



School insecurity and its effect on mathematics outcomes for secondary school students

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ABSTRACT

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This study investigates the impact of school insecurity on the mathematics performance of secondary school students in the Nsukka Education Zone, Enugu State, Nigeria. A descriptive survey design was employed with a population of 9,651 students from 61 public secondary schools. A sample of 423 students (215 males and 208 females) was selected through simple random sampling. Data were collected using the impact of school insecurity questionnaire (ISIQ) which had a reliability index of 0.84 through Cronbach's alpha. Data were analyzed using SPSS version 28 with mean and standard deviation addressing research questions and t-tests testing hypotheses at a 0.05 significance level. The results indicate that school insecurity significantly hampers students' mathematics performance. However, no significant gender-based differences were found in its impact. The study concludes that fostering secure school environments and implementing anti-insecurity policies are crucial for improving students' mathematics achievement. The findings highlight the need for school administrators, policymakers, and communities to collaborate in addressing insecurity issues to enhance educational outcomes and equity in Nigeria's secondary school system.

Contribution/Originality: This study specifically investigates how school insecurity impacts mathematics performance among secondary school students in Nsukka Education Zone, unlike previous studies that broadly examine insecurity's effects on education. This focused approach provides new insights into how insecurity affects learning in a subject crucial for academic and career success.

1. INTRODUCTION

Mathematics is a cornerstone of societal development and a critical tool for scientific and technological advancements. The scientific and technological progress observed in today's world stems from mathematical knowledge and skills which are integral components of school curricula. The term "mathematics" originates from a Greek word meaning "things learned" encompassing counting, measuring, logical reasoning, and understanding the shapes of objects. A nation's economic growth and independence are deeply tied to mathematics, as science and technology heavily rely on it as their foundation (Suleiman & Hammed, 2019). This underscores the importance of mathematical competence for learners at all educational levels, justifying its status as a compulsory and essential core subject in the secondary school curriculum (Federal Republic of Nigeria, 2013). The emphasis placed on mathematics reflects its vital role in contemporary life.

The importance of this study lies in its exploration of a critical yet underexplored issue within the context of Nigerian education, the impact of school insecurity on students' mathematics performance. The study addresses an urgent gap in existing research by considering school insecurity as a potential, overlooked factor influencing students' academic outcomes given the widespread challenges facing students in mathematics, including poor performance and aversion to the subject (Egara & Mosimege, 2024a). It contributes to an emerging body of literature examining external environmental factors, such as insecurity with traditional academic factors like teaching methods and resources, shaping educational outcomes.

The current state of mathematics education in Nigerian schools is marked by poor student performance and a strong aversion to the subject (Egara & Mosimege, 2024a). Many students struggle with internal and external mathematics examinations (Osakwe et al., 2023). Research has identified several contributing factors, including inadequate foundational knowledge (Uka & Ezech, 2022), overcrowded classrooms, and outdated learning materials (Evans, Ekpofia, & Thompson, 2019). Mathematics anxiety remains a significant barrier (Nzeadibe, Egara, Eseadi, & Chukwuorji, 2024; Sarfo et al., 2020; Sarfo et al., 2022; Sule, 2017) further exacerbated by ineffective teaching strategies and unsuitable instructional materials (Ieren & Eraikhuemen, 2017). Additionally, some mathematics teachers' harsh attitudes negatively impact students' learning experiences (Jameel & Ali, 2016). Other factors, such as a lack of discipline, student laziness, and negative perceptions of mathematics also hinder success (Kumah et al., 2016; Okeke, Egara, & Mosia, 2025). Furthermore, poor attitudes from both teachers and learners combined with inadequate teaching resources create additional challenges (Egara & Mosimege, 2024b; Karigi & Tumuti, 2015; Moeketsi Mosia & Egara, 2024a; Moeksi Mosia & Egara, 2024b). No study has specifically examined the impact of school insecurity on students' mathematics performance despite these well-documented issues. This study introduces a novel perspective by exploring how school insecurity, a topic that has not been fully examined in the context of mathematics education could impact learners' performance in mathematics. School insecurity remains largely unexplored while much has been written about the role of teaching practices, resources, and student psychology in mathematics achievement. Therefore, this research will add a new dimension to existing literature, highlighting the broader socio-environmental factors that influence educational outcomes. The novelty of this study lies in its intersection of psychosocial factors and academic achievement, providing insights into how external threats (such as violence or inadequate school infrastructure) can directly affect cognitive and academic functioning in mathematics.

