



JOURNAL OF EDUCATIONAL THOUGHT (JET)
A PUBLICATION OF THE DEPARTMENT OF
ADULT EDUCATION, FACULTY OF EDUCATION,
UNIVERSITY OF LAGOS

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IMPACT OF COMPREHENSIVE SEXUALITY EDUCATION ON RISKY SEXUAL BEHAVIOUR AMONG SENIOR SECONDARY SCHOOL STUDENTS IN LAGOS STATE, NIGERIA

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<https://doi.org/10.5281/zenodo.17234885>

Abstract

This study examined the impact of Comprehensive Sexuality Education (CSE) on risky sexual behaviour among senior secondary school students in Lagos State, Nigeria. A quasi-experimental pre-test-post-test non-equivalent group design was employed. The population consisted of all senior secondary school students in Lagos State, with SS2 students serving as the target population. A multi-stage sampling technique was used to select a sample of 138 students, randomly assigned to experimental and control groups. The Sexual Risk Survey (SRS) and the self-constructed Risky Sexual Behaviour Questionnaire (RSBQ) were used for data collection. The instruments were validated through expert judgment, and reliability testing yielded a Cronbach's alpha of 0.88. Ethical considerations, including informed consent and confidentiality, were upheld. Data were collected through pre-test and post-test assessments, and hypotheses were tested using ANCOVA at a 0.05 significance level. Findings revealed a significant impact of CSE on reducing risky sexual behaviour among students ($F = 170.01$, $p < 0.05$), indicating lower risky sexual behaviour scores in the experimental group. There was no significant interaction between gender and CSE ($F = 0.49$, $p > 0.05$), suggesting that CSE benefits both male and female students equally. However, a significant interaction was found between age and CSE ($F = 5.52$, $p < 0.05$), indicating that CSE effectiveness varies with age. The study concludes that CSE is essential in reducing risky sexual behaviour among adolescents and recommends its integration into the school curriculum, the adoption of age-appropriate teaching strategies, and the implementation of gender-inclusive programmes.

Keywords: Sexuality education, Risky sexual behaviour, Adolescents, Gender differences, Age variation

Introduction

Adolescence, a critical phase of human development spanning ages 10 to 19, is characterized by profound physical, psychological and socio cultural transformations that significantly shape an individual's life trajectory. As adolescents navigate identity formation, autonomy, and peer relationships, they often encounter challenges related to decision-making and impulse control, particularly concerning sexual behaviour. The role of Comprehensive Sexuality Education (CSE) seems to have gained prominence in fostering informed decision-making, self-control, and responsible attitudes toward sexual health. By equipping students with accurate knowledge, essential life skills, and ethical frameworks, CSE aims to mitigate risky behaviours, thereby promoting their overall well-being and academic success in this crucial developmental stage.

Approaching in from the theory of Erik Erikson's psychosocial theory posits that adolescence is a critical juncture for identity formation. According to Erikson, this stage, which he termed "identity versus role confusion," is crucial for developing a coherent sense of self and establishing a stable identity (Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2016). During this phase, individuals grapple with existential questions related to self-concept, values, and beliefs, laying the groundwork for adult identity. The decisions made during adolescence reverberate throughout an individual's life, shaping long-term personal development trajectories.

Research has shown that identity formation during adolescence is crucial for setting the stage for future development and well-being (Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2016). Concurrently, social relationships are complex, with peers assuming heightened significance in adolescents' lives (Laursen&Hartl, 2013). Adolescents navigate issues of belonging, peer acceptance, and the establishment of romantic relationships, underscoring the salience of emotional regulation and the cultivation of interpersonal skills. These developmental tasks are critical for fostering healthy social and emotional growth (Fuligni, 2019; Shulman & Scharf, 2018).

According to the World Health Organization (2020), adolescence, which lasts from 10 to 19 years, is a critical period of human development marked by major physical, psychological, and social change. It is distinguished by extensive brain reorganization, notably in the prefrontal cortex, which controls decision-making, impulse control, and emotional regulation. These neurological developments significantly influence cognitive abilities, self-control, and complex reasoning. Adolescence also marks rapid biological changes, including puberty and hormonal shifts, which impact physical growth and emotional well-being (Sawyer, Azzopardi, Wickremarathne, Patton, (2018). These physiological changes are intertwined with brain development and the maturation

of reproductive organs. Comprehensive Sex Education equips adolescents with comprehensive knowledge and skills related to sexual health, covering topics such as anatomy, contraception, STIs, and healthy relationships (Santelli, Kantor, Grilo, Speizer, Lindberg, Heitel, & Ott, 2017). These interventions, whether delivered in schools or through community-based programs, seek to enable adolescents to make educated decisions regarding their sexual health, thereby mitigating risky sexual behaviours and fostering positive academic outcomes.

