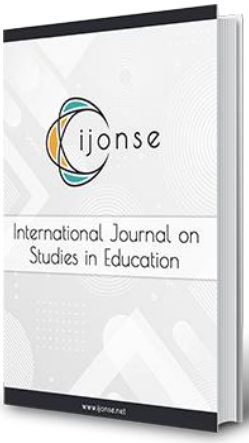

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Influence of School Location on Academic Performance through Socioeconomic Status, Resource Access and Parental Education

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Influence of School Location on Academic Performance through Socioeconomic Status, Resource Access and Parental Education

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Abstract

This study investigated the influence of school location on academic performance by socioeconomic status (SES), resource access and parental education among secondary school students. The study employed an ex post facto and survey design. The population comprised all SS II Biology students in urban and rural secondary schools in Zaria LGA, Kaduna State. A stratified random sample of 702 students was selected. Academic performance data were obtained from the 2023/2024 Biology MOCK results, while survey data on SES, parental education, and school resources were collected using the Socioeconomic and School Resources Assessment Scale (SES-RAS). The SES-RAS had a reliability coefficient of 0.84. The study tested ten null hypotheses. The study found that school location significantly affected SES (β=0.32, p<0.001) and resources (β=0.28, p<0.001), rejecting $H0_1$–$H0_2$. SES influenced resources (β=0.41, p<0.001) and performance (β=0.22, p=0.028), while resources also impacted performance (β=0.30, p<0.001), rejecting $H0_3$–$H0_5$. Location had no direct effect (β=0.05, p=0.405), accepting $H0_6$, but indirect effects through SES (β=0.07, p=0.020) and resources (β=0.08, p=0.008) were significant, rejecting $H0_7$–$H0_8$. Parental education moderated SES (β=0.12, p=0.016) and resources (β=0.08, p=0.046) on performance, rejecting $H0_9$–$H0_{10}$. The study recommends, among other things, that interventions should focus on reducing socioeconomic inequalities and providing adequate educational resources to rural schools to improve academic performance.

Introduction

Academic performance of senior secondary school students is one of the primary factors that determines their future educational and professional carrier. Senior secondary education is commonly regarded as a foundational stage of pre-university education at a lower level (Admiraal & Swart, 2011). It sets the stage for their aspirations, shaping the opportunities they have for further studies and professional growth. In Nigeria, however, concerns about students' academic performance persist, particularly in science subjects. Several studies (e.g. Isma'il & Lukman, 2022; Matazu & Isma'il, 2023; Umar et al., 2020) have reported that students' academic performance in biology has continuously been very poor and unimpressive in the Senior Secondary School Certificate Examinations (SSCE). These alarming trends necessitate a closer examination of the factors affecting students'

academic performance.

Numerous factors have been proposed as contributing to students' poor performance in science subjects, including biology (Matazu & Isma'il, 2023; Umar et al., 2020). School location has been identified as one of the key factors influencing students' academic performance, due to significant variations between urban and rural schools (Kundu, 2019; Ovat et al., 2021; Owoeye & Yara, 2011). Urban schools mostly benefit from better infrastructure, qualified teachers, and a variety of learning resources such as science laboratories, libraries, and digital tools. These facilities augment students' engagement and improve their understanding of subjects like Biology. In contrast, rural schools often struggle with inadequate facilities, insufficient learning materials, and poorly trained teachers, resulting in lower academic performance and limited educational opportunities.

Aside the location of a school, socioeconomic status, parental education, and resource availability are important determinants of students' academic performance. Socioeconomic status determines a family's ability to provide essential learning materials, internet access, and private tutoring, all of which improve students' learning experiences (Aashiq, 2023; Idika et al., 2023; Tan, 2019; Tomul & Polat, 2013). Wealthier families can afford supplementary educational resources and technologies, while students from less privileged backgrounds often face inadequate study resources and poor living conditions that hinder their academic progress. Parental education also plays a role, as educated parents tend to engage more in their children's academic activities, providing guidance and support (Raj & Chand, 2023; Shiferaw & Kenea, 2024; Tan et al., 2019; Thomas, 2019; Timoth & Chukwuma, 2024; Topor et al., 2010). Given these background, this study examine how these factors influence Biology performance among secondary school students in Zaria Local Government Area, Kaduna State.