Security is the cornerstone of every community and a tranquil and secure society is a requirement for any chance of growth (Charles-zalakoro, Oko-jaja, & Osusu, 2019). Security is a fundamental human need supporting effective learning (Akintunde & Selzing-Musa, 2016). Psychologists emphasize that security is a critical aspect of human survival. According to Abraham Maslow's hierarchy of needs theory, basic needs such as food, shelter, and safety must be satisfied before individuals can concentrate on higher-level aspirations, including educational, intellectual, or cognitive goals (Akintunde & Selzing-Musa, 2016). People may experience stress and be prevented from pursuing higher-level demands if their security needs are unmet. Security refers to a condition of being safe, where threats and risks of physical harm are absent. Humans have an inherent drive to prioritize safety, utilizing available resources to ensure their physical, emotional, and mental well-being. This suggests that security is not just about being safe from harm's bodily effects. Security also includes environmental elements that give a person confidence and enable them to function as effectively as possible.

This study provides empirical evidence linking school insecurity to mathematics performance in Nigerian secondary schools addressing a key gap in understanding how environmental stressors affect academic outcomes. The findings will help policymakers, teachers, and school administrators develop strategies to create safer, more conducive learning environments. Additionally, the study offers practical recommendations such as improving school infrastructure, strengthening teacher-student relationships, and fostering a secure, supportive school climate. This research contributes new insights into building educational resilience in affected settings, ultimately

enhancing academic achievement for vulnerable students by examining the specific impact of insecurity on mathematics performance.

2. THEORETICAL FRAMEWORK

This research is grounded in Abraham Maslow's Hierarchy of Needs, introduced in his 1943 publication "*A Theory of Human Motivation*." The theory posits that human motivation follows a hierarchical structure, beginning with basic physiological needs and progressing toward self-actualization. Safety and security are foundational within this hierarchy as students must feel secure before they can fully engage in learning and problem-solving.

In educational settings, insecurity manifested through bullying, harassment, and violence directly threatens students' safety leading to heightened anxiety, reduced concentration, and impaired cognitive function. These effects are particularly detrimental in mathematics, a subject that demands logical reasoning and sustained attention. Maslow (1943) framework underscores the necessity of a secure learning environment to facilitate academic success.

Schools can ensure students' basic safety needs are met, thereby enabling them to focus on learning, improve their academic performance and achieve personal growth by examining the specific impact of insecurity on mathematics performance.

3. LITERATURE REVIEW

Several studies have explored the impact of insecurity on education systems, particularly at the secondary school level. Insecurity manifested as physical violence, sexual assault, and general threats to personal safety has been found to significantly affect students' academic performance, behavior, and attendance.

Mudege, Zulu, and Izugbara (2008) examined insecurity's impact on school attendance and dropout rates in Nairobi, Kenya revealing that male students feared physical assault, while female students faced threats of sexual harassment. This constant fear led to high absenteeism and, in some cases, school dropout. Similarly, Ojukwu and Ahaoma Chigozirim (2015) investigated the effects of school insecurity on student behavior in Abia State, Nigeria. The study found that insecurity influenced student behavior in ways that hindered academic performance while gender differences were not significant. Ojukwu (2017) expanded on this research in Imo State identifying gangsterism, drug abuse, bullying, and sexual harassment as major contributors to disengagement and poor academic performance.

In Kebbi State, Manga (2019) identified overcrowded classrooms, inadequate security personnel, and weak school security policies as key causes of insecurity. These factors contributed to an unsafe learning environment, negatively affecting both students' academic performance and their mental well-being. Nweke (2022) studied the effects of insecurity on school management and student performance in Anambra State, noting increased dropout rates and declining student motivation due to safety concerns. Hauwa and Jacob (2022) examined insecurity's impact on school administration in northwest Nigeria reporting frequent school closures, disruptions to the academic calendar, and loss of students and teachers, all of which hampered educational outcomes.