Comprehensive Sex Education (CSE) remains a critical tool in reducing unprotected sex among adolescents. Unprotected sex, defined as engaging in sexual activity without the consistent and correct use of contraception, poses significant health risks for adolescents. Research Singh, Darroch, & Frost (2016) highlights the potential consequences, including unintended pregnancies and increased vulnerability to STIs. Furthermore, CSE promotes a sense of agency and self-efficacy by encouraging adolescents to take charge of their sexual health (UNESCO, 2018). Through discussions about the risks and benefits of different sexual behaviours, CSE aims to motivate adolescents to adopt responsible behaviours and protect themselves from potential risks. By fostering critical thinking and communication skills, CSE contributes to the overall well-being and health outcomes of adolescents (Estrada, Foshee & Reardon, 2021).

CSE can be a valuable tool in helping adolescents make informed decisions about their sexual behaviour, potentially reducing risks associated with multiple sexual partners. While not advocating for complete abstinence, CSE provides teenagers with essential information and skills to navigate their sexuality responsibly (Kusunoki, Tsujihata, Oishi, Ueda 2018). Di Rienzo, Martino, Ruggiero, & Cavallo, (2016) highlight the potential consequences of having multiple sexual partners, including increased vulnerability to sexually transmitted infections (STIs) and unintended pregnancies especially where individuals are not aware of the options they have.

Comprehensive Sex Education (CSE) stands as a critical bulwark against the perilous trend of sexting among adolescents, offering them a shield of knowledge and empowerment amidst the digital landscape fraught with risks and uncertainties. Sexting refers to the transmission of sexually explicit messages or photos through internet networks, exposes adolescents to potential harm, including privacy breaches, cyber bullying, and legal ramifications (Klettke et al., 2014). Mellor (2014) and Döring (2014) underscore the prevalence of sexting among adolescents and its association with adverse outcomes such as psychological distress and negative social consequences. However, armed with the insights gained from CSE programs, adolescents are better equipped to navigate the complexities of sexting safely and responsibly.

CSE serves as a critical foundation for fostering open and informed communication about sexual health among adolescents. Effective communication is essential for promoting positive sexual behaviours, preventing risky behaviours, and fostering healthy relationships. Research by Jemmott, Hahn, & Reifman (2017) emphasizes the importance of communication skills in reducing sexual risk behaviours and improving sexual health outcomes for adolescents. CSE programs equip adolescents with the knowledge and tools necessary to engage in open discussions about sexual health (UNESCO, 2018). By providing accurate information and appropriate vocabulary for sensitive topics like reproductive health, contraception, STI prevention, and consent, CSE empowers adolescents to communicate effectively with partners, healthcare providers, and trusted adults (Santelli et al., 2017).

CSE is a structured, evidence-based approach designed to equip adolescents with essential knowledge, skills, and attitudes necessary for making informed and responsible decisions regarding their sexual and reproductive health. The changes from childhood to adolescence is often accompanied by heightened curiosity about sexual matters, peer influence, and exposure to various sources of information, some of which may be misleading or inaccurate. In Lagos State, Nigeria, where urbanization and technological advancements have increased adolescents' access to diverse information, CSE plays a pivotal role in ensuring that students receive accurate, age-appropriate, and culturally sensitive knowledge. Studies have shown that well-implemented CSE programs contribute to delayed sexual initiation, reduced rates of unprotected sex, and lower incidences of (STIs) and unintended pregnancies (UNESCO, 2018).

One of the primary goals of CSE is to address the factors that contribute to risky sexual behaviour, including inadequate knowledge of contraceptive methods, societal norms that stigmatize open discussions about sex, and peer pressure that encourages early sexual debut. Research indicates that adolescents who receive CSE are more likely to exhibit positive sexual health outcomes compared to their peers who lack such education (Jemmott, Hahn, & Reifman, 2017). Furthermore, CSE enhances adolescents' ability to negotiate safer sex practices, resist coercion, and understand the consequences of multiple sexual partners. In Lagos State, where adolescent pregnancy rates and STI prevalence remain concerns, integrating CSE into the secondary school curriculum has the potential to bridge knowledge gaps and empower students with the confidence to make informed choices (Singh et al., 2016).