Statement of the Problem

Disparities in academic performance between students from different school locations and socioeconomic backgrounds remain a significant concern in Nigeria. Students in rural schools face challenges such as inadequate resources, poor infrastructure, and untrained teachers, contributing to their lower performance compared to urban peers. Biology, a core science subject critical for careers in STEM fields, has witnessed consistently poor outcomes, particularly in rural areas, limiting students' prospects and affecting national development.

While factors such as school location, socioeconomic status, resource access, and parental education are linked to academic success, limited research has explored their specific impact on the MOCK examination performance of Senior Secondary Two (SS II) students in biology in Zaria Local Government Area, Kaduna State. Understanding these influences is essential for addressing educational disparities and improving outcomes. This study investigates these factors to provide evidence-based strategies for bridging the performance gap.

Null Hypotheses

The following null hypotheses were formulated to guide the study:

Direct Effects Null Hypotheses

$H0_1$: School location does not significantly affect socioeconomic status (SES).
$H0_2$: School location does not significantly affect access to resources.
$H0_3$: SES does not significantly affect access to resources.
$H0_4$: SES does not significantly affect academic performance.
$H0_5$: Access to resources does not significantly affect academic performance.
$H0_6$: School location does not significantly affect academic performance.

Indirect Effects Null Hypotheses

$H0_7$: School location has no significant indirect effect on academic performance through SES.
$H0_8$: School location has no significant indirect effect on academic performance through access to resources.

Moderation Effects Null Hypotheses

$H0_9$: Parental education level does not moderate the relationship between SES and academic performance.
$H0_{10}$: Parental education level does not moderate the relationship between access to resources and academic performance.

Literature Review

Theoretical Framework

The theories underpinning this study are grounded in Bronfenbrenner's Ecological Systems Theory and Bourdieu's Theory of Cultural Capital. These theories explained how different environmental systems, including school location and family, influence academic performance. Bronfenbrenner (1979) advocates that rural schools with fewer resources hinder students' academic growth. On the other hand, Bourdieu's theory (1986) emphasizes the role of cultural capital such as parental education and access to resources in shaping students' success. This implies that, families with higher cultural capital provide more academic support leading to improving performance. These theories are related to this study in that they clarify how school location, socioeconomic status, and parental involvement influence students' academic performance.

Conceptual Framework

The conceptual framework in this study as shown in Figure 1, examines the relationships between school location, socioeconomic status, access to resources, parental education, and academic performance. It presents a cause-and-effect structure, where the independent variables influence academic performance either directly or indirectly, with a moderator variable adding complexity to these relationships. The independent variables in the study are School Location, which differentiates between urban and rural schools; Socioeconomic Status, which mediates the influence of school location on academic performance; and Access to Educational Resources, which mediates

the impact of school location and SES on performance. The moderator variable in this study is Parental Education, which is hypothesized to moderate the relationship between SES, school location, and performance. The dependent variable is Academic Performance, measured through biology MOCK examination results (SS II Qualifying Examination).

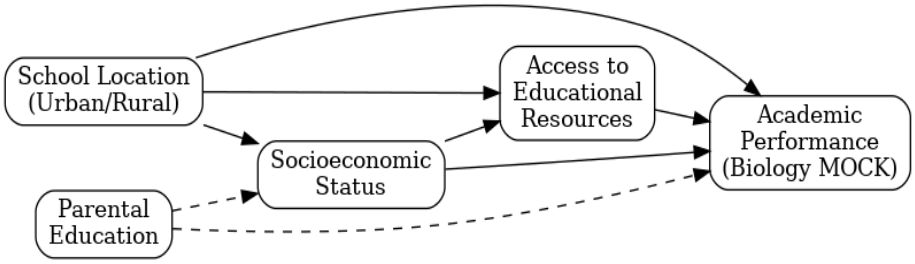

Figure 1. Conceptual Framework (Source: Author's own elaboration)

