

Efficacy of Motivational Interviewing on Risky Sexual Behaviour among In-School Adolescents in Lagos State, Nigeria

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Abstract

The study examined the efficacy of Motivational Interviewing (MI) in reducing risky sexual behaviour among in-school adolescents in Lagos State, Nigeria. The study adopts a quasi-experimental pretest-posttest control group design to assess the impact of MI on adolescents' engagement in unprotected intercourse, multiple sexual partnerships, early sexual debut, and substance use during sexual encounters. The population comprises all in-school adolescents in Lagos State, while the target population consists of secondary school students. A multi-stage sampling technique was employed to select participants, resulting in a sample size of 140 adolescents. Data were collected using the Sexual Risk Survey (SRS) and a researcher-developed Risky Sexual Behaviour Questionnaire (RSBQ). The instruments were validated by experts, and reliability was established through a pilot study, yielding a Cronbach's alpha of 0.88 and a test-retest reliability coefficient of 0.93. Data were analyzed using Analysis of Covariance (ANCOVA) at a 0.05 significance level. Findings indicate that MI significantly reduces risky sexual behaviour among adolescents. The study further reveals no significant interaction between gender and MI, implying that both male and female adolescents benefit equally. However, a significant interaction between age and MI was observed, with older adolescents responding more positively due to cognitive maturity. Ethical considerations, including informed consent, confidentiality, and voluntary participation, were upheld. The study concludes that MI is an effective intervention and recommends its integration into school-based sexual health programs, ensuring gender-neutral training and age-specific adaptations to maximize impact. The findings contribute to evidence-based approaches in adolescent health interventions.

Keywords: Motivational Interviewing (MI), Risky Sexual Behaviour, Adolescents, Behavioural Intervention, Sexual Health Education

Introduction

Adolescence is the transitional stage of development between childhood and adulthood, typically occurring between the ages of 10 and 19 which is marked by significant physical, emotional, cognitive, and social changes, shaping an individual's identity and future. Also, it is a crucial period for sexual development, where individuals begin exploring their sexual identity, feelings, and

behaviours. This developmental phase of human development is marked by heightened cognitive restructuring, particularly in the prefrontal cortex, which influences decision-making, impulse control, and emotional regulation (Steinberg, 2014). These neurological and physiological changes, coupled with the onset of puberty and hormonal shifts, contribute to adolescents' evolving behaviours, including their perceptions and engagement in risk-related activities (Blakemore, 2018). Among these behaviours, risky sexual activities have emerged as a growing concern, posing serious implications for adolescents' well-being and academic performance (Patton et al., 2016; Sawyer et al., 2018).

Understanding risky sexual behaviour is crucial as it is deeply intertwined with adolescents' developmental stages, cognitive processes, and social environments. Adolescents' risk-taking tendencies and evolving decision-making skills intersect with societal factors, shaping their attitudes and behaviours regarding sexual activity (Belošević, 2023). A comprehensive understanding of risky sexual behaviour is indeed essential for designing effective interventions and promoting adolescent sexual health and well-being. The adolescent stage, typically spanning ages 10 to 19 (World Health Organization, 2020), represents a crucial period of human development characterised by significant physical, psychological, and social transformations.

Risky sexual behaviour poses significant concerns during adolescence, with far-reaching implications for individuals' health and well-being (World Health Organization, 2020). Defined as actions or choices with heightened probabilities of negative sexual health outcomes, risky sexual behaviour encompasses a myriad of behaviours, including early sexual debut, unprotected intercourse, multiple partners, involvement in coercive or exploitative, and substance abuse during sexual encounters (Santelli et al., 2017). These behaviours elevate the risks of unintended pregnancies, sexually transmitted infections (STIs), and emotional distress, thereby jeopardizing adolescents' overall well-being and academic trajectories (Fergus, et al. 2007).

The intricate interplay between adolescent stage and risky sexual behaviour has garnered considerable scholarly attention (Hines et al., 2015). Understanding the mechanisms underpinning this relationship is imperative for devising effective interventions and support systems (Kotchick et al., 2006). Addressing these issues requires effective intervention strategies that go beyond traditional punitive approaches. Hence, effective intervention strategies are crucial in promoting

safe and responsible sexual behavior. Behavioural therapies encompass a range of interventions grounded in learning theory, aiming to modify or extinguish maladaptive behaviours, such as risky sexual practices.

