that students who relied on unauthorized academic resources, including plagiarized research papers and cheating services, exhibited declining academic performance due to a lack of independent learning and critical thinking skills.

Furthermore, Smith et al. (2020) reported similar findings in their study on unethical academic practices, stating that students who engaged in online academic dishonesty, including purchasing assignments from illicit sources, struggled with comprehension, originality, and long-term academic success. The low confidence in the reliability of dark web resources among students in the current study (with 76.67% reporting no confidence at all) aligns with Kumar & Gupta (2019), who argued that many dark web materials lack scholarly credibility, further contributing to academic underperformance.

Also with reference to dark web and critical thinking, research Skills, and academic achievement of students in Ekiti-state tertiary institution, a significant percentage of respondents (66.67%) reported that dark web usage negatively interfered with their ability to think critically or solve academic problems independently. These findings are in agreement with Johnson & Miller (2022), who found that over-reliance on pre-written assignments and exam solutions reduces students' analytical skills, making them less capable of independent academic work.

Similarly, the study found that 50% of students reported no improvement in their research abilities after using dark web resources. This supports Chen & Li (2018), who argued that easy access to pre-written assignments and research papers discourages genuine intellectual effort, leading to a decline in academic research competencies. In contrast, Brown et al. (2021) noted that while some students claimed minor benefits in accessing diverse information, the risks of misinformation, ethical concerns, and academic dishonesty outweighed any potential advantages.

Furthermore in respect to the strategies adopted by educational policymakers towards reducing dark web engagement among students, the t-test analysis examining the effectiveness of strategies adopted by educational policymakers found that implementing digital literacy programs (mean = 3.45), awareness campaigns (mean = 3.52), and strict disciplinary measures (mean = 3.47) were perceived as highly effective interventions. This finding aligns with Williams & Thomas (2023), who emphasized that promoting academic integrity through structured digital literacy initiatives significantly reduces students' dependency on unethical online resources.

Additionally, 66.67% of respondents strongly supported collaboration with cyber security experts to educate students of Ekiti-state tertiary institutions on safe internet use, mirroring findings from Lee & Park (2020), who argued that students who received cyber security education were more likely to adopt responsible online behaviors and avoid illicit academic shortcuts.

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## CONCLUSION

The findings of this study confirm the negative implications of dark web engagement on students' academic performance, research abilities, and ethical decision-making. The results align with multiple prior studies, reinforcing the argument that while the dark web may offer accessibility to academic materials, its use primarily fosters unethical practices and hinders intellectual growth. The study also highlights the effectiveness of university-driven interventions such as digital literacy programs, academic support services, and strict regulatory frameworks in mitigating dark web engagement.

## RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made to mitigate the negative impact of dark web engagement on students' academic performance and promote ethical academic practices in tertiary institutions in Ekiti State:

1. Tertiary institutions in Ekiti-state should introduce comprehensive digital literacy programs that educate students on the dangers of using the dark web for academic purposes. These programs should focus on the risks associated with accessing unreliable academic materials, the importance of ethical research practices and safer and legal alternatives for academic resources.
2. Higher institutions in Ekiti-state should incorporate mandatory courses or seminars on academic integrity, plagiarism, and responsible internet use into their curricula. These courses will help students understand the ethical implications of using unauthorized sources and develop research skills that align with academic standards.
3. University administrators should organize awareness campaigns to educate students about the ethical, academic, and cyber security risks associated with dark web engagement. Such as Interactive workshops, Awareness posters and online campaigns and Guest lectures from cyber security experts and academic professionals.
4. To reduce students' reliance on unethical shortcuts, universities should enhance academic support services through the following means:
  - (i) Writing centers and research workshops.
  - (ii) Peer tutoring programs.
  - (iii) Counseling services for academic stress and time management.
5. Tertiary institutions in Ekiti-state should partner with cyber security experts to educate students on safe and ethical online practices.
6. Tertiary institutions in Ekiti-state should enforce strict disciplinary measures (e.g., warnings, suspension, or expulsion) for students caught engaging in unethical academic behaviors linked to the dark web. A well-defined academic integrity policy should be communicated to all students.
7. Educational policymakers should formulate national policies that promote digital ethics and cyber security awareness among tertiary institutions.

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