Review of Related Studies

School Location and Academic Performance

The term school location, according to UNESCWA (n.d), refers to the specific geographical place where a school is situated, encompassing its physical address and surrounding environment. It has been reported as an essential factor influencing academic performance (Abamba, 2021; Agbaje & Awodun, 2014; Awodun & Oyeniyi, 2018; Ovat et al., 2021; Shiferaw & Kenea, 2024). This is particularly in science subjects like Biology that require practical laboratory work and access to related resources. Literature has shown that Urban schools tend to have better resources, such as well-equipped science laboratories, ICT tools, and qualified teachers with specialized knowledge, which enhance students' learning experiences and performance (Aashiq et al., 2023; Abamba, 2021; Agbaje & Awodun, 2014; Okorie & Ezeh, 2016), in both theoretical and practical components.

Rural schools on the other hand face challenges that hinder students' academic performance. These schools often lack necessary infrastructure, such as laboratories and modern teaching materials, limited access to textbooks (Abamba, 2021; Agbaje & Awodun, 2014; Shimi et al., 2024) and experience overcrowded classrooms (Ovat et al., 2021). Agbaje and Awodun (2014) and Awodun and Oyeniyi (2018) reported that disparities in educational resources between urban and rural schools significantly impact students' performance in science subjects. Similarly, Bizimana (2022) reported that these differences hinder students' ability to comprehend complex biological concepts requiring practical and experimental applications. A similar situation was reported by Kundu (2019) for mathematics and by Abamba (2021) for physics.

Socioeconomic Factors in Academic Performance

Socioeconomic status denotes person's or group's social and economic position in society, typically measured by factors like income, education, and occupation. When evaluating academic performance of students, the parents' socioeconomic status is crucial, especially in areas with diverse income levels. Studies have shown that students from higher socioeconomic backgrounds typically perform better academically (e.g. Amadi, 2023; Idika et al.,

2023; Munir, 2023; Tan et al., 2019; Thomas, 2019; Tomul & Polat, 2013). This is especially true in subjects that require access to learning resources such as textbooks, internet access, and private tutoring. Students from affluent families tend to attend well-resourced schools, where the availability of modern laboratories, learning materials, and ICT tools enhances their ability to excel (Aashiq et al., 2023; Amadi, 2023; Olubela, 2021; Raj & Chand, 2023). According to Amadi (2023), these students often benefit from additional academic support, such as private tutors or extracurricular opportunities, which further enhance their performance. Olubela (2021) expressed that, students from lower SES backgrounds face significant barriers in accessing these resources. Limited educational support outside of school, coupled with insufficient learning materials within schools, often leads to poor performance. The financial constraints faced by these students, as noted by Shimi et al. (2024) and Amadi (2023). can also contribute to additional stress, affecting their academic focus and performance in demanding subjects. This socioeconomic divide, combined with the challenges posed by school location, exacerbates the performance gap in Biology between students from different economic backgrounds.

Educational Resource Factors in Academic Performance

The availability and utilization of educational resources is a significant factor influencing biology students' academic performance (Isma'il & Lukman, 2022). Wang et al. (2019) stated a significant rural-urban divides in terms teachers' usage of digital educational resources. Schools with better access to resources, such as well-equipped science laboratories, internet connectivity, and digital learning tools, provide an enhanced environment for teaching and learning. These resources are essential to succeed in the practical components of biology, such as carrying out experiments and comprehending complex biological processes (Isma'il & Lukman, 2022; Owoeye & Yara, 2011). Students in resource-rich urban secondary schools are more likely to engage in inquiry-based learning, exploring biological concepts through hands-on activities and research, which strengthens their grasp of theoretical concepts and boosts their performance in the subject. Schools especially in rural areas with limited access to educational resources encounter considerable difficulties in providing efficient biology instruction (Isma'il & Lukman, 2022). The lack of essential materials, including textbooks, laboratory equipment, and access to digital tools, hinders students' ability to participate fully in practical learning experiences (OECD, 2019; OECD, 2023). Therefore, poor academic performance result from the frequent lack of practical experimentation, which are essential elements of secondary school biology subject. As reported by Isemede (2021), the difference in resource availability has a substantial impact on students' performance, especially in resource-intensive science subjects like biology (Isemede, 2021; Isma'il & Lukman, 2022). Without access to adequate resources, students often struggle to comprehend core biological concepts that require experiential learning.

