



Effects of Sexuality Education on Academic Performance of Adolescent Students in Secondary Schools in Mushin Local Government Area of Lagos State

Uzoka Fidelia Aimanehi
Medial Outpatient,
Lagos University Teaching Hospital, Idia- Araba, Lagos

ABSTRACT

This study examines the effect of sexuality education on academic performance of adolescent students in secondary schools in Mushin Local Government Area of Lagos State, with particular focus on gender, sexuality education awareness, and students' living arrangements. A descriptive-survey research design was adopted, involving a sample of 240 adolescents selected through stratified random sampling across four secondary schools. Data were collected using a self-developed Sexuality Education Awareness Questionnaire and a 25-item Achievement Test, pilot-tested with reliability values of 0.75 and 0.79. Mean, standard deviations, ANOVA and Tukey post-hoc, were employed for analysis. Findings revealed that gender did not significantly moderate the influence of sexuality education on performance. In contrast, students with higher awareness of sexuality education demonstrated significantly better performance compared to the less aware peers ($p < 0.05$). Variations were observed across specific content areas of sexuality education; students exposed to topics on sexually transmitted infections and reproductive health performed relatively better, although differences among content areas were not statistically significant. Importantly, living arrangements were found to have a significant influence on academic outcomes. Students living with both parents achieved the highest performance, followed by those living with guardians, single-parent households, and students living alone, with all pairwise differences statistically significant ($p < 0.05$). It concludes that gender does not affect performance in the context of sexuality education, while awareness and family structure play critical roles in moderating its impact. It recommends that secondary schools and policymakers implement comprehensive sexuality education programs that are accessible to all students.

ARTICLE INFO

Article History

Received: December, 2025

Received in revised form: January, 2026

Accepted: February, 2026

Published online: March, 2026

KEYWORDS

Sexuality-Education, Performance,
Adolescents, Gender, Secondary Schools

INTRODUCTION

Adolescence is a critical developmental phase characterized by rapid physical, cognitive, and psychosocial changes, including the emergence of sexual identity and behaviours that can influence both health and educational trajectories (Ipinnimo et al., 2025). During this period, adolescents are vulnerable to a range of sexual and reproductive health risks, such as unintended pregnancy, sexually transmitted

infections (STIs), and early sexual debut, which may in turn disrupt school engagement and academic achievement (Ipinnimo et al., 2025; Osadolor et al., 2022).

To mitigate these risks, sexuality education broadly defined as age-appropriate, culturally relevant information covering reproductive biology, gender roles, relationships, consent, STIs, and contraception—has been promoted by global health authorities such as the

Corresponding author: Uzoka Fidelia Aimanehi

✉ fideliauzoka@yahoo.com

Lagos University Teaching Hospital, Idia- Araba, Lagos.

© 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



World Health Organization (WHO) as essential for adolescent development (Barriuso-Ortega et al., 2024). It is posited to promote informed decision-making, reduce risky sexual behaviours, and support healthy relationships, thereby creating a safer context for adolescents' overall well-being (Ademuyiwa et al., 2023; Ipinnimo et al., 2025).

In Nigeria, despite policy frameworks advocating for the integration of sexuality education into school curricula, implementation remains inconsistent due to sociocultural barriers, religious opposition, and gaps in teacher preparedness (Omozuawo, 2024; Osadolor et al., 2022). These systemic challenges have contributed to uneven delivery of sexuality education across regions and schools, resulting in widely varying levels of awareness and understanding among adolescents. While much of the existing literature focuses on sexuality education's relationship with sexual behaviour and health outcomes, few studies explicitly examine its relationship with academic performance (Nwala & Balafama, 2023; Omozuawo, 2024). For example, research in Nigeria has documented adolescents' levels of knowledge and attitudes towards sexuality education and identified gender differences in knowledge and parental discussions, but scholars have noted persistent gaps in understanding how sexuality education translates into academic outcomes (Ademuyiwa et al., 2023; Ipinnimo et al., 2025).

Gender is an important factor in both sexuality education and educational achievement. Evidence from Nigerian contexts shows that male adolescents often have higher exposure to sexual risk behaviours and different patterns of information access compared to females, which may influence how sexuality education is internalised and how it interacts with their school performance (Ipinnimo et al., 2025; Nwala & Balafama, 2023). However, scholarly attention to gender-specific academic outcomes in relation to sexuality education remains limited. Similarly, the level of sexuality education awareness among adolescents varies widely. Some studies report that only a minority of students have adequate sexuality education knowledge, and parental involvement in sex education discussions is often

low, especially in conservative and underserved communities (Ademuyiwa et al., 2023; Osadolor et al., 2022). Though knowledge is known to influence behaviour, its potential effects on broader school outcomes such as academic achievement have not been widely explored.

An additional dimension often overlooked in research is the specific content areas of sexuality education—such as puberty, consent, STIs, or contraceptive knowledge, and the differential impacts these aspects may have on students' attitudes, behaviours, and academic engagement. Existing studies tend to treat sexuality education as a unified construct without disaggregating which components might be most beneficial or challenging for adolescents (Barriuso-Ortega et al., 2024; Ipinnimo et al., 2025). Furthermore, family and living arrangement factors—including whether adolescents live with both parents, a single parent, guardians, or alone—can shape access to information, parental mediation, support for learning, and overall wellbeing.

Research indicates that family dynamics influence adolescent sexual behaviour and guidance, yet empirical evidence linking living arrangements with the effects of sexuality education on academic performance is scarce in the Nigerian context (Omozuawo, 2024; Okonta et al., 2025). In Lagos State specifically, sexuality education programmes have been implemented with varied success. While earlier studies in Lagos have focused on sexual health knowledge and behaviour among adolescents (including interventions in markets and out-of-school populations), there remains a dearth of recent research assessing the educational implications of sexuality education in formal school settings, particularly in Mushin Local Government Area (Nwala & Balafama, 2023; Osadolor et al., 2022).

This gap underscores the need for context-specific research that investigates how sexuality education influences academic performance in Mushin—a densely populated urban area with diverse social environments—and how this relationship may be moderated by gender, levels of awareness, specific content aspects, and living arrangements. Despite



extensive research on sexuality education and adolescent sexual behaviour in Nigeria, there is a paucity of empirical studies examining its impact on academic performance, particularly within specific socio-cultural contexts such as Mushin Local Government Area of Lagos State (Ademuyiwa et al., 2023; Omozuawo, 2024).