Digital advancements have introduced new challenges for adolescent sexual behaviour, particularly in the realm of sexting and online sexual exploitation. The increasing accessibility of social media and smart phones has exposed young people to new forms of risk, including the

sharing of explicit content without consent and cyber bullying related to sexual activity. Klettke et al. (2014) highlight that adolescents engaged in sexting are more likely to participate in risky offline sexual behaviours, making it imperative to integrate digital literacy into CSE programs. By incorporating discussions on digital safety, privacy, and ethical online behaviour, CSE can serve as a protective mechanism against the potential dangers of technology-driven sexual risks. Moreover, CSE encourages the development of respectful relationships, emphasizing consent, boundaries, and the consequences of online interactions. In a rapidly evolving society where adolescents are bombarded with sexualized media content, equipping them with the ability to critically analyze and respond to such influences is crucial for fostering responsible decision-making.

To this end, the implementation of CSE in schools is essential in curbing risky sexual behaviours among adolescents. As young people undergo significant developmental changes, they require accurate and age-appropriate information to navigate their sexual health responsibly. CSE empowers students by providing them with critical knowledge on contraception, STI prevention, consent, and relationship dynamics while fostering effective communication and decision-making skills. Given the prevailing challenges of early sexual initiation, peer pressure, and digital risks, a well-structured CSE curriculum can serve as an intervention that not only reduces the prevalence of risky sexual behaviour but also promotes a culture of informed, responsible, and respectful sexual health practices among adolescents. Strengthening the implementation and accessibility of CSE in Lagos State will contribute significantly to enhancing the overall well-being and prospects of secondary school students.

Statement of the Problem

Adolescence is a crucial period marked by increased curiosity about sexual matters, peer influence, and exposure to diverse, often misleading information about sexuality. Risky sexual behaviours among secondary school students, including premature sexual engagement, unprotected coitus, several sexual partners, and engagement in sexting, have raised concerns about their reproductive health and overall well-being. Studies indicate that inadequate or inaccurate knowledge of sexual health, social stigmatization of open discussions about sex, and limited access to sexuality education contribute significantly to elevated incidence of adolescent pregnancies, STIs, and emotional distress among adolescents (Singh et al., 2016; UNESCO, 2018). Despite global recognition of Comprehensive Sexuality Education (CSE) as an effective approach to equipping adolescents with accurate knowledge, values, and life skills to make informed choices, its implementation in Nigerian schools remains inconsistent, often facing resistance due to cultural

and religious sensitivities. This gap raises concerns about the effectiveness of current sexual health education programs in mitigating risky sexual behaviour among students. Therefore, this study seeks to examine the effects of CSE on reducing risky sexual behaviours among secondary school students in Lagos State, providing empirical evidence to support its integration and enhancement in the school curriculum.

Purpose of the Study

The main purpose of this research was to find out the impact of Comprehensive Sex Education (CSE) as behavioural therapy on risky sexual behaviour among secondary school students in Lagos State. Hence, the study specifically aimed to:

- i. Assess whether Comprehensive Sex Education has a significant impact on risky sexual behaviour among senior secondary school students in Lagos State.
- ii. Identify the influence of gender on Comprehensive Sex Education on risky sexual behaviours among senior secondary school students in Lagos State.
- iii. Examine whether there is a significant interaction between age and Comprehensive Sex Education on risky sexual behaviour among secondary school students in Lagos State.

Research Hypotheses

The following research hypotheses were formulated to guide this study:

1. There is no significant impact of Comprehensive Sex Education on risky sexual behaviour among secondary school students in Lagos.
2. There is no significant interaction between gender and Comprehensive Sex Education on risky sexual behaviour among secondary school students in Lagos.
3. There is no significant interaction between age and Comprehensive Sex Education on risky sexual behaviour among secondary school students in Lagos.

Methodology

This study employed a quasi-experimental research design using pretest-post-test non-equivalent group designs. This research design was chosen because it was deemed to be the best fit for this study. The study's population covers all senior secondary school students in Lagos State, with a focus on SS 2 students. The study's sample was chosen using a multistage sampling technique. The initial part of the sample process entailed selecting two (2) Local Education Districts using a simple random sampling technique. The second stage involved the selection of one secondary school from each of the two specified Local Education Districts using random sampling technique.

