

Factors influencing risky sexual behaviour among rural South African high school girls

Mulaudzi, S.¹, & Hoque, M.²

¹Transformation unit, Gauteng Department of Roads and Transport, Gauteng Provincial Government, South Africa

²Department of Public Health, Sefako Makgatho Health Sciences University, Pretoria, South Africa

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Correspondence to:

Prof. Muhammad Hoque

muhammad.hoque@smu.ac.za

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ABSTRACT

Introduction

A person is said to engage in risky sexual behaviour when participating in activities that increase their susceptibility to sexual and reproductive health problems. Risky sexual behaviour among adolescents is a major public health issue in rural South Africa, where access to sexual health education and services is limited. These behaviours heighten the risk of unintended pregnancies and sexually transmitted infections (STIs), including HIV, and negatively affect the long-term health and socioeconomic status of young girls. Identifying contributing factors is crucial for developing effective interventions.

Purpose

This study aims to identify and quantify factors influencing risky sexual behaviour among high school girls in Limpopo Province, South Africa, to inform targeted interventions.

Methods

A cross-sectional survey of 306 high school girls (grades 10–12) from five rural schools was conducted. Data were collected using structured questionnaires. Logistic regression was applied to analyse significant factors associated with risky behaviours.

Results

Two-thirds of the participants reported engaging in risky sexual behaviours, including having multiple sexual partners. Among grade 10 learners, age, sexual experimentation, multiple sexual partners, and engaging in sex for gifts were statistically significant predictors of risky sexual behaviour ($p < 0.05$). Overall, experience of gender-based violence was found to be a significant predictor of risky sexual behaviour ($p < 0.05$).

Conclusion

The study underscores the need for comprehensive sexual education in rural South African schools. Interventions should include gender-sensitive and culturally relevant sexual education, tailored to the socioeconomic realities of rural South Africa, to reduce the risks associated with adolescent sexual practices.

INTRODUCTION

Risky sexual behaviour refers to actions that increase an individual's vulnerability to sexual and reproductive health issues. These behaviours include early sexual activity, having multiple sexual partners, engaging in sex while under the influence of alcohol or drugs, and having unprotected sex (Smith et al., 2020). Sexual behaviours among adolescents continue to be a global public health concern due to their engagement in risky practices (Sun et al., 2024). Risky sexual behaviours among adolescents are linked to various negative outcomes, including emotional distress, behavioural issues such as suicide attempts and aggression, unintended pregnancies, and a higher risk of contracting sexually transmitted infections (STIs), including HIV (Roman et al., 2021; Kushal et al., 2022).

Adolescents and youth comprise a substantial proportion of the global population. Due to their propensity to engage in risky sexual behaviours, they are classified as one of the most at-risk populations. The Global School-based Student Health Survey conducted in 69 low- and middle-income countries between 2003 and 2017 found that 6.9% of adolescents aged 12–15 had engaged in sexual intercourse. Among them, 42.9% did not use a condom, and 52.2% had multiple sexual partners (Jing et al., 2023). It is estimated that about 1.2 million adolescents aged 15–19 living with HIV likely contracted the virus through sexual transmission. Additionally, around 15 million girls worldwide aged 15–19 have experienced sexual violence or been forced into sexual activity (Petroni & Ngo, 2018).

Previous research has shown that risky sexual behaviours among young people can be caused by a variety of factors, including but not limited to social media use, inadequate interpersonal support, relationship stress, poor mother-daughter attachment, intimate partner violence, limited religious involvement, drug and alcohol use, and the use of prescription drugs to treat physical issues (Muche et al., 2017; Aynalem et al., 2022; Brooks Holliday et al., 2017). Students who attended nightclubs were 2.53 times more likely to engage in risky sexual behaviours compared to those who did not (Aynalem et al., 2022; Perera & Abeyseena, 2018; Adeboye et al., 2016).

Adolescent girls in sub-Saharan Africa face a heightened risk of HIV, other STIs, early pregnancy, early marriage,

and gender-based violence. Gender-based violence (GBV) involves harmful actions against individuals based on gender, typically caused by social norms and power imbalances (Melesse et al., 2020). Early sexual debut has emerged as a significant risk factor for these adverse sexual health outcomes (Heywood et al., 2015). Among both males and females, early initiation of sexual activity is linked to risky behaviours, including inconsistent condom use, multiple sexual partners, casual or older partners, and transactional sex (Lowry et al., 2017). These high-risk behaviours may explain the associations between early sexual debut and negative sexual health outcomes, though biological factors such as increased susceptibility to HIV and STIs may also play a role.