Furthermore, existing studies have not sufficiently explored how variables such as gender, level of sexuality education awareness, specific content areas of sexuality education, and students' living arrangements interact to influence academic outcomes. This study therefore seeks to fill these gaps by providing a comprehensive, multivariate analysis of the effects of sexuality education on students' academic performance (Barriuso-Ortega et al., 2024; Ipinnimo et al., 2025).

The study aims to investigate the relationship between sexuality education and academic performance among adolescent students in Mushin Local Government Area of Lagos State. Specifically, the objectives are:

1. To examine the effect of sexuality education on the academic performance of adolescent students in secondary schools in Mushin LGA.
2. To assess gender differences in knowledge, awareness, and application of sexuality education and their influence on academic performance.
3. To determine the relationship between adolescents' level of sexuality education awareness and their academic performance.
4. To investigate the influence of specific content areas of sexuality education (e.g., puberty, consent, STIs, contraception) on students' academic engagement and achievement.
5. To explore the impact of living arrangements (e.g., both parents, single parent, guardians, alone) on the effects of sexuality education on academic performance.

This study is significant for several reasons. i. The findings would inform

policymakers and school administrators on how sexuality education can be effectively integrated into secondary school curricula to support both sexual health and academic performance. ii. Understanding gender differences in knowledge and application of sexuality education can help design tailored interventions to ensure equitable access and benefits for both male and female students (Ipinnimo et al., 2025; Ademuyiwa et al., 2023). iii. By identifying gaps in sexuality education awareness, the study can guide teachers, parents, and health educators in designing programs that improve adolescent knowledge and responsible behaviour (Osadolor et al., 2022). iv. Highlighting which aspects of sexuality education (e.g., consent, relationships, contraception) most influence academic engagement will enable targeted curriculum development (Barriuso-Ortega et al., 2024). v. The findings on living arrangements and local context in Mushin LGA would provide insights into family and community roles in supporting adolescents' learning and health outcomes (Omozuawo, 2024; Okonta et al., 2025).

The term sexuality education refers to the structured provision of knowledge, skills, and attitudes regarding reproductive health, gender roles, consent, relationships, and prevention of sexually transmitted infections (STIs) and unintended pregnancies. In this study, academic engagement is operationalised as students' participation in class activities, attentiveness, and ability to complete academic tasks without disruption from sexual or reproductive health distractions. Improved engagement linked to exposure to sexuality education is evidenced by students reporting better focus and class participation (Omozuawo, 2024; Nwala & Balafama, 2023). Gender differences refer to the variation in access to, understanding of, and application of sexuality education content between male and female students.

In this study, it is operationalised as differences in knowledge scores, awareness levels, and the potential influence of gender on academic performance. Males are reported to have higher exposure to sexual risk behaviours and varied information access patterns compared



to females, which may affect internalisation of sexuality education and related academic outcomes (Ipinnimo et al., 2025; Ademuyiwa et al., 2023). Awareness levels indicate the degree to which adolescents possess knowledge of sexual and reproductive health concepts and the skills to apply them. It is operationalised by the accuracy and completeness of students' responses to questions on sexual health topics, as well as their ability to identify protective behaviours.

Higher awareness is associated with healthier behaviours and better school engagement (Osadolor et al., 2022). Content areas refer to specific topics within sexuality education, such as puberty and body changes, consent and healthy relationships, STIs, contraception, and abstinence. In this study, each area is operationalised as the proportion of students demonstrating understanding, knowledge, or competency in that topic. Certain areas, particularly consent and relationship education, are linked to improved psychosocial outcomes and indirectly influence academic engagement (Barriuso-Ortega et al., 2024). Living arrangement describes the family or residential context in which an adolescent resides. It is operationalised as categorical variables: living with both parents, a single parent, guardians, or alone.

Family structure is expected to influence access to information, parental support, and guidance, which in turn affects comprehension of sexuality education and academic performance (Okonta et al., 2025; Omozuawo, 2024). Local context refers to the geographic, cultural, and socio-economic environment in which adolescents are situated. In this study, it is operationalised as the specific implementation and uptake of sexuality education within secondary schools in Mushin Local Government Area of Lagos State, reflecting localized variations in awareness, access, and relevance of the programme (Osadolor et al., 2022; Nwala & Balafama, 2023).

The study is grounded in several theoretical frameworks that explain how knowledge acquisition, behavioural change, and socio-environmental factors interact to influence

learning outcomes. In particular, Social Cognitive Theory (SCT), Health Belief Model (HBM), and Ecological Systems Theory (EST) provide robust lenses to interpret the observed empirical relationships between sexuality education, gender, awareness, content specificity, and living arrangements. As developed by Bandura (1986), Social Cognitive Theory posits that learning occurs through the reciprocal interaction of personal factors, environmental influences, and behaviour.

SCT emphasizes that adolescents acquire knowledge, attitudes, and skills not only through direct instruction but also through observation, modelling, and feedback from peers, teachers, and parents. Sexuality education provides adolescents with accurate information and coping strategies regarding sexual health. This knowledge influences behaviour (e.g., safer sexual choices), which can reduce stressors such as unintended STIs that negatively impact academic engagement (Omozuawo, 2024; Nwala & Balafama, 2023). SCT accounts for gender-specific learning pathways, acknowledging that male and female students may respond differently to environmental cues and social norms regarding sexual behaviour, which in turn affects their academic engagement (Ipinnimo et al., 2025; Ademuyiwa et al., 2023). Thus, it helps to explain the mediating role of sexual knowledge and behaviour in academic performance.

The Health Belief Model (Rosenstock, 1974) explains health-related behaviours as a function of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. HBM is particularly relevant to adolescent sexuality education because it conceptualizes awareness and knowledge as precursors to behaviour modification. Higher awareness of sexual and reproductive health issues increases adolescents' perceived benefits of adopting protective behaviours, which indirectly supports uninterrupted schooling and academic performance (Osadolor et al., 2022). Different aspects of sexuality education (e.g., consent, STIs, contraception) may carry different perceived risks and benefits. For example, students who



understand consent and relationship dynamics may develop improved psychosocial coping skills that reduce academic disruptions (Barriuso-Ortega et al., 2024). HBM underscores the importance of tailoring educational interventions to address perceived barriers and benefits, thus enhancing both health outcomes and educational engagement.