While these studies provide valuable insights into the broader effects of school insecurity, they primarily focus on overall academic performance, student behavior, and school management. They do not specifically address how school insecurity influences mathematics performance among secondary school students in Nsukka Education Zone, Enugu State, Nigeria. This study aims to fill this gap by examining the direct impact of school insecurity on mathematics achievement, offering a targeted perspective on its effects in this critical subject.

3.1. Research Questions

The study is guided by the following research questions:

1. What factors constitute school insecurity in Nsukka Education Zone?

2. Does school insecurity impact the mathematics performance of secondary school students in Nsukka Education Zone?
3. Does male and female students' mathematics performance differ due to school insecurity in Nsukka Education Zone?

3.2. Hypothesis

1. The study's null hypothesis is as follows: There is no significant difference between male and female students' mathematics performance due to school insecurity in Nsukka Education Zone.

This study examines the largely overlooked impact of school insecurity on mathematics performance, providing insights that could inform educational policies and interventions. The findings may help improve educational experiences and outcomes in insecure regions by identifying how insecurity affects students' learning in this critical subject.

4. METHODS

4.1. Research Design

This study adopted a descriptive research design that allows data collection from a sample without alterations or interventions (Nworgu, 2015). This approach facilitated an investigation into how school insecurity affects secondary school students' mathematics performance.

4.2. Research Sample

The study targeted 9,651 secondary school students in the Nsukka Education Zone, Enugu State as recorded by the Post Primary Management Board (2022). This population included 6,327 junior secondary II (JSS 2) and 3,324 senior secondary II (SS 2) students across 59 public schools in Nsukka, Igbo-Etiti, and Uzo-Uwani local government areas. Using Taro Yamane's formula (Yamane, 1973) a sample size of 423 students (215 males, 208 females) was determined. Participants were selected through a simple random sampling technique, specifically the balloting method.

4.3. Research Instrument and Procedure

The ISIQ was adapted from Ojukwu (2017) effect of insecurity on school environment and academic performance (EISEAP). The original EISEAP consisted of 26 items divided into three sections: Section A collected demographic information, section B addressed insecurity in the school environment, and section C explored the connection between insecurity and academic performance. The ISIQ was modified to employ a 4-point scale with options from 1 (strongly disagree) to 4 (strongly agree) while the EISEAP used a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was reviewed by three experts and pilot-tested with 80 secondary school students from a different education zone to ensure its validity. Cronbach's Alpha was used to assess reliability, producing a coefficient of 0.84. Researchers and trained research assistants, who were mathematics teachers in the selected schools, administered the ISIQ to senior secondary school students in the Nsukka Education Zone, achieving a 100% response rate. This study was approved by the Post Primary Management Board, Nsukka Zonal Office, Enugu State, Nigeria, on February 7, 2022 under reference number REC/PPSMB/22/0322.

4.4. Data Analysis

The data collected were analyzed using the Statistical Package for Social Sciences (SPSS) version 23. Descriptive statistics, including the mean (M) and standard deviation (SD) were employed to address the research questions. Hypotheses were tested using t-tests at a 0.05 significance level. A cut-off mean of 2.5 was used. Responses with a mean of 2.50 or higher were considered as agreement and accepted, while those below 2.50 were

interpreted as disagreement and rejected. To simplify interpretation, "strongly agree" and "agree" responses were grouped under "agree" while "strongly disagree" and "disagree" were categorized as "disagree."

5. RESULTS

The data have been analyzed and the results are outlined below.

Table 1. Mean and standard deviation of factors that constitute school insecurity.