These therapies operate under the principle that behaviours are learned and can be reshaped through targeted techniques (Kanfer, 2016). Miller and Rollnick's Motivational Interviewing (2013) stands out as a notable approach characterized by its client-centred, empathetic, and non-confrontational style. This therapeutic method focuses on eliciting intrinsic motivation for behaviour change (Miller & Rollnick, 2013). Motivational interviewing, a client-centred counselling technique, has emerged as a promising strategy for guiding adolescents toward healthier choices by enhancing their intrinsic motivation for positive behavioural change. In addressing adolescent risky sexual behaviour, motivational interviewing entails engaging adolescents in non-confrontational dialogues about their attitudes, values, and goals, to enhance motivation for behaviour change (Duerksen, et al., 2017). Motivational Interviewing (MI) plays a crucial role in promoting protected sexual behaviour among adolescents.

Research by Herbst et al. (2018) demonstrates the effectiveness of MI in reducing unprotected sexual intercourse among young adults. MI's core principle of exploring and resolving ambivalence effectively engages adolescents in discussions about safe sex practices. By fostering a non-judgmental and empathetic environment, MI facilitates open dialogue and encourages adolescents to reflect on their behaviours and motivations (Herbst et al., 2018). This self-reflection can ultimately increase their awareness of the risks associated with unprotected sex and empower them to make informed decisions about their sexual health.

Studies by Carey et al. (2016) and Szafranski et al. (2016) provide further evidence for MI's effectiveness in promoting behaviour change related to sexual health outcomes among adolescents. These studies highlight MI's ability to enhance intrinsic motivation and self-efficacy for safe sex practices. This translates to positive changes in sexual behaviours, such as increased condom use and a reduction in risky sexual encounters (Carey et al., 2016; Szafranski et al., 2016). Also, MI's person-centred approach aligns well with influencing factors identified by Brener et al. (2018), such as individual beliefs and attitudes regarding sexual activity and contraception. By respecting adolescents' autonomy and decision-making processes, MI

empowers them to critically evaluate their choices and consider alternative behaviours that prioritize their sexual health and well-being (Brener et al., 2018).

Motivational Interviewing (MI) can be a valuable tool in addressing the issue of high-risk sexual partnerships among adolescents. Research by Greene et al. (2017) highlights MI's effectiveness in promoting behaviour change related to sexual risk reduction. MI's core principle of fostering intrinsic motivation and self-efficacy provides a non-judgmental and collaborative framework for adolescents to explore their motivations, beliefs, and attitudes surrounding multiple sexual partners (Greene et al., 2017). The emphasis in MI on exploring and resolving ambivalence is particularly relevant in this context. Adolescents may experience conflicting feelings or uncertainties about engaging in multiple sexual partnerships. MI offers a supportive environment where they can clarify their values, goals, and potential consequences associated with their choices (Greene et al., 2017).

Furthermore, MI is used for addressing substance use during sexual encounters among adolescents. Miller and Rollnick (2013) highlighted the effectiveness of MI's non-confrontational style in exploring adolescents' motivations for this behaviour. This approach creates a supportive and empathetic environment where adolescents feel comfortable discussing why they might use substances in sexual contexts (Miller & Rollnick, 2013). Studies by Waldron et al. (2016) and Szafranski et al. (2018) provide evidence for MI's efficacy in reducing substance use associated with risky sexual behaviours. These studies demonstrate that MI interventions can significantly reduce substance use by enhancing adolescents' intrinsic motivation and self-efficacy to make healthier choices (Waldron et al., 2016; Szafranski et al., 2018). Research by Carpenter et al. (2018) highlights this interconnectedness. Substance use during sexual encounters can impair judgment and decision-making, increasing the likelihood of engaging in unprotected sex or having multiple sexual partners (Carpenter et al., 2018).