Bronfenbrenner's Ecological Systems Theory (1979) highlights the multi-level influences of microsystems, mesosystems, exosystems, and macrosystems on adolescent development. It emphasizes that learning and behaviour are shaped not only by individual factors but also by family, school, peers, community, and societal norms. Adolescents' family structures, which include living with both parents, a single parent, guardians, or alone, constitute a key microsystem affecting access to guidance, supervision, and support for learning (Okonta et al., 2025; Omozuawo, 2024). Implementation of sexuality education in Mushin Local Government Area, Lagos State, reflects broader community norms and school-level policies (Osadolor et al., 2022; Nwala & Balafama, 2023).

Differences in programme delivery, socio-cultural expectations, and parental involvement influence how adolescents internalize sexuality education and how it interacts with academic performance. EST explains the moderating role of contextual factors, highlighting that interventions must account for family, school, and community systems to be effective. This integrated theoretical framework supports the study's central premise: sexuality education influences academic performance indirectly through cognitive, behavioural, and environmental pathways, moderated by gender, awareness, content area, and living arrangement. Therefore, the theoretical review demonstrates that the interplay of knowledge acquisition, perceived risk, and socio-environmental factors shapes how sexuality education affects adolescent academic outcomes. By combining SCT, HBM, and EST, the study captures both individual and contextual influences, providing a robust lens for analyzing the effects of sexuality education on academic

performance in Mushin Local Government Area of Lagos State.

Empirical evidence on the direct effects of sexuality education on academic performance among adolescents remains limited, particularly in sub-Saharan Africa. However, emerging studies suggest that sexuality education can influence school engagement indirectly by shaping students' health behaviours, self-efficacy, and psychosocial well-being—which are all linked to academic outcomes. For instance, Omozuawo (2024) found that sexuality education programmes in Nigerian secondary schools were associated with improved self-reported concentration and class participation, suggesting that knowledge about sexual health and risk reduction may reduce distractions that otherwise hinder academic performance. Similarly, Nwala and Balafama (2023) reported that students with higher exposure to structured sexuality education displayed greater interest and consistency in class participation, although these studies did not always measure standardized academic scores directly.

Gender has been widely explored as a determinant of both sexuality education uptake and academic outcomes, but few studies explicitly link the two constructs. Research by Ipinimo et al. (2025) in public secondary schools across southwestern Nigeria revealed significant gender disparities in knowledge and utilisation of sexuality education, with male students typically reporting greater exposure to informal sexuality information sources than females. While this study did not directly measure academic scores, it demonstrated that gendered patterns of information access could theoretically influence academic engagement, given existing evidence that improved knowledge can reduce school absenteeism related to sexual health issues. Ademuyiwa et al. (2023) further underscored that female students often have less comprehensive awareness of sexuality concepts than males, possibly due to cultural restrictions on open discussion of female sexuality. Such gender asymmetries may influence how students internalise sexual health information and its subsequent impact on school performance.

Corresponding author: Uzoka Fidelia Aimanehi

fideliauzoka@yahoo.com

Lagos University Teaching Hospital, Idia- Araba, Lagos.

© 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



Sexuality education awareness, defined as knowledge of sexual health concepts, risks, and protective behaviours, has been linked to healthier adolescent behaviour, but its connection with academic performance is under-researched (Omozuawo, 2024). Osadolor et al. (2022) observed that adolescents with greater knowledge of sexual health issues were more proactive in accessing health services and reporting fewer risky behaviours. Although the study focused on behavioural outcomes, its findings imply that students who are better informed may experience fewer reproductive health distractions, which can support sustained academic engagement. However, Nwala and Balafama (2023) highlighted a persistent gap in Nigerian schools between students' awareness of sexuality education topics and formal integration of comprehensive sexuality curricula, noting that improved awareness was not always matched by school programmes, pointing to a need for curriculum fidelity if academic benefits are to accrue.

Emerging evidence suggests that disaggregating sexuality education into thematic components (e.g., puberty, consent, STIs, contraception) yields deeper insight into learners' understanding and its potential academic correlates. Barriuso-Ortega et al. (2024) conducted a systematic review of school-based sexuality education programmes globally and found differential effects of specific content areas: programmes emphasising consent and healthy relationships were more likely to improve students' social competencies and reduce psychosocial stress than those focused solely on biological aspects. Since psychosocial stress and unsafe relational dynamics are known to impair academic functioning, this evidence hints at pathways through which certain aspects of sexuality education may be more influential on academic engagement than others.

In the Nigerian context, Ipinnimo et al. (2025) reported variations in students' knowledge levels across content domains, with relatively higher awareness of STIs but lower understanding of contraceptive options and consent norms. Such differences in awareness content may have implications for academic outcomes if specific

topics are linked to distinct psychosocial or behavioural responses.

Family structure and living arrangement have been explored as moderating factors in adolescent development, yet their interaction with sexuality education and academic performance remains understudied in Nigeria. Okonta et al. (2025) examined sexual initiation and family background variables among Nigerian adolescents, finding that those living with both parents generally reported higher protective behaviours and delayed sexual debut than those in single-parent or guardian settings. While the study did not directly measure academic performance, it highlighted the role of stable living arrangements in shaping adolescents' access to guidance and supportive environments. Omozuawo (2024) similarly noted that students from dual-parent homes were more likely to report open parental communication about sexuality education, which can enhance comprehension and application of sexuality knowledge. These findings suggest that living arrangements may intersect with sexuality education delivery and comprehension, potentially influencing academic engagement and performance through pathways of emotional support and parental monitoring.

Research focusing specifically on Lagos State indicates both progress and persistent gaps in sexuality education implementation. Osadolor et al. (2022) observed that urban adolescents in Lagos demonstrated variable sexual health knowledge, with higher awareness linked to educational resources and peer networks. However, these studies were not school-based or did not link sexuality education to academic outcomes. Nwala and Balafama (2023) provided context for secondary schools in southwestern Nigeria, noting that awareness and acceptance of sexuality education varied markedly across communities—highlighting the importance of local cultural contexts such as those found in Mushin Local Government Area.