Parental Education Factors in Academic Performance

Numerous studies have found that parental education, or the degree of formal education a student's parents or guardians have received, has considerable influence on their academic performance in school. Educated parents often have higher expectations for their children's success and are better equipped to provide support for learning (Musengamana, 2023; Onyedikachim & Ezekiel-Hart, 2021; Timoth & Chukwuma, 2024; Topor et al., 2010). Such parents encouraging their children to engage actively with the curriculum, participate in academic activities,

and seek additional learning opportunities when needed (Fadiji, 2020; Ikhlas et al., 2022; Khan et al., 2015). These efforts often translate into better academic outcomes, as students receive the necessary motivation and resources to excel. Whereas, parents with lower educational levels may lack the knowledge or resources to support their children's academic endeavors effectively. This lack of support can hinder students' ability to grasp complex biological concepts, particularly when additional guidance at home is absent (Claudine, 2023). The impact of parental education is closely linked to school location. In urban areas, educated parents often have better access to resources to support their children's learning. In contrast, in rural or less advantaged areas, parental education becomes more crucial due to limited external resources. Furthermore, according to Claudine (2023), students might not get the support they need to strive for academic success in communities where parents have little access to information about the educational system (or the value of science subjects).

Methodology

Research Design

This study employed both ex post facto and survey research designs. The ex post facto design was used to collect students' academic performance based on their mock results in the Biology subject of urban and rural schools. On the other hand, the survey design was used to collect data on parents' socioeconomic status, parental education, school resources, and school location to assess their relationship with academic performance.

Participants

The population for this study comprised all Senior Secondary Two (SS II) students offering Biology in both urban and rural secondary schools within the Zaria Local Government Area of Kaduna State, Nigeria. This population was selected because they participated in the MOCK examination (SS II Qualifying Examination), which served as the basis for assessing their academic performance in Biology. A stratified sampling technique was employed to ensure equal representation from both urban and rural schools. Consequently, six schools were randomly selected, three from urban areas and three from rural areas. Within these selected schools, the Biology MOCK examination results of 702 students were utilized for the study.

Instruments

The study variables were assessed using self-reported survey responses and academic records. Thus, data were collected through an adapted questionnaire and academic records. A questionnaire tagged "Socioeconomic and School Resources Assessment Scale (SES-RAS)" was adapted from the Socioeconomic Status Composite Scale (SES-C) by Sacre et al. (2023) and the Economic, Social, and Cultural Status (ESCS) Index from the OECD (2019) to measured socioeconomic status. The SES-C included indicators of family income, parental occupation, and education, while the ESCS Index provided a broader measure of students' economic and social background. The SES-RAS comprised four sections. The first section covered demographic data (gender, age, and school location: urban or rural). The second section assessed SES using an adapted scale measuring family income (low, middle, high), parental occupation (unskilled, skilled, professional), and parental education (primary, secondary,

tertiary). The third section examined school characteristics and resources, where respondents described their school environment and rated facilities such as classrooms, laboratories, and libraries. The fourth section measured access to educational resources using a 5-point Likert scale (Strongly Agree (5) to Strongly Disagree (1)) to evaluate the availability of textbooks, laboratory equipment, and internet access. The validity and reliability of SES-RAS were established through expert review and statistical analysis.