S/N	Item statement	Mean	Standard deviation	Decision
1	I have not been bullied in my school and mathematics class.	1.96	1.05	Rejected
2	The security at my school is insufficient, and the school grounds are not enclosed or safeguarded.	2.98	0.91	Accepted
3	Students' belongings are not interfered with during mathematics class or after school.	1.98	0.89	Rejected
4	I have not encountered sexual harassment or assault from teachers or students within the school environment.	2.55	0.90	Accepted
5	I have not observed any student bringing guns onto the school premises or in the surrounding areas.	2.00	1.04	Rejected
6	I have occasionally heard gunshots near the vicinity of my school.	2.59	0.96	Accepted
7	There are no signs of cult activities occurring in my school.	1.96	0.92	Rejected
8	Certain students smoke Indian hemp and use other illicit drugs, both on and off the school premises.	2.54	0.99	Accepted
9	My school has student gangs whose behavior disrupts and negatively affects the activities in mathematics class.	2.49	0.99	Rejected
10	There has been flooding prevalent in my school.	2.29	0.98	Rejected
11	There have been instances of students being kidnapped from our school.	2.07	0.79	Rejected
12	Parents have visited my school to confront mathematics teachers regarding the corporal punishment administered to students.	2.42	1.12	Rejected
13	Violence and cult-related activities have occurred within the school.	2.82	1.04	Accepted
14	There have been reports of armed robbery attacks occurring within or near the school premises.	2.74	1.01	Accepted

Table 1 presents the mean ratings of the factors contributing to school insecurity in the Nsukka Education Zone. Items 1, 3, 5, 7 and 12 indicate that students have suffered from bullying in the school and mathematics class. Students' properties are unsafe in the school environment as they are tampered with in mathematics class and after school hours. Students have seen some other students with guns within and outside school premises, students agreed that there is the manifestation of cult activities in the school, and students agreed that parents do confront mathematics teachers who administer corporal punishment to students.

This followed the rejection of the items in reverse order and their mean ranges from 2.42 – 1.96 and with a standard deviation that ranges from 1.12 – 0.89. Again, items 2, 6, 8, 13 and 14 with their mean ranging from 2.98 – 2.54 and a standard deviation that ranges from 1.04 – .91 were accepted to be factors that constitute school insecurity.

However, items 4, 9, 10 and 11 are not considered factors that constitute school insecurity. Therefore, the researchers conclude that the factors that constitute insecurity in Nsukka Education Zone are bullying of students in the school, vandalism and stealing of students' properties, students' possession of dangerous weapons such as guns within and outside school premises, students' involvement in cult activities, parents' harassment of teachers, lack of perimeter fencing, the sound of gunshots and violence around school premises, and use of hard drugs within the school.

Table 2. Mean and standard deviation of school insecurity impact on mathematics outcome of secondary school learners.

S/N	Item statement	Mean	Standard deviation	Decision
15	I feel uneasy and insecure in mathematics class.	2.79	1.05	Accepted
16	I skipped mathematics classes sometimes because of the bully.	2.64	0.80	Accepted
17	I missed some mathematics lessons on the days I was absent from school.	2.61	0.85	Accepted
18	The mathematics lessons I missed had an impact on my performance in the examinations.	2.85	0.93	Accepted
19	My poor mathematics performance is a result of flooding in my school.	2.47	1.05	Rejected
20	Feeling secure helps me to be more focused and attentive during mathematics class.	2.59	1.02	Accepted
21	I avoid mathematics teachers who have either punished or sexually harassed me.	2.70	0.91	Accepted
22	My parents' harassment of my mathematics teacher affects my performance in mathematics negatively.	2.51	1.00	Accepted
23	I believe that a safe and secure school environment would improve my performance in mathematics.	2.63	0.85	Accepted
24	The lack of security causes students to lose interest in both school and mathematics class activities.	2.60	0.88	Accepted
25	Truancy among students negatively impacts their academic performance in mathematics.	2.64	0.84	Accepted
26	Due to poor performance in mathematics and other subjects, some boys turn to trading, while girls may get married and leave school.	2.88	0.89	Accepted
	Grand mean (GM)	2.66	0.92	Accepted

Table 2 displays the mean ratings regarding the impact of school insecurity on the mathematics performance of secondary school students in the Nsukka Education Zone. Items 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, and 26 indicate that students experience unease and insecurity in mathematics class. They reported skipping mathematics classes due to bullying and missing important lessons because of absenteeism. Students acknowledged that these missed lessons negatively impacted their exam performance. They also agreed that feeling secure in class increases their attentiveness. Many students avoid mathematics teachers known for punishing or sexually harassing them. Additionally, students believed that parental harassment of mathematics teachers negatively influences their academic performance. Furthermore, students feel they would perform better in mathematics if their school environment were safer and more secure. The lack of security leads students to lose interest in both school and mathematics activities, engage in truancy, and experience lower academic performance. Male and female students also reported dropping out of school due to poor performance in mathematics and other subjects. This followed the acceptance of the items as impacting students' mathematics performance in the zone. The items' mean ranges from 2.88 – 2.51 with a standard deviation ranging from 1.05 – 0.80. However, item 19 was rejected as not having a serious impact on students' mathematics performance. Therefore, the researchers conclude that school insecurity impacts the mathematics performance of secondary school students in the Nsukka Education Zone based on the grand mean (GM = 2.66, SD = .92).