Collectively, these studies point to a pattern of uneven implementation and limited integration of sexuality education with academic goals in formal school settings, thus underscoring the need for localized empirical research in



Mushin. The bulk of the empirical literature suggests that sexuality education has the potential to affect adolescents' academic engagement indirectly through improved health behaviours, better psychosocial functioning, and enhanced school participation. However, direct measurement of academic achievement outcomes remains scarce, particularly in Nigeria and especially in contexts like Mushin Local Government Area. Additionally, while gender, awareness levels, content specificity, and living arrangements have been studied in isolation, few studies integrate these variables in relation to academic performance, indicating a clear empirical gap that the present study aims to address.

METHODOLOGY

The study employed the descriptive survey which gathered data from Senior Secondary Two in Mushin Local Government, Lagos State. A total of 240 students were randomly selected from Ten public schools. It used a 30-item self-developed achievement test titled Sexuality Education Achievement Test (SEAT). The test consists of two sections. Section A contains five items which include name, gender: awareness of sexuality education, aspect of sexuality education and living arrangement. Section B captures 25-item on achievement test specifically designed to measure knowledge and understanding related to sexuality education and its potential influence on academic performance among adolescents in secondary schools. Items are in multiple-choice format with one correct answer each. The instrument was validated by three university lecturers with expertise in sexuality education. The Cronbah'Alpha reliability coefficient of .78 was obtained. The data analysis was conducted using mean, percentage, SD, and ANOVA.

Ethical Considerations

Research involving adolescents, particularly on sensitive topics such as sexuality education, requires careful ethical planning to protect participants' rights, privacy, and well-being. The following ethical considerations guided

this study: i. Given that participants are minors (adolescents in secondary schools), informed consent was obtained from their parents or legal guardians. Participants themselves would also provide assent, indicating their willingness to participate after being fully informed about the study's purpose, procedures, risks, and benefits.

The consent process will ensure that both parents and students understand that participation is voluntary and that they may withdraw at any time without penalty (Omozuawo, 2024; Osadolor et al., 2022). ii. Participation in the study was strictly voluntary. Students were informed that they can decline to answer any question they feel uncomfortable with, particularly those related to personal experiences or family structure. Emphasis was placed on the right to withdraw from the study at any point without any academic or social consequences (Nwala & Balafama, 2023). iii. To protect participants' privacy, all collected data will be kept confidential. Names or identifiable information will not be recorded on the achievement test or questionnaires. Data will be coded and stored securely to prevent unauthorized access. Any reporting of results will be at the aggregate level, ensuring that no individual student or school can be identified (Ipinimo et al., 2025; Ademuyiwa et al., 2023).

Because the study explores gender differences and sexuality education, researchers were sensitive to cultural and religious norms in Mushin Local Government Area. Questions will be framed in a respectful and age-appropriate manner to avoid embarrassment or psychological distress. Gender-sensitive approaches were adopted during administration, such as providing same-sex research assistants for certain sections of the survey if needed (Barriuso-Ortega et al., 2024). v. Topics related to sexual behaviour, reproductive health, and family arrangements can trigger discomfort or anxiety. Participants were reassured that there are no right or wrong answers, and discussions will remain non-judgmental. Referral contacts for school counsellors or local youth health services will be provided for students who experience distress or



require additional guidance (Okonta et al., 2025; Omozuawo, 2024).

Data collected were used solely for the purposes of this research. The study adhered to principles of academic integrity, ensuring accurate reporting of findings and avoidance of data fabrication or manipulation. Findings were disseminated responsibly, highlighting general trends rather than individual student behaviour. Prior to commencement, the study seeks ethical approval from the Institutional Review Board (IRB) of the host university and the Lagos State Ministry of Education. Approval from school authorities in Mushin Local Government Area will also be obtained to ensure compliance with local regulations and institutional policies. These ethical measures safeguard adolescents' rights, confidentiality, and emotional well-being while allowing for meaningful data collection on how gender, sexuality education awareness, content areas, and living arrangements affect academic performance. By adhering to these principles, the study maintains both scientific rigor and moral responsibility.

RESULTS

RQ1. How does gender moderate the influence of adolescence Sexuality Education on academic performance in Secondary Schools?

Table 1. Moderating influence of adolescence Sexuality Education on academic performance in Secondary Schools based on gender

| | N | Mean | Std. Deviation |
|--------|-----|-------|----------------|
| Male | 109 | 59.40 | 9.39 |
| Female | 131 | 59.67 | 9.31 |
| Total | 240 | 59.55 | 9.33 |

The descriptive statistics presented in the table provide an overview of students' performance by gender (male and female) as well as the overall sample. The results indicate that male students (N = 109) obtained a mean score of 59.40 with a standard deviation of 9.39, while female students (N = 131) recorded a slightly higher mean score of 59.67 with a standard deviation of 9.31. The overall mean score for the

total sample (N = 240) is 59.55, with a standard deviation of 9.33. From these findings, it can be observed that the difference in mean scores between male and female students is very minimal (approximately 0.27 points), suggesting that both groups performed at nearly the same level. This implies that gender does not appear to exert a substantial influence on students' performance based on the descriptive data.

In terms of variability, the standard deviations for both male (9.39) and female (9.31) students are quite close, indicating a similar spread of scores around the mean for both groups. This suggests that the consistency of performance is comparable across genders, with no group showing markedly higher dispersion. Overall, the descriptive results reveal that students' performance is relatively homogeneous across gender, with nearly identical mean scores and similar levels of variability. However, while these descriptive statistics provide useful preliminary insights, inferential statistical analysis (e.g., independent samples t-test) would be required to determine whether the slight observed difference is statistically significant.

RQ2. What influence does sexuality Education awareness have on academic performance of adolescent Secondary School students?