The third stage include the identification of senior secondary school students with risky sexual behaviours using the “SRS,” which was administered to the students to determine and establish the fact that they engaged in the behaviours. This screening determined those who were selected for the study. The final stage involved random assignment of the selected subjects in the schools to two groups (experimental and control groups). The total selected sample size for the study was one hundred and thirty-eight (138) SS two students. At the beginning of the experiment, the two groups were given a pre-test. The treatment group was exposed to CSE, while the control group was not exposed to any treatment.

Two research instruments used for data collection were the Sexual Risk Survey (SRS) which was adopted and the Risky Sexual Behaviour Questionnaire (RSBQ) which was self-constructed. The Sexual Risk Survey (SRS), developed by Jessica A. Turchik and John P. Garske of Ohio University, is a robust instrument designed to assess risky sexual behaviours among adolescents. Through meticulous refinement processes, the SRS was streamlined to 23 items, capturing various dimensions. The researcher-developed *Risky Sexual Behaviour Questionnaire (RSBQ)* was used to gather data from the participants. The questionnaire consisted of two sections: Section A included two items related to the participants' biodata, specifically gender and age. Section B focused on assessing risky sexual behaviour. It was structured as a modified 4-point Likert scale with four response options: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). Specific items addressed issues such as condom use, the number of sexual partners, substance use during sex, sexting, perceptions of parental involvement in academic matters, and motivation towards academic achievement. The validity of the instruments was measured with evidence of content validity while the reliability involved a pilot test with 20 students in a senior secondary school outside the study sample which demonstrates strong psychometric properties, boasting high internal consistency (Cronbach's $\alpha = .88$). Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance.

Results

In order to test the above-stated research hypothesis, the pretest and posttest data collected from the participants in the experimental group and control group were subjected to ANCOVA using SPSS statistical software. The result of the analysis is presented in the tables below.

Research Hypothesis One: There is no significant impact of Comprehensive Sex Education on risky sexual behaviour among secondary school students in Lagos.

Table 1: Summary of ANCOVA on the significant impact of Comprehensive Sex Education on risky sexual behaviour of students

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Remark
Corrected Model	5818.30	2	2909.15	136.45	0.00	
Intercept	2806.62	1	2806.62	131.64	0.00	
PRETEST	385.56	1	385.56	18.08	0.00	
GROUP	3624.68	1	3624.68	170.01	0.00	*Significant
Error	2878.18	135	21.32			
Total	70482.00	138				
Corrected Total	8696.49	137				

a. R Squared = .669 (Adjusted R Squared = .664)

From the table above, the value of F (170.01) is significant at 0.05 alpha level ($p < 0.05$). This indicates that the null hypothesis which states that there is no significant impact of CSE on risky sexual behaviour among the students is not retained. It shows that there is a significant impact of CSE on risky sexual behaviour among students. This implies that the participants who received CSE (experimental group) had lower risky sexual behaviour than the participants in the control group in their post-test scores. Therefore, the finding of this study showed that there is a significant impact of CSE on the risky sexual behaviour of the students in Lagos State.

Research Hypothesis Two: There is no significant interaction between gender and Comprehensive Sex Education on risky sexual behaviour among senior secondary school students in Lagos.

Table 2: Summary of ANCOVA on significant interaction of gender and Comprehensive Sex Education on risky sexual behaviour

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Remark
Corrected Model	5962.38	4	1490.51	72.53	0.00	
Intercept	2315.82	1	2315.82	109.26	0.00	
Pretest	437.75	1	437.75	20.65	0.00	
Group	3334.26	1	3334.26	157.31	0.00	
Gender	6.98	1	6.98	0.32	0.56	
Group * Gender	10.52	1	10.52	0.49	0.48	*Not significant
Error	2734.10	133	20.55			
Total	70482.00	138				
Corrected Total	8696.49	137				

a. R Squared = .686 (Adjusted R Squared = .666)

Table 2 showed F-value of 0.49 suggesting that the interaction between gender and CSE is not significant at the 0.05 alpha level ($p > 0.05$). The findings indicate that there is no notable interaction between gender and CSE regarding risky sexual behavior among secondary school students in Lagos. As a result, the notable influence of CSE on the risky sexual behavior of the

participants is independent of the students' gender. Therefore, the null hypothesis, which posits that there is no significant interaction between gender and CSE on risky sexual behavior among the students in Lagos, is upheld. This indicates that there is no notable interaction between gender and CSE regarding risky sexual behaviors among secondary school students in Lagos.

Research Hypothesis Three: There is no significant interaction between age and Comprehensive Sex Education on risky sexual behaviour among senior secondary school students in Lagos.