In rural areas of South Africa, adolescent females continue to exhibit high rates of risky sexual behaviour, despite ongoing efforts to educate them on sexual health. The problem is exacerbated by limited access to healthcare services, cultural norms, and socio-economic factors present in rural areas. It is imperative to possess a comprehensive understanding of these factors to create effective interventions that are tailored to the unique issues adolescents in these rural communities face. Given the distinct socioeconomic and cultural challenges of rural South Africa, this study seeks to identify localized factors contributing to risky sexual behaviour among high school girls.

METHODS

This cross-sectional quantitative study was conducted among female learners in grades 10, 11, and 12. A cross-sectional design was appropriate for investigating correlations in this context, as it collects data from individuals at a specific point in time, enabling researchers to identify relationships between variables (Creswell & Creswell, 2018). The study was conducted in Limpopo Province, located in the northeastern part of South Africa. The province comprises five districts: Capricorn, Sekhukhune, Vhembe, Waterberg, and Mopani. This region is characterised by a diverse landscape, including mountainous areas, savannas, and a subtropical climate. Limpopo is predominantly rural, with many communities relying on agriculture and natural resources. Eight schools were purposefully selected from the Vhembe and Mopani districts to maximise geographic diversity within the

study area. A total of 1,154 female learners who were registered at the time of the study participated.

The questionnaire was developed and adapted through multiple stages to ensure cultural relevance. Initially, it was based on validated measures addressing sociodemographic factors, psychosocial influences, and substance use. Recognising the need for cultural sensitivity, the research team consulted with local experts and community members to review and refine the content, language, and terminology. This collaboration ensured that the questions were clear, meaningful, and consistent with cultural norms and values. Subsequently, the questionnaire underwent pre-testing with a small sample from a community comparable to, but distinct from, the study area. This pre-test enabled the researchers to observe how participants engaged with the questions and to identify ambiguities or culturally irrelevant items. Feedback from this phase resulted in minor modifications to the language and structure of the questionnaire, enhancing clarity and cultural appropriateness. These adjustments ensured that the questionnaire was contextually relevant and respectful of the respondents' perspectives.

Data were collected using a pre-tested and structured self-administered questionnaire. Trained data collectors, familiar with working with adolescents, facilitated the data collection process. Their training included ethical considerations, privacy, and effective communication strategies. The principal investigator supervised the process to ensure the completeness and consistency of each questionnaire.

Before collecting data, the researcher made an appointment with the life orientation teacher at each respective school. Upon obtaining the teacher's agreement, the researcher visited the class and distributed the self-administered questionnaires. Students present in the class on that day were invited to participate. Once completed, they returned the questionnaires in a box placed near the door. The researcher and research assistant checked the questionnaires for completeness and were available to answer any queries the students had for clarification. On average, it took about 10 minutes to complete the questionnaire.

Data were captured, coded, and analysed using STATA software version 25. The analysis was performed separately for each grade and then combined for all grades. This approach was based on the distinct developmental, cognitive, and behavioural differences that adolescents exhibit. As learners advance in age and grade, they experience various psychosocial changes that influence decision-making, peer interactions, and susceptibility to risky behaviours (Steinberg & Monahan, 2021; Côté & Allahar, 2020). Descriptive statistics were presented as frequency distributions for categorical variables and means with standard deviations (SD) for continuous variables. Since the outcome variable was binary, binary logistic regression was carried out to determine significant predictors of risky sexual behaviour. P-values less than 0.05 were considered statistically significant.

The study was ethically approved by the university ethics committee (Ref No: SHS/18/PH/39/1611). Additionally, the Provincial Department of Education approved the study. Informed consent was obtained before data collection. Anonymity and confidentiality were maintained throughout the study as no names were used in the questionnaire or analysis. Participation was voluntary, and participants could withdraw from the study at any time without any penalty.

RESULTS

A total of 306 female learners from grades 10, 11, and 12 completed the questionnaire, yielding a response rate of 59%. **Table 1** summarises the socio-demographic variables of the participants. The average age of the participants was 17 years (SD = 2.14). Most of the learners were in 11th grade, with a smaller portion (13%) being in 10th grade. More than half of the learners' guardians were employed (58%). The family structure was diverse: 40% of the learners lived with both parents, while a similar proportion lived with either their mother or father. It was found that two-thirds (66.99%) of the participants engaged in risky sexual behaviour. Additionally, more than one-third (36%) of the learners reported experiencing some form of gender-based violence (GBV) (see **Table 1**).