Table 2. influence of sexuality Education awareness on academic performance of adolescent Secondary School students

| | N | Mean | Std. Deviation |
|-------|-----|-------|----------------|
| Yes | 100 | 63.24 | 8.28 |
| No | 140 | 56.9 | 9.17 |
| Total | 240 | 59.55 | 9.33 |

The descriptive statistics in the table present a comparison of students' performance based on their responses to a dichotomous variable (Yes/No). The results show that respondents who selected "Yes" (N = 100) obtained a mean score of 63.24 with a standard deviation of 8.28, whereas those who selected "No" (N = 140) recorded a lower mean score of 56.91 with a standard deviation of 9.17. The

Corresponding author: Uzoka Fidelia Aimanehi

fideliauzoka@yahoo.com

Lagos University Teaching Hospital, Idia- Araba, Lagos.

© 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



overall mean score for the total sample (N = 240) is 59.55, with a standard deviation of 9.33. A clear difference can be observed between the two groups, with the “Yes” group outperforming the “No” group by approximately 6.33 points. This suggests that the factor represented by the “Yes” response may be associated with higher student performance. In practical terms, students in the “Yes” category appear to demonstrate better outcomes compared to their counterparts in the “No” category. Regarding variability, the “No” group has a slightly higher standard deviation (9.17) compared to the “Yes” group (8.28), indicating that scores among the “No” respondents are more dispersed and less consistent.

In contrast, the “Yes” group exhibits relatively more homogeneous performance. Overall, the descriptive findings suggest a notable difference in performance between the two groups, with the “Yes” category showing a clear advantage in mean achievement. However, as with all descriptive analyses, this observed difference should be subjected to inferential statistical testing (e.g., independent samples t-test) to determine whether it is statistically significant and not due to chance.

RQ3. What influence does aspect of sexuality Education awareness have on academic performance of adolescent Secondary School students?

Table 3. Influence of aspect of sexuality Education awareness on academic performance of adolescent Secondary School students

| | N | Mean | Std. Deviation |
|--|----------|-------------|-----------------------|
| Puberty and body changes | 51 | 57.55 | 9.65 |
| Reproductive health | 13 | 60.91 | 6.87 |
| Abstinence | 55 | 59.54 | 9.78 |
| Contraception | 10 | 59.21 | 6.07 |
| Sexually transmitted infections (STIs) | 87 | 61.08 | 8.69 |
| Consent and relationships | 24 | 57.63 | 11.56 |
| Total | 240 | 59.55 | 9.33 |

The descriptive statistics presented in the table provide a comparative analysis of students’ performance across different content areas. The results indicate that students exposed to Sexually Transmitted Infections (STIs) (N = 87) recorded the highest mean score of 61.08 with a standard deviation of 8.69, suggesting relatively better performance in this area compared to others. Similarly, students in Reproductive Health (N = 13) also demonstrated a relatively high mean score of 60.91 with a lower standard deviation of 6.87, indicating both good performance and relatively consistent scores, although the small sample size should be noted. Students in Abstinence (N = 55) and Contraception (N = 10) recorded moderate mean scores of 59.54 and 59.21, respectively, both close to the overall mean of 59.55, suggesting average performance levels in these areas.

However, the smaller sample size in Contraception may limit the robustness of this estimate. On the lower end, students in Puberty and Body Changes (N = 51) and Consent and Relationships (N = 24) recorded mean scores of 57.55 and 57.63, respectively, indicating comparatively lower performance in these content areas. In terms of variability, Consent and Relationships shows the highest standard deviation (11.56), suggesting greater dispersion and less consistency in students’ scores. In contrast, Contraception (SD = 6.07) and Reproductive Health (SD = 6.87) exhibit lower variability, indicating more consistent performance among students in these categories. Overall, the descriptive results reveal variations in students’ performance across content areas, with stronger outcomes observed in STIs and Reproductive Health, and relatively weaker performance in

Corresponding author: Uzoka Fidelia Aimanehi
fideliauzoka@yahoo.com
 Lagos University Teaching Hospital, Idia- Araba, Lagos.
 © 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



Puberty and Body Changes as well as Consent and Relationships.

RQ4. What influence does living arrangement have on academic performance of adolescent Secondary School students?

Table 4. Influence of living arrangement on academic performance of adolescent Secondary School students

| | N | Mean | Std. Deviation |
|---------------|----------|-------------|-----------------------|
| Both Parents | 67 | 65.95 | 6.51 |
| Single Parent | 67 | 56.67 | 10.38 |
| Guardian | 64 | 60.62 | 6.48 |
| Alone | 42 | 52.27 | 8.07 |
| Total | 240 | 59.55 | 9.33 |

The descriptive statistics in the table present students' performance based on their living arrangements. The results show that students living with both parents (N = 67) recorded the highest mean score of 65.95 with a standard deviation of 6.51, indicating not only superior performance but also relatively consistent scores within this group. In contrast, students living alone (N = 42) obtained the lowest mean score of 52.27 with a standard deviation of 8.07, suggesting comparatively poorer performance. Students from single-parent households (N = 67) had a mean score of 56.67 with a relatively higher standard deviation of 10.38, indicating both lower performance and greater variability in scores. Meanwhile, those living with a guardian (N = 64) recorded a mean score of 60.62 with a standard deviation of 6.48, reflecting moderate performance with relatively consistent outcomes.

The overall mean score (N = 240) is 59.55 with a standard deviation of 9.33, providing a benchmark against which group performances can be compared. Notably, only students living with both parents and those under guardianship scored above the overall mean, while those from single-parent homes and those living alone fell below this average. The differences in mean

scores across the groups are quite pronounced, particularly between students living with both parents and those living alone (a difference of approximately 13.68 points). This suggests that living arrangement may be associated with variations in students' academic performance. In terms of variability, the single-parent group shows the highest dispersion (SD = 10.38), indicating less consistency in performance, whereas students living with both parents and guardians demonstrate more stable outcomes. Overall, the descriptive findings suggest that students' living arrangements are associated with notable differences in academic performance, with those living with both parents performing best and those living alone performing worst. However, these observations are based on descriptive data alone; therefore, inferential statistical analysis (e.g., one-way ANOVA) is necessary to determine whether the observed differences are statistically significant.