Content validity of SES-RAS was ascertained by three experts in educational measurement and science education, who evaluated the clarity and relevance of the items. Reliability of SES-RAS was assessed using Cronbach's Alpha, yielding an overall reliability coefficient of 0.84, indicating high internal consistency. The subscales also indicated strong reliability: socioeconomic status ($\alpha = 0.81$), parental education ($\alpha = 0.78$), school resources ($\alpha = 0.83$), and access to educational resources ($\alpha = 0.85$). These values exceed the 0.70 threshold recommended by Nunnally and Bernstein (1994), which indicated that the instrument is reliability for data collection.The Biology MOCK examination results for the 2023/2024 academic session (SS II Qualifying Examination) were retrieved from school records as an objective measure of students' academic performance. These results were used to analyze the influence of factors such as socioeconomic status, parental education, and school location on students' achievement in Biology. The data for this study was drawn MOCK examination results for Biology. The MOCK examination is an annual assessment conducted in most Nigerian states. In Kaduna State, it is organized by the Kaduna State Ministry of Education for all SS II students in public senior secondary schools. This examination assesses students in all subjects they are enrolled in and serves as a preparatory test for national examinations such as the West African Senior School Certificate Examination (WASSCE) and the National Examination Council (NECO) (Achor et al., 2011; Ado & Edet, 2020; Atari et al., 2021). To qualify for these national exams at the end of Senior Secondary III, science students must attain at least five credits, including Biology.

Data Analysis

The data were analyzed using Python, with pandas for descriptive statistics, scipy.stats.pearsonr for Pearson correlation at the 0.05 significance level, and semopy or statsmodels for Structural Equation Modeling and moderation analysis.

Results

Table 1 reveals the descriptive statistics and correlations among key variables.

Table 1. Descriptive Statistics and Correlation Matrix of Variables Affecting Academic Performance

Variable	Mean	SD	1	2	3	4	5
1. Location	0.53	0.50	1.00				
2. SES	1.10	0.75	0.32***	1.00			
3. Resources	1.05	0.80	0.28**	0.41***	1.00		
4. Parental Edu	0.47	0.50	0.21*	0.35**	0.33**	1.00	
5. Academic Performance	65.00	15.00	0.15	0.20	0.25	0.10	1.00

The average academic performance score is 65.00, with a standard deviation of 15.00, indicating moderate variation. School location significantly correlates with socioeconomic status ($r = 0.32$, $p < 0.001$) and resources ($r = 0.28$, $p < 0.001$). SES shows a strong positive correlation with resources ($r = 0.41$, $p < 0.001$). Academic performance correlates positively with SES ($r = 0.20$, $p = 0.028$) and resources ($r = 0.25$, $p = 0.012$). However, the correlation between location and academic performance is weak ($r = 0.15$, $p = 0.137$).

Table 2. Model Fit Indices

Fit Index	**Value**	**Criteria**	**Remark**
χ^2	140.20	-	-
df	692	-	-
χ^2/df	0.20	≤ 3	Acceptable
Root Mean Square Error of Approximation (RMSEA)	0.046	≤ 0.06	Good Fit
Comparative Fit Index (CFI)	0.96	≥ 0.95	Good Fit
Tucker-Lewis Index (TLI)	0.94	≥ 0.90	Good Fit

Table 2 reveals how well the hypothesized model is in line with the collected data. The chi-square value ($\chi^2 = 140.20$) with 692 df results in a χ^2/df ratio of 0.20, which is well below the threshold of 3, indicating an excellent model fit. The Root Mean RMSEA = 0.046, which is below the recommended threshold of 0.06, further confirms a good fit. Similarly, the CFI = 0.96 and TLI = 0.94 exceed the minimum acceptable values (≥0.90), supporting strong model adequacy. These indices indicated that the model provides a robust representation of the relationships among school location, socioeconomic status, parental education, resource access, and academic performance. Hence, the model is appropriate for further analysis and interpretation.