Motivational Interviewing (MI) has been found to address sexting among adolescents. Research by Duerksen et al. (2017) highlights MI's effectiveness in a sexting prevention intervention. MI's core principle of fostering intrinsic motivation and self-efficacy provides a non-judgmental and collaborative framework for adolescents to explore their motivations, beliefs, and attitudes surrounding sexting (Duerksen et al., 2017). MI's emphasis on exploring and resolving

ambivalence is particularly relevant in this context. Adolescents may experience conflicting feelings or uncertainties about sexting, such as social pressure or lack of awareness about the potential consequences. Studies by Baranowski et al. (2017) and Kloep et al. (2016) demonstrate the utility of MI-based interventions in reducing sexting and promoting responsible technology use among adolescents. These studies emphasize the importance of addressing underlying motivations, increasing self-awareness, and developing healthy decision-making skills related to sexting (Baranowski et al., 2017; Kloep et al., 2016).

Motivational Interviewing as described by Miller and Rollnick (2013), provides a collaborative and empathetic framework that encourages individuals to explore their thoughts, feelings, and behaviours related to sexual health in a non-judgmental setting. This approach aligns well with recent research by Baranowski et al. (2017) who highlight the importance of communication skills and self-awareness for positive sexual health behaviours. MI techniques, such as reflective listening and open-ended questions, can create a safe space for adolescents to discuss their concerns, ask questions, and express their feelings regarding sexual health (Baranowski et al., 2017). Studies by Szafranski et al. (2016) and Lennie et al. (2017) suggest that MI can reduce stigma associated with sexual health topics, making adolescents more comfortable seeking information and discussing concerns.

By fostering intrinsic motivation, enhancing self-efficacy, and providing a supportive non-judgmental framework for behaviour change, MI has demonstrated its potential to guide adolescents toward safer sexual practices. The study highlights MI's success in addressing critical aspects such as unprotected intercourse, substance use during sexual encounters, sexting, and multiple sexual partnerships by encouraging reflective decision-making and personal goal-setting. Given the complex interplay between adolescent development, peer influence, and societal expectations, this study reaffirms the need for student-centred interventions that prioritize open communication and autonomy. The findings of this study underscore the effectiveness of Motivational Interviewing (MI) as a transformative intervention for reducing risky sexual behaviours among in-school adolescents in Lagos State, Nigeria.

Statement of the Problem

Adolescents continue to engage in risky sexual behaviours, such as unprotected intercourse, multiple sexual partnerships, early sexual debut, and substance use during sexual encounters, despite ongoing efforts to promote sexual health education. These behaviours expose them to significant risks, including unintended pregnancies, sexually transmitted infections (STIs), and emotional distress, which can negatively impact their academic performance and overall well-being. Traditional interventions, often rooted in punitive or didactic approaches, have not yielded sufficient behavioural change, as they fail to address the intrinsic motivations and ambivalence that influence adolescent decision-making regarding sexual activity. Motivational Interviewing (MI), a client-centred counselling technique, addresses risk-related behaviours by fostering adolescents' intrinsic motivation for safer sexual practices. However, the researcher has not come across empirical research examining the effectiveness of MI in reducing risky sexual behaviours among in-school adolescents in Lagos State. Understanding whether MI can serve as an effective intervention for modifying adolescents' sexual behaviours and improving their decision-making processes is crucial for developing targeted and evidence-based strategies to promote adolescent sexual health. Thus, this study seeks to investigate the efficacy of Motivational Interviewing on risky sexual behaviour among in-school adolescents in Lagos State, Nigeria, to provide insights into its potential as a behavioural intervention strategy.

Purpose of the Study

The primary purpose of this research was to investigate the efficacy of Motivational Interviewing (MI) as behavioural therapy on risky sexual behaviour among in-school adolescents in Lagos state. Hence, the study specifically aimed to:

- i. ascertain whether Motivational Interviewing (MI) has a significant impact on risky sexual behaviour among in-school adolescents in Lagos State.
- ii. determine whether there is significant interaction of gender and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State.
- iii. find out whether there is significant interaction of age and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State.

Research Hypotheses

The following research hypotheses were formulated to guide this study:

- There is no significant impact of Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State.
- There is no significant interaction of gender and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State.
- There is no significant interaction of age and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State.