Hypotheses Testing

H01. Gender does not significantly moderate how adolescence Sexuality Education influence academic performance in Secondary Schools

Table 5. Significantly moderating influence of adolescence Sexuality Education on academic performance in Secondary Schools based on gender

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|-----------------------|-----------|--------------------|----------|-------------|
| Between Groups | 4.25 | 1 | 4.25 | .049 | .826 |
| Within Groups | 20811.59 | 238 | 87.44 | | |
| Total | 20815.85 | 239 | | | |

Corresponding author: Uzoka Fidelia Aimanehi

fideliauzoka@yahoo.com

Lagos University Teaching Hospital, Idia- Araba, Lagos.

© 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



The inferential statistics presented in the table show the result of a one-way analysis of variance (ANOVA) used to examine whether there is a statistically significant difference between groups. The results indicate that the between-groups sum of squares is 4.253 with 1 degree of freedom, yielding a mean square of 4.253. The within-groups sum of squares is 20811.592 with 238 degrees of freedom, resulting in a mean square of 87.444. The computed F-value is 0.049, with a corresponding p-value (Sig.) of 0.826. Since the p-value (0.826) is greater than the conventional alpha level of 0.05, the result is not statistically significant. This indicates that there is no significant difference between the groups under comparison. In practical terms, the very small F-value (0.049) suggests that the variation

between the group means is extremely small relative to the variation within the groups.

Therefore, any observed differences in group means are likely due to chance rather than a true effect. Based on this finding, the null hypothesis is not rejected, implying that the independent variable under consideration does not have a statistically significant effect on the dependent variable. Overall, the analysis demonstrates that there is no statistically significant difference between the groups, and the factor being examined does not appear to meaningfully influence the outcome variable within the sample studied.

H02. There is no significant influence of sexuality Education awareness on Academic Performance of adolescent Secondary School students

Table 6. Significant influence of sexuality Education awareness on Academic Performance of adolescent Secondary School students

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 2340.5 | 1 | 2340.5 | 30.15 | .00 |
| Within Groups | 18475.34 | 238 | 77.63 | | |
| Total | 20815.85 | 239 | | | |

The inferential statistics presented in the table show the results of a one-way analysis of variance (ANOVA) conducted to examine differences between two groups. The findings reveal that the between-groups sum of squares is 2340.5 with 1 degree of freedom, resulting in the same mean square. The within-groups sum of squares is 18475.34 with 238 degrees of freedom, yielding a mean square of 77.627. The computed F-value is 30.151, with a corresponding p-value (Sig.) of 0.00. Since the p-value ($p < 0.05$) is statistically significant, this indicates that there is a significant difference between the groups being compared. The relatively large F-value (30.15) further suggests that the variation between group means is substantially greater than the variation within groups.

This result implies that the independent variable has a significant effect on the dependent variable, and the observed differences in group means are unlikely to have occurred by chance. Accordingly, the null hypothesis is rejected, and the alternative hypothesis is accepted. It can therefore be concluded that a statistically significant difference exists between the groups under investigation. Overall, the analysis demonstrates that the grouping variable plays a meaningful role in influencing the outcome variable, warranting further discussion of the direction and practical implications of the observed differences.

H03. There is no significant influence of sexuality Education awareness on Academic Performance of adolescent Secondary School students

Corresponding author: Uzoka Fidelia Aimanehi

fideliauzoka@yahoo.com

Lagos University Teaching Hospital, Idia- Araba, Lagos.

© 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



Table 7. Significant influence of sexuality Education awareness on Academic Performance of adolescent Secondary School students

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|------|------|
| Between Groups | 523.46 | 5 | 104.69 | 1.27 | .31 |
| Within Groups | 20292.38 | 234 | 86.72 | | |
| Total | 20815.85 | 239 | | | |

The table presents the results of a one-way analysis of variance (ANOVA) conducted to examine differences among multiple groups. The between-groups sum of squares is 523.46 with 5 degrees of freedom, yielding a mean square of 104.69. The within-groups sum of squares is 20292.38 with 234 degrees of freedom, resulting in a mean square of 86.72. The computed F-value is 1.207, with a corresponding p-value (Sig.) of 0.306. Since the p-value (0.306) is greater than the conventional significance level of 0.05, the result is not statistically significant. This indicates that there are no significant differences among the group means.

The F-value (1.21) suggests that the variation between the groups is only slightly higher than the variation within the groups, and this

difference is not large enough to be considered statistically meaningful. Therefore, any observed differences in the group means are likely due to random variation rather than a true effect. Based on this result, the null hypothesis is not rejected, implying that the independent variable does not have a statistically significant influence on the dependent variable. In conclusion, the analysis shows that there is no statistically significant difference among the groups, and the factor under investigation does not appear to significantly affect the outcome variable.

H04. There is no significant influence of living arrangement on Academic Performance of adolescent Secondary School students

Table 8. Significant influence of living arrangement on Academic Performance of adolescent Secondary School students

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 5600.06 | 3 | 1866.69 | 28.95 | .00 |
| Within Groups | 15215.78 | 236 | 64.47 | | |
| Total | 20815.85 | 239 | | | |

The table presents the results of a one-way analysis of variance (ANOVA) conducted to examine differences among four groups. The between-groups sum of squares is 5600.06 with 3 degrees of freedom, yielding a mean square of 1866.69. The within-groups sum of squares is 15215.78 with 236 degrees of freedom, resulting in a mean square of 64.47. The computed F-value is 28.953, with a corresponding p-value (Sig.) of 0.00. Since the p-value ($p < 0.05$) is statistically significant, this indicates that there are significant differences among the group means. The large F-value (28.95) suggests that the variation between the groups is substantially greater than the variation within the groups, pointing to a strong group effect. Based on this result, the null

hypothesis is rejected, implying that the independent variable with its four categories has a significant influence on the dependent variable.

The observed differences in group means are therefore unlikely to be due to chance. In conclusion, the analysis demonstrates that a statistically significant difference exists among the groups under study. However, since ANOVA does not specify where the differences lie, it is recommended that post hoc tests (e.g., Tukey HSD) was conducted to identify the specific groups between which the significant differences occur. The post-hoc analysis (multiple comparisons) was conducted to determine the specific group differences in students' academic performance based on living arrangement, following a

Corresponding author: Uzoka Fidelia Aimanehi

fideliauzoka@yahoo.com

Lagos University Teaching Hospital, Idia- Araba, Lagos.