Table 3. Direct Effects of Location, SES, and Resources on Academic Performance

Path	**UE (β)**	**SE (β_std)**	**z-value**	**p-value**	**95% CI**	
					Lower	**Upper**
Location → SES	0.32	0.32	3.56	<0.001	0.14	0.50
Location → Resources	0.28	0.28	3.50	<0.001	0.12	0.44
SES → Resources	0.41	0.41	5.86	<0.001	0.27	0.55
SES → Academic Performance	0.22	0.22	2.20	0.028	0.02	0.42
Resources → Academic Performance	0.30	0.30	3.33	<0.001	0.12	0.48
Location → Academic Performance	0.05	0.05	0.83	0.405	-0.06	0.16

The direct effects analysis in Table 3 reveals that school location significantly affects SES ($\beta = 0.32$, $p < 0.001$) and access to resources ($\beta = 0.28$, $p < 0.001$), supporting the hypotheses that location influences these factors. Furthermore, SES has a significant direct effect on academic performance ($\beta = 0.22$, $p = 0.028$), and access to resources significantly affects academic performance ($\beta = 0.30$, $p < 0.001$). However, the direct effect of school location on academic performance is not significant ($\beta = 0.05$, $p = 0.405$), suggesting that location does not directly impact academic performance. As a result, the null hypotheses $H0_1$ (Location → SES), $H0_2$ (Location → Resources), $H0_3$ (SES → Resources), $H0_4$ (SES → Academic Performance), and $H0_5$ (Resources → Academic

Performance) are rejected, while $H0_6$ (Location → Academic Performance) is accepted due to the lack of a significant direct effect.

Table 4. Indirect Effects of School Location on Academic Performance through SES and Resources

Path	Estimate (β)	SE (β_std)	z value	p value	95% CI	
					Lower	Upper
Location → SES → Academic Performance	0.07	0.09	2.33	0.020	0.01	0.13
Location → Resources → Academic Performance	0.08	0.10	2.67	0.008	0.02	0.14
Location → SES → Resources → Academic Performance	0.05	0.06	2.50	0.012	0.01	0.09

The indirect effects analysis in Table 4 shows that school location indirectly influences academic performance through SES ($\beta = 0.07$, $p = 0.020$) and access to resources ($\beta = 0.08$, $p = 0.008$). This means that SES and resources partially mediate the relationship between school location and academic performance. A combined pathway involving location, SES, resources, and academic performance also contributes significantly ($\beta = 0.05$, $p = 0.012$). This finding further suggests that while school location does not have a direct effect on academic performance, it influences performance through its impact on SES and resources. Therefore, the null hypotheses $H0_7$ (Location → SES → Academic Performance) and $H0_8$ (Location → Resources → Academic Performance) are both rejected.

Table 5. Moderation Effects of SES and Resources on Academic Performance

Path	Estimate (β)	Standard Error (SE)	z value	p value	95% CI
SES × ParentalEdu → Academic Performance	0.12	0.05	2.40	0.016	[0.02, 0.22]
Resources × ParentalEdu → Academic Performance	0.08	0.04	2.00	0.046	[0.00, 0.16]

The moderation analysis in Table 5 indicates that parental education level moderates the relationship between SES and academic performance ($\beta = 0.12$, $p = 0.016$), as well as the relationship between access to resources and academic performance ($\beta = 0.08$, $p = 0.046$). These results suggest that parental education enhances the effect of both SES and resources on academic performance. As a result, the null hypotheses $H0_9$ (Parental Education as a Moderator between SES and Academic Performance) and $H0_{10}$ (Parental Education as a Moderator between Resources and Academic Performance) are rejected.