Methodology

This research adopts quasi-experimental research design as it involved a pretest posttest control group design. This research design was used because it was found to be most appropriate to investigate the efficacy of Motivational Interviewing (MI) as behavioural therapy on risky sexual behaviour among in-school adolescents in Lagos state. The population of the study comprises all the in-school adolescents (students within the age range of ten to nineteen) in Lagos state, Nigeria while the target population consists of in-school adolescents in secondary schools, Lagos State. Multi-stage sampling was used to select in-school adolescents for this study. The first stage of the sampling process involved the selection of two (2) Local Education Districts using the simple random sampling technique. The second stage involved the selection of one secondary school from each of the Local Education Districts using the hat-and-draw method. The third stage involved the identification of in-school adolescents with risky sexual behaviour using the “Sexual Risk Survey,” which was administered to the students to determine and establish the fact that they engaged in risky sexual behaviour. This screening determined those who were selected for the study. The final stage involved the assignment of the sample from each of the two schools to experimental group and control group. Two groups were used for this study, one treatment group and one control group. The treatment group were exposed to Motivational Interviewing, while the control group were not exposed to any treatment. Meanwhile, pretest and posttest observations were conducted for the two groups.

The research instruments used for data collection were: Sexual Risk Survey (SRS) which was adopted and 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 of risky sexual behaviour. 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 while Section B focused on assessing risky sexual behaviour. It was structured as a 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 content validity of the instruments was conducted by experts in educational psychology and educational test and measurement while the reliability measurement involved a pilot test with 20 students in a secondary school outside the study sample which yielded high index of internal consistency (Cronbach's $\alpha = 0.88$) and test-retest reliability ($r = 0.93$). Analysis of Covariance 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 experimental group and control group were subjected to Analysis of Covariance (ANCOVA) using SPSS statistical software. The result of the analysis is presented below.

Research Hypothesis One: There is no significant impact of Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State.

Table 1: Summary of ANCOVA on significant impact of Motivational Interviewing (MI) on risky sexual behaviour of in-school adolescents

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Remark
Corrected Model	5229.09	2	2614.54	126.72	0.00	
Intercept	3033.52	1	3033.52	147.03	0.00	
PRETEST	460.74	1	460.74	22.33	0.00	
GROUP	3931.24	1	3931.24	190.54	0.00	*Significant
Error	2826.47	137	20.63			
Total	68542.00	140				
Corrected Total	8055.57	139				

a. R Squared = .649 (Adjusted R Squared = .644)

From table above, the value of F (190.54) is significant at 0.05 alpha level ($p < 0.05$). This indicate that the null hypothesis which state that there is no significant impact of Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos is not retained. It shows that there is a significant impact of MI on risky sexual behaviour among in-school adolescents in Lagos State. This implies that the participants that receive MI (experimental group) had lower risky sexual behavior than the participants in the control group in their posttest scores. Therefore, the finding of this study revealed that there is a significant impact of MI on risky sexual behaviour among in-school adolescents in Lagos State.

Research Hypothesis Two: There is no significant interaction of gender and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State.

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

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Remark
Corrected Model	5372.78	4	1343.20	67.59	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	
Gender	2.15	1	2.15	0.10	0.74	
Group * Gender	19.00	1	19.00	0.92	0.33	*Not significant

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Remark
Error	2682.78	135	19.87			
Total	68542.000	140				
Corrected Total	8055.571	139				

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

From table 2 above, the F-value of 0.92 indicating the interaction of gender and Motivational Interviewing (MI) is not significant at 0.05 alpha level ($p > 0.05$). This shows that there is no significant interaction of gender and MI on risky sexual behaviour among in-school adolescents in Lagos State. Consequently, the significant impact of MI on risky sexual behaviour among in-school adolescents in Lagos State does not depend on the gender of the participants. Hence, the null hypothesis which state that there is no significant interaction of gender and MI on risky sexual behaviour among in-school adolescents in Lagos State is retained. This implies that there is no significant interaction of gender and MI on risky sexual behaviour among in-school adolescents in Lagos State.

Research Hypothesis Three: There is no significant interaction of age and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State.