Table 3: Summary of ANCOVA on significant interaction of age and Comprehensive Sex Education on risky sexual behaviour

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Remark
Corrected Model	5372.78	6	895.46	43.75	0.00	
Intercept	2706.84	1	2706.84	132.17	0.00	
Pretest	494.60	1	494.60	24.15	0.00	
Group	3919.54	1	3919.54	191.39	0.00	
Group * Age	113.12	1	113.12	5.52	0.02	*Significant
Error	2682.78	131	20.47			
Total	68542.000	138				
Corrected Total	8055.571	137				

a. R Squared = .667 (Adjusted R Squared = .647)

The findings presented in Table 3 demonstrate that the F-value of 5.52 on the interaction between age and CSE on risky sexual behaviour among the students in Lagos is significant at the 0.05 alpha level ($p < 0.05$). Therefore, the null hypothesis, which asserts that there is no significant interaction between age and Comprehensive Sex Education (CSE) on risky sexual behaviour among senior secondary school students in Lagos, is not confirmed. This suggests a notable relationship between age and CSE on risky sexual behaviour among the students indicating that the considerable influence of CSE on the risky sexual behavior of senior secondary school students is contingent upon the students' age.

Discussion of Findings

The findings from this study revealed that Comprehensive Sexuality Education has a significant impact on reducing risky sexual behaviour among senior secondary school students in Lagos State. The ANCOVA results showed a significant difference in risky sexual behaviour between students who received CSE and those in the control group, indicating that students exposed to CSE exhibited lower levels of risky sexual behaviour in their post-test scores. The reduction in risky sexual behaviour observed in this study may be attributed to the comprehensive nature of CSE, which covers crucial topics such as contraception, sexually transmitted infections (STIs), and

communication skills. This finding aligns with previous studies that have demonstrated the effectiveness of CSE in equipping adolescents with the necessary knowledge and skills to make informed decisions about their sexual health (Singh et al., 2016). By providing accurate and age-appropriate sexual health education, CSE empowers students to adopt safer sexual practices and resist peer pressure that may lead to risky sexual behaviours (Jemmott, Hahn, & Reifman, 2017).

Furthermore, the study found that there was no significant interaction between gender and CSE on risky sexual behaviour among the students. This suggests that both male and female students benefited equally from CSE, with no significant differences in behavioural changes based on gender. This finding is consistent with previous research that has indicated that well-structured sexuality education programs impact adolescents irrespective of gender, as both male and female students face similar developmental and social pressures that influence their sexual behaviour (Carrington et al., 2018). The lack of gender-based differences in response to CSE may be due to the program's focus on promoting inclusivity and addressing gender-specific concerns in a balanced manner. Additionally, this result challenges common assumptions that male students are more likely to engage in risky sexual behaviour than females, reinforcing the need for equal access to CSE for all students regardless of gender (DiClemente, Crosby, & Wingood, 2015).

Another critical finding of the study was that there is a significant interaction between age and CSE on risky sexual behaviour among senior secondary school students in Lagos. This indicates that the effectiveness of CSE in reducing risky sexual behaviour varies depending on the age of the students. Adolescents in different age groups exhibit varying levels of cognitive and emotional maturity, which may affect how they process and apply the information provided in CSE programs as older adolescents may be more capable of understanding complex topics related to sexual decision-making, consent, and relationship dynamics, whereas younger adolescents may require simpler, foundational information before progressing to more advanced topics (Steinberg, 2014). This finding corroborates previous studies suggesting that the developmental stage of adolescents plays a crucial role in their receptiveness to sexual health education (Sawyer, Azzopardi, Wickremarathne, & Patton, 2018).

Conclusion

The study confirms that CSE is a valuable intervention in mitigating risky sexual behaviour among secondary school students in Lagos State. The significant impact of CSE underscores its importance in equipping adolescents with essential knowledge and skills for responsible sexual

decision-making. Hence, these findings emphasize the need for inclusive sexual health education that addresses the needs of both male and female students while considering the developmental differences across age groups.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Comprehensive Sexuality Education (CSE) must be incorporated into the school curriculum to guarantee that all students obtain organized and age-appropriate sexual health education, thereby minimizing risky sexual behaviors, monitored and followed up for consistent and proper implementation.
2. School administrators should ensure gender-inclusive CSE programmes that equally benefit both male and female students, promoting balanced learning outcomes.
3. Teachers should adopt age-appropriate instructional strategies in CSE to address the varying cognitive and emotional maturity levels of students, making the lessons more effective.

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