Discussion

The findings of this study revealed the complex relationships between school location, SES, access to resources, and academic performance as reflected in the MOCK examination results of Biology subject of SS II students. The research tested multiple hypotheses regarding the direct, indirect, and moderating effects of these factors. In terms of direct effects, the study found that school location significantly influences SES, with urban students typically experiencing higher SES than their rural counterparts. This is consistent with research by Isemede (2021), Olubela (2021), Abamba (2021), and Agbaje and Awodun (2014), which found that urban areas typically provide better access to educational resources, employment opportunities, and income opportunities. These

advantages contribute to improved SES for parents of urban students, thereby increasing their academic potential. Similarly, the study revealed that urban schools have greater access to educational resources such as qualified teachers, modern infrastructure, textbooks, and laboratory equipment. This finding corroborates the research of Olubela (2021), Raj and Chand (2023) and Tomul and Polat (2013), who reported that urban schools are better equipped, providing a more conducive learning environment for students.

The study also investigated the relationship between SES and academic performance, rejecting the hypothesis that SES does not affect academic performance. The results revealed that students from higher SES backgrounds perform better academically, largely due to their increased access to resources such as private tutoring, technology, and other educational materials. This finding is consistent with research by Aashiq et al. (2023) and Munir et al. (2023), who found that wealthier families invest more in their children's education, thus enhancing their academic success. Furthermore, the study demonstrated that access to resources directly influences academic performance, particularly in biology, a subject that requires practical engagement with laboratory equipment and textbooks. These findings are consistent with OECD (2023) report that revealed the importance of resource availability in promoting academic success, particularly in science courses where useful resources are essential.

Regarding indirect effects, the study revealed that school location indirectly impacts academic performance through SES and access to resources. This finding suggests that school location alone does not directly affect academic performance, emphasizing the significance of SES and access to educational resource. This contrasts with Agbaje and Awodun (2014), who found a significant difference in performance between rural and urban students, stressing the impact of location. However, it is consistent with Abamba (2021) and Bizimana et al. (2022), both of whom found no significant difference between rural and urban students when specific teaching methods or interventions were used, suggesting that location's impact is lessened when resources and effective teaching are present. Similarly, Ovat et al. (2021) found urban students performed better, which supports the view that resources, more available in urban areas, contribute significantly to academic performance. Thus, while location plays a role, SES and access to resources are more influential in determining academic success. This present study clearly reveled that SES of parents, rather than school location itself, is the key determinant of positive academic performance. More so, the study found that parental education level significantly moderates the relationship between SES and academic performance, as well as between access to resources and academic performance. This might be due to the fact that, educated parents provide more intellectual and emotional support to their children which positively influences their academic performance. This is consistent with the research of Claudine (2023), Munir et al. (2023), Shimi et al. (2024), Khan et al. (2015) and Timothy and Chukwuma (2024), who found that parental involvement and educational support have a profound impact on students' academic success. This can be attributed to the fact that parents with higher education levels are more likely to prioritize their children's education and provide better access to educational resources, thereby enhancing their academic performance.

Conclusion

This study investigated the influence of school location on biology performance among secondary school students

through the mediating roles of socioeconomic status (SES), access to resources, and parental education. The study concluded that, higher SES and better resources appeared to be significantly beneficial for secondary school students in urban schools, while lower SES and fewer resources presented difficulties for students in rural areas. Location had a negligible direct impact on performance, signifying that resource and socioeconomic inequality needed to be addressed. Moreover, parental education points out the significance of parental involvement by mitigating the effects of resources and socioeconomic status on academic performance. These findings contribute to a deeper understanding of educational inequalities and academic success factors.

Recommendations

Based on the findings of this study, the following recommendations are made;

1. Educational policymakers should invest in providing adequate learning resources, especially in low-SES and rural schools, to improve academic performance.
2. Government and stakeholders should implement financial aid programmes, scholarships, and welfare support to assist students from disadvantaged socioeconomic backgrounds.
3. Infrastructure in rural schools should be improved to ensure equitable access to quality education and bridge the performance gap between urban and rural students.
4. Parental education and awareness programmes should be promoted to enhance parental involvement in students' academic progress.
5. Education policies should prioritize the fair distribution of resources across different school locations to ensure equal learning opportunities for all students.

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