Table 1:
Demographic and Behavioural Characteristics of Learners

Variable	Description	Frequency	Percentage
Age	18 and above	146	47.25
	Less than 18	163	52.75
Average age (SD)		17.26 (2.14)	
Grade	10	39	13.13
	11	145	48.82
	12	113	38.05
Religion	Christian	247	79.94
	Other	62	20.06
Guardian	Both parents	118	40.00
	Single parent	123	41.69
	Other	54	18.31
Guardian employed	No	122	42.26
	Yes	166	57.64
Know about life skills programme	No	64	20.71
	Yes	245	79.29
Language	Venda	179	57.93
	Other	130	42.07
Exposure to media	No	82	26.54
	Yes	227	73.46
Experienced GBV	No	198	64.08
	Yes	111	35.92
Engage in risky sex	No	102	33.01
	Yes	207	66.99
Intergenerational relationships	No	244	78.96
	Yes	65	21.04

The results in **Table 2** below present predictors for risky sexual behaviour among grade 10 female learners. Age (Odds Ratio [OR] = 1.52), sexual experimentation (OR = 0.068), multiple sexual partners (OR = 6.46), and engaging in sexual activities for gifts (OR = 25.29) were statistically significant predictors for risky sexual behaviour ($p < 0.05$).

Table 2:
Risk Factors for Risky Sexual Behaviour Among Grade 10 Female Learners

Variable	Odds Ratio	Robust Std. Err.	z	p > z	[95% Conf. Interval]
Age	1.517	0.167	3.800	0.000	1.223 - 1.881
Religion	1.113	0.226	0.530	0.597	0.748 - 1.656
HIV Awareness	0.596	0.133	-2.310	0.021	0.384 - 0.925
Gifts	25.291	29.378	2.780	0.005	2.596 - 246.441
Multiple-sex Partners	6.457	5.467	2.200	0.028	1.228 - 33.940
Alcohol Influence	0.377	0.255	-1.440	0.150	0.100 - 1.422

No variables were found to be significant predictors for risky sexual behaviour among grade 11 female learners (see **Table 3**).

Table 3:
Logistic Regression Analysis for Grade 11 Learners

Variable	Odds Ratio	Robust Std. Err.	z	p > z	[95% Conf. Interval]
Age	1.139	0.081	1.830	0.067	0.991-1.310
Religion	0.985	0.132	-0.120	0.908	0.758- 1.280
HIV awareness	0.850	0.131	-1.050	0.292	0.628- 1.150
Gifts	1.856	1.588	0.720	0.470	0.347- 9.931
Multiple sex partners	2.053	1.505	0.980	0.326	0.488- 8.640
Alcohol Influence	1.116	0.773	0.160	0.875	0.287- 4.337
Guardian Occupation	0.877	0.647	-0.180	0.859	0.207- 3.720
Experiment	0.192	0.205	-1.540	0.123	0.024- 1.560
Alcohol Influence (Duplicate)	0.452	0.222	-1.610	0.106	0.172- 1.185
School dropout at 14 yrs.	0.622	0.269	-1.100	0.273	0.266- 1.454
School dropout at 15 yrs.	0.607	0.363	-0.830	0.404	0.188- 1.961

Similarly, no significant predictors were found for risky sexual behaviour among grade 12 learners (see **Table 4**). Combining all the data from grades 10, 11, and 12, experience of gender-based violence (GBV) was a significant predictor for risky sexual behaviour (OR = 3.11, $p = 0.001$).