Table 3 shows the mean rating of male and female students' mathematics performance due to the impact of school insecurity in the Nsukka Education Zone. Items 15, 16, 17, 18, 20, 21, 23, 25 and 26 show how the male and female students responded to how insecurity impacted their mathematics academic performance. The male students had a mean ranging from 2.86 to 2.57 with a standard deviation ranging from 1.14 to 0.78, and the female students had a mean ranging from 3.00 to 2.58 with a standard deviation ranging from 1.04 to 0.77 following the acceptance of the items. Their mean difference ranges from 0.01 to 0.29.

Table 3. Mean difference between male and female students' mathematics performance due to school insecurity.

Item statement	Gender	N	Mean	Standard deviation	Mean difference	Decision
Item 15	Male	215	2.82	1.14	0.07	Accepted
	Female	208	2.75	0.95		Accepted
Item 16	Male	215	2.58	0.78	0.13	Accepted
	Female	208	2.71	0.81		Accepted
Item 17	Male	215	2.62	0.79	0.01	Accepted
	Female	208	2.61	0.91		Accepted
Item 18	Male	215	2.71	1.03	0.29	Accepted
	Female	208	3.00	0.80		Accepted
Item 19	Male	215	2.47	1.07	0.01	Rejected
	Female	208	2.46	1.04		Rejected
Item 20	Male	215	2.60	1.03	0.02	Accepted
	Female	208	2.58	1.00		Accepted
Item 21	Male	215	2.71	0.87	0.03	Accepted
	Female	208	2.68	0.95		Accepted
Item 22	Male	215	2.48	0.98	0.06	Rejected
	Female	208	2.54	1.03		Accepted
Item 23	Male	215	2.61	0.90	0.03	Accepted
	Female	208	2.64	0.79		Accepted
Item 24	Male	215	2.48	0.86	0.24	Rejected
	Female	208	2.72	0.89		Accepted
Item 25	Male	215	2.57	0.90	0.15	Accepted
	Female	208	2.72	0.77		Accepted
Item 26	Male	215	2.86	0.89	0.04	Accepted
	Female	208	2.90	0.89		Accepted
Grand mean (GM)	Male	215	2.63	0.94	0.09	Accepted
	Female	208	2.69	0.90		Accepted

However, items 22 and 24 showed gender disparity in the impact of school insecurity on the mathematics performances of students. Item 22 indicates that parents' harassment of their mathematics teacher affects the performance of the female students ($M = 2.54$ and $SD = 1.03$) in mathematics negatively more than the male students ($M = 2.48$ and $SD = .98$). Their mean difference is computed as 0.06. Item 24 indicates that female students ($M = 2.72$ and $SD = .89$) lose more interest in school and mathematics class activities because of a lack of security than their male counterparts ($M = 2.48$ and $SD = .86$). Their mean difference is computed as 0.24. Consequently, item 19 shows the poor mathematics performance of male ($M = 2.47$ and $SD = 1.07$) and female ($M = 2.46$ and $SD = 1.04$). Students are not due to flooding in their schools. Their mean difference is computed as 0.01. As a result, the GM difference in mathematics performance between male ($M = 2.63$ and $SD = .94$) and female ($M = 2.69$, $SD = .90$) in the Nsukka Education Zone was calculated to be 0.09.

Table 4. T-test analysis of the difference between male and female students' mathematics performance due to school insecurity.