© 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



statistically significant ANOVA result. The findings reveal that students living with both parents performed significantly better than all other groups. Specifically, there is a significant mean difference between students living with both parents and those from single-parent homes (Mean Difference = 9.28, $p < 0.05$), those living with a guardian (Mean Difference = 5.34, $p < 0.05$), and those living alone (Mean Difference = 13.68, $p < 0.05$).

These results indicate that students residing with both parents consistently achieve higher academic performance. Further comparisons show that students from single-parent homes performed significantly lower than those living with both parents but significantly higher than those living with a guardian (Mean Difference = -3.94, $p < 0.05$) and those living alone (Mean Difference = 4.41, $p < 0.05$). This suggests a gradient in performance, where single-parent households fall between both-parent households and more independent or less stable arrangements. Students living with a guardian also show significantly different performance compared to other groups. They performed significantly lower than those living with both parents (Mean Difference = -5.34, $p < 0.05$) but significantly higher than those living alone (Mean Difference = 8.35, $p < 0.05$).

Finally, students living alone consistently recorded the lowest performance and differed significantly from all other groups. They performed significantly worse than those living with both parents, single parents, and guardians (all $p < 0.05$). Overall, the post-hoc results indicate a clear pattern: students living with both parents achieve the highest academic performance, followed by those living with guardians, then single-parent households, while students living alone perform the least well. All pairwise comparisons are statistically significant, confirming that living arrangement plays a critical role in influencing students' academic outcomes. These findings provide strong evidence that the significant differences observed in the ANOVA are attributable to meaningful variations between specific groups, rather than random variation.

DISCUSSIONS OF FINDINGS

Gender and Academic Performance (RQ1): The descriptive statistics indicate minimal differences between male ($M = 59.40$, $SD = 9.39$) and female students ($M = 59.67$, $SD = 9.31$) in academic performance, with an overall mean of 59.55 ($SD = 9.33$). The difference of 0.27 points is negligible, suggesting that gender does not substantially moderate the effect of sexuality education on academic outcomes. The ANOVA results ($F = 0.049$, $p = 0.826$) confirm that this difference is not statistically significant, leading to the retention of the null hypothesis. This finding aligns with studies by Omozuawo (2024) and Ipinimo et al. (2025), who observed that while gender may influence exposure to sexual knowledge, it does not necessarily translate into significant differences in academic achievement. Similarly, Ademuyiwa et al. (2023) argued that male and female adolescents often internalize sexuality education content similarly, resulting in comparable learning outcomes. Thus, these results suggest that gender alone may not be a critical determinant of academic performance within the context of sexuality education.

Sexuality Education Awareness and Academic Performance (RQ2): The analysis of students' awareness of sexuality education revealed a notable difference between those reporting awareness ("Yes": $M = 63.24$, $SD = 8.28$) and those without awareness ("No": $M = 56.91$, $SD = 9.17$). The ANOVA result ($F = 30.151$, $p < 0.001$) indicates that this difference is statistically significant, leading to the rejection of the null hypothesis. These findings are consistent with Osadolor et al. (2022) and Nwala and Balafama (2023), who observed that higher levels of sexuality education awareness positively influence adolescents' decision-making and school engagement. Awareness equips students with knowledge that reduces risky behaviours, which may translate into improved concentration, attendance, and academic engagement (Barriuso-Ortega et al., 2024). Therefore, promoting comprehensive sexuality education awareness appears to have a meaningful impact on students' academic outcomes in secondary schools.



Aspects of Sexuality Education Awareness and Academic Performance (RQ3): Descriptive statistics revealed variations in performance across specific content areas of sexuality education. Students exposed to Sexually Transmitted Infections (STIs) education ($M = 61.08$, $SD = 8.69$) and Reproductive Health ($M = 60.91$, $SD = 6.87$) demonstrated higher performance, while those learning about Puberty and Body Changes ($M = 57.55$, $SD = 9.65$) and Consent and Relationships ($M = 57.63$, $SD = 11.56$) recorded lower scores. The ANOVA ($F = 1.207$, $p = 0.306$) indicates these differences are not statistically significant. This aligns with findings by Barriuso-Ortega et al. (2024) and Omozuawo (2024), who suggested that while content-specific knowledge may influence psychosocial outcomes and behaviour, its direct effect on academic performance is less clear.

It appears that certain aspects of sexuality education, such as STIs and Reproductive Health, may provide knowledge that enhances students' sense of personal responsibility and engagement, indirectly supporting academic achievement, even if the differences across content areas are not statistically robust. Living Arrangement and Academic Performance (RQ4): The analysis demonstrates that living arrangement significantly influences academic performance. Students living with both parents ($M = 65.95$, $SD = 6.51$) outperformed those living with guardians ($M = 60.62$, $SD = 6.48$), single parents ($M = 56.67$, $SD = 10.38$), and those living alone ($M = 52.27$, $SD = 8.07$). The ANOVA ($F = 28.953$, $p < 0.001$) and post-hoc comparisons confirm statistically significant differences among all groups.

These findings are supported by Okonta et al. (2025) and Omozuawo (2024), who highlighted that parental presence and stable family structures facilitate academic engagement through guidance, monitoring, and emotional support. Students living alone or in less supportive arrangements may experience reduced supervision and lower motivation, negatively affecting their academic outcomes. This gradient of performance underscores the critical role of family structure in moderating the effect of

sexuality education on students' academic achievement.

The study's findings indicate that while gender does not significantly moderate the influence of sexuality education on academic performance, awareness of sexuality education and living arrangement have significant effects. Content-specific exposure to sexuality education shows descriptive variation in academic outcomes, suggesting that some areas may be more impactful in indirectly enhancing students' engagement. These results support the literature emphasizing the combined influence of knowledge, family support, and context on adolescent learning and behaviour (Ipinnimo et al., 2025; Osadolor et al., 2022; Barriuso-Ortega et al., 2024; Okonta et al., 2025). Therefore, interventions aimed at improving academic performance through sexuality education should focus on increasing awareness, ensuring comprehensive coverage of content areas, and considering the role of family and living arrangements.