Table 3: Summary of ANCOVA on significant interaction of age and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Remark
Corrected Model	5372.78	6	895.46	44.39	0.00	
Intercept	2706.84	1	2706.84	134.20	0.00	
Pretest	494.60	1	494.60	24.53	0.00	
Group	3919.54	1	3919.54	194.33	0.00	
Age	0.12	1	0.12	0.01	0.93	
Group * Age	113.12	1	113.12	5.61	0.02	*Significant
Error	2682.78	133	20.17			
Total	68542.000	140				
Corrected Total	8055.571	139				

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

The results on table 3 above indicated that the F-value of 5.61 on the interaction of age and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents is

significant at 0.05 alpha level ($p < 0.05$). Hence, the null hypothesis which state that there is no significant interaction of age and MI on risky sexual behaviour among in-school adolescents in Lagos State is not retained. It implies that there is significant interaction of age and MI on risky sexual behaviour among in-school adolescents in Lagos State. It shows that the significant impact of MI on risky sexual behaviour among in-school adolescents depend on the age of the participants.

Discussion of Findings

The finding of this study revealed that there is a significant impact of Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State. It shows that the in-school adolescents who receives Motivational Interviewing had a reduction in their risky sexual behaviour in their posttest scores. This significant reduction suggests that MI is an effective behavioural therapy in addressing adolescents' engagement in unprotected intercourse, multiple sexual partnerships, early sexual debut, and substance use during sexual encounters. This aligns with the findings of Carey et al. (2016), who reported that MI enhances intrinsic motivation and self-efficacy in adopting safer sexual practices among adolescents. Similarly, Herbst et al. (2018) found that MI-based interventions significantly reduced unprotected sexual intercourse and increased condom use among young adults.

Also, the study revealed that there is no significant interaction of gender and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State. This indicates that male and female students who receive MI do not differ in their risky sexual behaviour. This indicates that both male and female adolescents benefitted equally from the intervention, with no significant differences in the effectiveness of MI based on gender. This finding is consistent with the work of Brener et al. (2018), who found that MI-based interventions influence sexual behaviour change irrespective of gender. It suggests that the psychological mechanisms through which MI operates such as enhancing self-awareness, increasing motivation, and fostering decision-making skills are equally applicable to both male and female adolescents.

Furthermore, the study also found out that there is significant interaction of age and Motivational Interviewing (MI) on risky sexual behaviour among in-school adolescents in Lagos State. It implies that the impact of MI on risky sexual behaviour among in-school adolescents depends on

the age of the adolescent. The effectiveness of MI was found to be more pronounced among older adolescents than younger ones, suggesting that cognitive maturity and developmental readiness may influence how adolescents respond to motivational interventions. This finding aligns with the developmental psychology perspective, which argues that older adolescents have more advanced cognitive skills, including abstract thinking and future-oriented decision-making, which allows them to engage more deeply with MI strategies (Blakemore, 2018).

Conclusion

This study concludes that Motivational Interviewing (MI) is an effective intervention for reducing risky sexual behaviour among in-school adolescents in Lagos State, Nigeria. The findings demonstrate a significant reduction in unprotected intercourse, multiple sexual partnerships, early sexual debut, and substance use among adolescents who received MI, highlighting its role in enhancing intrinsic motivation and self-efficacy. The intervention was equally effective for both male and female adolescents, suggesting that MI's psychological mechanisms benefit all genders. However, its impact varied by age, with older adolescents responding more positively due to greater cognitive maturity and decision-making abilities. These results emphasize the need for age-specific adaptations of MI and its integration into school-based sexual health programs to empower adolescents with the knowledge and motivation to make safer sexual choices.

Recommendations

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

1. Schools should ensure MI-based interventions into adolescent sexual health programs to enhance intrinsic motivation and promote safer sexual practices.
2. Health agencies should integrate gender-neutral MI training programs should be developed to ensure that both boys and girls receive equal access to counselling and behavioural change support.
3. School administrators should initiate age-specific adaptations of MI should be implemented to ensure younger adolescents receive developmentally appropriate interventions that align with their cognitive and emotional maturity.

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