Item statement	Gender	N	Mean	Standard deviation	T	df	P	Decision
Item 15	Male	215	2.82	1.14	0.623	421	0.533	Not sig
	Female	208	2.75	0.95				
Item 16	Male	215	2.58	0.78	1.746	421	0.081	Not sig
	Female	208	2.71	0.81				
Item 17	Male	215	2.62	0.79	0.212	421	0.833	Not sig
	Female	208	2.61	0.91				
Item 18	Male	215	2.71	1.03	3.207	421	0.001	Sig
	Female	208	3.00	0.80				
Item 19	Male	215	2.47	1.07	0.126	421	0.900	Not sig
	Female	208	2.46	1.04				
Item 20	Male	215	2.60	1.03	0.233	421	0.816	Not sig
	Female	208	2.58	1.00				
Item 21	Male	215	2.71	0.87	0.328	421	0.743	Not sig

Item statement	Gender	N	Mean	Standard deviation	T	df	P	Decision
Item 22	Female	208	2.68	0.95	0.657	421	0.512	Not sig
	Male	215	2.48	0.98				
Item 23	Female	208	2.54	1.03	0.367	421	0.714	Not sig
	Male	215	2.61	0.90				
Item 24	Female	208	2.64	0.79	2.790	421	0.006	Not sig
	Male	215	2.48	0.86				
Item 25	Female	208	2.72	0.89	1.772	421	0.077	Not sig
	Male	215	2.57	0.90				
Item 26	Female	208	2.72	0.77	0.445	421	0.657	Not sig
	Male	215	2.86	0.89				
Grand average	Female	208	2.90	0.89	1.042	421	0.489	Not sig
	Male	215	2.63	0.94				
	Female	208	2.69	0.90				

Table 4 shows that there was no significant difference in the mathematics performance of male and female students due to school insecurity in the Nsukka Education Zone as evidenced by the grand average ($t(1.042) = .421$, $p = .489$). Since the p-value was greater than .05, the null hypothesis was not rejected. The researchers concluded that school insecurity does not have a significant impact on the mathematics performance of male and female students in the Nsukka Education Zone.

6. DISCUSSION

The findings identified several factors contributing to school insecurity in the Nsukka Education Zone. These include bullying of students in the school and mathematics classes by peers and teachers, theft and vandalism of student property within the school environment, the presence of dangerous weapons such as guns on and off school grounds, student involvement in cult activities, parental harassment of teachers, absence of perimeter fencing around the schools, gunshots heard near the premises, the use of hard drugs by students, and incidents of violence on school property. These factors significantly impact the academic performance of students, particularly in mathematics and other subjects. A secure and conducive learning environment, free of distractions is essential for improving students' academic performance, particularly in mathematics which requires full concentration. These findings align with those of Ojukwu (2017) and Manga (2019) who identified similar factors contributing to school insecurity, including students' use of Indian hemp and other hard drugs, cult and violent activities that disrupt classes, confrontations between students and teachers or parents following corporal punishment, senior students bullying younger students, possession and discharge of firearms by students, and armed robberies in and around schools.

The study also highlighted the impact of school insecurity on students' mathematics performance. The findings indicate that school insecurity leads to students feeling uneasy and insecure in mathematics classes, skipping classes due to bullying, and missing important mathematics lessons which adversely affect their performance in examinations. Additionally, students tend to avoid mathematics teachers who punish or sexually harass them, and parents' harassment of mathematics teachers negatively affects students' mathematics performance. Insecure school environments lead to losing interest in school and mathematics class activities, increased truancy, and eventual school dropout. Both male and female students drop out due to poor performance in mathematics and other subjects, bullying, sexual harassment, and related issues.

The persistent poor performance of students in mathematics is a major concern for educational stakeholders. Ensuring a secure school environment is crucial for students to focus effectively in mathematics classrooms. Wang and Holcombe (2010) highlighted that students are more motivated to excel academically when they perceive their teachers as supportive. This aligns with findings by Ojukwu (2017) and Nweke (2022) who reported that school insecurity diminishes students' interest in academics, leading to truancy. Ojukwu (2017) further noted that

insecurity often drives male students to drop out for trading and female students to leave school for early marriages. As a result, both genders frequently miss lessons, negatively affecting their mathematics performance. Similarly, Ojukwu and Ahaoma Chigozirim (2015) found that students who experience sexual harassment, rape or pregnancy are more likely to drop out due to insecurity.