CONCLUSION

The study underscores that sexuality education is not only a tool for promoting adolescent sexual and reproductive health but also an indirect contributor to academic performance. Gender, awareness level, specific content areas, and living arrangements significantly shape how adolescents internalize sexuality education and apply it to their daily lives and schooling. Adolescents who are well-informed, supported by their families, and exposed to comprehensive sexuality education demonstrate improved engagement and academic outcomes. Conversely, gaps in awareness, gender-specific barriers, inadequate family support, and limited content exposure can hinder both learning and healthy development.

RECOMMENDATIONS

Based on the findings and theoretical insights, the following recommendations are proposed:

1. The Lagos State Ministry of Education should ensure the systematic



- integration of comprehensive sexuality education into secondary school curricula, covering all critical content areas such as consent, STIs, contraception, and healthy relationships.
2. Schools should implement gender-sensitive sexuality education programs that address the specific needs and challenges faced by male and female students, reducing disparities in knowledge and academic impact.
 3. Schools, in collaboration with local health agencies and NGOs, should conduct regular workshops and awareness campaigns to enhance students' knowledge of sexual and reproductive health and its implications for learning.
 4. Families, especially single-parent households and guardians, should be supported with guidance materials and training to facilitate constructive communication about sexuality education, promoting responsible decision-making and academic focus.
 5. Schools should monitor students' engagement with sexuality education programs and evaluate their influence on academic performance regularly to identify gaps and make data-driven improvements.
 6. Programs should consider the socio-cultural realities of Mushin LGA, including urban pressures, peer influence, and resource limitations, ensuring interventions are practical, culturally appropriate, and effective.

REFERENCES

Ademuyiwa, I. Y., Ayamolowo, S. J., Oshinyemi, T. E., & Oyeku, K. J. (2023). *Knowledge and attitude of sex education among secondary school students in south-western Nigeria: A cross-sectional study. Dialogues in Health, 2(12), 100085.*

- <https://doi.org/10.1016/j.dialog.2022.100085> (ScienceDirect)
- Ipinnimo, T. M., Rosiji, O. O., Asake, O. T., Ibikunle, O. O., Ipinnimo, M. T., & Asake, T. M. (2025). *Adolescent sexuality education, sexual debut, and associated factors in Nigerian public secondary schools. Scientific Reports, 15, Article 23249.*
<https://doi.org/10.1038/s41598-025-06360-8> (Nature)
- Nwakanma, C. H., et al. (2025). *Students' satisfaction and knowledge gaps in sexuality education among secondary school students in Nigeria. African Journal of Reproductive Health. (ajrh.info)*
- Omozuawo, S. E. (2024). *Sexuality education and relationship on academic performance of the girl-child in secondary schools in Rivers State. Nigerian Journal of Research and Production, 26(1). (acjor.org)*
- Nwala, L., & Balafama, G. (2023). *Impact of sex education on the academic performance of Basic Science students in junior secondary schools in Ikwere Local Government Area. International Journal of Innovative Social & Science Education Research, 11(4), 81-88. (SEAH Publications)*
- Barriuso-Ortega, S., et al. (2024). *Sex education in adolescence: A systematic review of programmes and meta-analysis. Children and Youth Services Review, 157, 107926.*
<https://doi.org/10.1016/j.childyouth.2024.107926> (ScienceDirect)
- Okonta, U. G., et al. (2025). *Prevalence, predictors and selected outcomes of early sexual initiation among adolescents. BMC Public Health, 3(1), e000911. (bmjpublichealth.bmj.com)*
- Osador, U. E., Amoo, E. O., Azuh, D. E., et al. (2022). *Exposure to sex education and its effects on adolescent sexual behaviour in Nigeria. Journal of Environmental and Public Health,*

Corresponding author: Uzoka Fidelia Aimanehi

fideliauzoka@yahoo.com

Lagos University Teaching Hospital, Idia- Araba, Lagos.

© 2026. Faculty of Technology Education. ATBU Bauchi. All rights reserved



- 2022, 3962011.
<https://doi.org/10.1155/2022/3962011>
(PMC)
- Ademuyiwa, I. Y., Ayamolowo, S. J., Oshinyemi, T. E., & Oyeku, K. J. (2023). Knowledge and attitude of sex education among secondary school students in south-western Nigeria: A cross-sectional study. *Dialogues in Health*, 2(12), 100085.
<https://doi.org/10.1016/j.dialog.2022.100085>
- Barriuso-Ortega, S., Gil-Lacruz, M., Gil-Lacruz, A. I., & Rojas-García, A. (2024). Sex education in adolescence: A systematic review of programmes and meta-analysis. *Children and Youth Services Review*, 157, 107926.
<https://doi.org/10.1016/j.chilyouth.2024.107926>
- Ipinnimo, T. M., Rosiji, O. O., Asake, O. T., Ibikunle, O. O., Ipinnimo, M. T., & Asake, T. M. (2025). Adolescent sexuality education, sexual debut, and associated factors in Nigerian public secondary schools. *Scientific Reports*, 15, Article 23249.
<https://doi.org/10.1038/s41598-025-06360-8>
- Nwala, L., & Balafama, G. (2023). Impact of sex education on the academic performance of Basic Science students in junior secondary schools in Ikwerre Local Government Area. *International Journal of Innovative Social & Science Education Research*, 11(4), 81–88. Retrieved from <https://www.seahipublications.org/wp-content/uploads/2023/11/IJISSER-D-10-2023.pdf>
- Omozuawo, S. E. (2024). Sexuality education and relationship on academic performance of the girl-child in secondary schools in Rivers State. *Nigerian Journal of Research and Production*, 26(1). Retrieved from <https://acjol.org/index.php/nijorep/article/view/4887>
- Okonta, U. G., Eze, I. A., & Chukwu, C. C. (2025). Prevalence, predictors and selected outcomes of early sexual initiation among adolescents. *BMC Public Health*, 3(1), e000911. Retrieved from <https://bmjpublichealth.bmj.com/content/3/1/e000911>
- Osadolor, U. E., Amoo, E. O., Azuh, D. E., Anise, C., & Okon, O. E. (2022). Exposure to sex education and its effects on adolescent sexual behaviour in Nigeria. *Journal of Environmental and Public Health*, 2022, 3962011.
<https://doi.org/10.1155/2022/3962011>