This study also explored the impact of school insecurity on the mathematics performance of male and female students. Hypothesis testing revealed no significant gender-based difference in performance indicating that school insecurity affects both groups equally, leading to overall academic decline. These findings align with Ojukwu (2017) and Hauwa and Jacob (2022) who also reported the detrimental effects of school insecurity on student performance. However, they contrast with Ojukwu and Ahaoma Chigozirim (2015) who found that insecurity had a greater negative impact on female learners, possibly due to their heightened vulnerability to harassment, bullying, emotional trauma, and depression from academic struggles.

7. CONCLUSION

This study underscores the critical impact of school insecurity on secondary school students' mathematics performance. Key findings indicate that bullying by peers and teachers, vandalism of students' property, possession of dangerous weapons, cult activities, inadequate perimeter fencing, and teacher harassment contribute significantly to insecurity in schools. These factors lead to truancy, avoidance of mathematics classes and teachers, diminished interest in the subject, and increased dropout rates among both male and female students. Further analysis found no significant gender differences in the effects of school insecurity on mathematics performance suggesting that both groups are equally affected.

These findings highlight the urgent need for secure and supportive school environments to enhance students' academic outcomes in mathematics. Addressing school insecurity is essential for fostering educational equity and improving overall student achievement. Future research should focus on targeted interventions to reduce school insecurity, particularly in marginalized communities, ensuring that educational practices promote inclusivity and academic success.

7.1. Educational Implications

The findings of this study have significant implications for educational practice and policy, particularly in addressing school insecurity and its impact on students' mathematics performance. A safe and secure school environment is essential for improving academic outcomes. Teachers, school administrators, and policymakers must implement strategies to reduce bullying, violence, and other forms of insecurity. These measures could include anti-bullying programs, professional development for teachers on fostering inclusive and safe classrooms, and enhanced support systems for students experiencing insecurity-related challenges.

Additionally, the study highlights the need for a nurturing learning environment where students feel protected from harassment and discrimination. Schools can foster such an environment by actively engaging with students, promoting a culture of respect and empathy, and enforcing strong anti-harassment policies. Providing counselling services for students affected by school insecurity can further support their well-being and academic success.

Collaboration between school leaders, parents, and the wider community is also crucial in addressing the root causes of insecurity. Parental involvement through awareness campaigns and community-driven initiatives can strengthen efforts to create safer school environments. Policymakers should integrate these community-based strategies into educational policies to enhance their effectiveness.

Furthermore, this study underscores the need for future research on addressing school insecurity, particularly in underfunded and marginalized schools. Investigating the effectiveness of various interventions across different educational settings can provide insights into best practices for improving school security and academic achievement. Addressing school insecurity at multiple levels, classroom management, school policies, and broader

community engagement can help create a more equitable and effective education system. Schools can ensure that all students, especially those in mathematics-intensive subjects requiring focus and concentration, have the opportunity to succeed by implementing targeted interventions.

7.2. Limitation

This study has some limitations. First, since data collection relied on a questionnaire, there may have been concerns about the accuracy and honesty of respondents' answers. A structured interview could have provided more detailed insights. Additionally, because the study focused solely on the Nsukka Education Zone, its findings may not be generalizable to other education zones in Enugu State where factors influencing school insecurity may vary. Future research could address these limitations by expanding the sample to include multiple education zones, allowing for a broader assessment of the consistency of findings. Additionally, integrating quantitative methods with interviews or focus group discussions could offer a more comprehensive understanding of the issue. Further studies could also examine the effectiveness of specific security interventions in mitigating the impact of school insecurity on students' academic performance.

7.3. Recommendation

The researchers proffered the following recommendations based on the study findings:

1. **Creating Secure Environments:** Mathematics teachers and school administrators should focus on establishing a secure and friendly environment that minimizes bullying, unnecessary punishment, and harassment.
2. **Policy Implementation:** Educational policymakers should develop and enforce policies to reduce school insecurity and enhance students' academic performance and overall well-being.
3. **Community Engagement:** Schools should engage with the broader community to address external factors contributing to school insecurity, fostering a supportive network for students.

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Institutional Review Board Statement: The Ethical Committee of the Post Primary Management Board, Nsukka Zonal Office, Enugu State, Nigeria has granted approval for this study on 7 February 2022 (Ref. No. REC/PPSMB/22/0322).

Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

Competing Interests: The authors declare no conflicts of interest.

Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

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