Table 4:
Grade 12 students engaging in risky sexual behaviour

Variable	Odds Ratio	Robust Std. Err.	Z	P>z	[95% Conf. Interval]
Age	0.889	0.054	-1.940	0.052	0.789- 1.001
Religion	0.984	0.138	-0.120	0.905	0.748- 1.294
HIV awareness	0.935	0.167	-0.370	0.709	0.659- 1.328
Gifts	4.562	3.657	1.890	0.058	0.948- 21.950
Multiple sex partners	3.720	2.649	1.850	0.065	0.922- 15.016
Alcohol Influence	0.647	0.434	-0.650	0.517	0.174 - 2.413
Guardian Occupation	0.300	0.189	-1.920	0.055	0.088 - 1.029
Experiment	0.977	0.688	-0.030	0.973	0.246 - 3.884
Alcohol Influence	1.069	0.500	0.140	0.886	0.427 - 2.676

Table 5:
Multiple Logistic Regression Analysis: Behavioural Factors Associated with Risky Sexual Behaviour

Variable	Description	Odds Ratio (95% CI)	p-value
Gender-based violence	No	1	
	Yes	3.11 (1.56; 6.21)	0.001
Inter-generational relationships	No	1	
	Yes	1.20 (0.55; 2.61)	0.652
Media exposure	No	1	
	Yes	0.91 (0.46; 1.79)	0.778
Language	Other	1	
	Venda	0.76 (0.32; 1.83)	0.546
Know about Life skills program	No	1	
	Yes	1.02 (0.47; 2.21)	0.956
Age, years	18 and above	1	
	Less than 18	1.31 (0.58; 2.98)	0.516
Religion	Other	1	
	Christian	1.11 (0.54; 2.29)	0.77
Grade	10	1	
	11	1.80 (0.65; 4.93)	0.255
	12	1.58 (0.56; 4.45)	0.389
Guardian	Both parents	1	
	Single parent	1.07 (0.57; 2.00)	0.835
	Other	0.67 (0.29; 1.52)	0.337
Guardian employed	No	1	
	Yes	0.85 (0.46; 1.56)	0.592

DISCUSSION

This study aimed to identify factors contributing to risky sexual behaviour among female learners in Grades 10, 11, and 12. The findings offer valuable insights into the implementation of the Life Orientation (LO) curriculum in secondary schools, specifically focusing on adolescent girls in the Mopani and Vhembe Districts. A significant number of learners reported engaging in risky sexual behaviours, with experiences of gender-based violence (GBV) emerging as a key predictor of such behaviours.

The high prevalence of risky sexual behaviour observed in this study is consistent with previous research. Pettifor et al. (2018) reported that South African adolescent girls face heightened risk for HIV due to a combination of social, economic, and behavioural factors. Similarly, a study from Ethiopia by Azene et al. (2022) found high rates of risky sexual behaviour among preparatory school students, and research from Tanzania revealed that 43% of urban schoolgirls had engaged in vaginal sex (Whitworth et al., 2023). Differences in study contexts, such as healthcare

services and social dynamics, may explain variations across findings, including openness to discussions about sexual health. Nevertheless, the results of this study align with global trends, suggesting that life skills programmes can be effective in mitigating risky behaviour.

A meta-analysis by Telzer et al. (2022) demonstrated that well-structured life skills interventions significantly improve adolescents' decision-making and reduce their engagement in risky behaviours. Similarly, research by Jepsen et al. (2023) supports the notion that integrating life skills education with behavioural health strategies enhances coping mechanisms and decreases risky behaviour patterns.

Harrison et al. (2021) emphasized the importance of gender-sensitive education in empowering young women to make informed choices. Their work supports the findings of this study, particularly the focus on adolescent girls in Grades 10–12. Gender-sensitive approaches in education can address the unique challenges faced by young women, leading to improved decision-making and reduced risky behaviour. This study reinforces the relevance of such strategies in Life Orientation programmes.

Adolescent girls are especially vulnerable to risky sexual behaviour due to their increased likelihood of experiencing violence from both caregivers and intimate partners. They often bear greater domestic responsibilities than their male counterparts, particularly in the absence or death of a caregiver (Burzynska & Contreras, 2020; Chiang et al., 2021). This study found a significant association between risky sexual behaviour and experiences of GBV. Similarly, a study conducted among university students in Ethiopia found a link between traditional gender norms and an increased risk of GBV (Kaufman et al., 2020). Traditional gender norms create power imbalances between men and women, which increase the risk of GBV. These norms, which dictate that men should be dominant and women submissive, may justify or tolerate domineering and abusive behaviour towards women. Such conventions may also prevent women from speaking out or seeking help, increasing their vulnerability to GBV. Thus, university students who hold such beliefs may engage in romantic and social violence.

In rural areas like Limpopo and the Eastern Cape, high unemployment and poverty levels further exacerbate the vulnerability of adolescent girls, increasing their susceptibility to risky behaviours and health risks. Life skills education must therefore be paired with broader systemic interventions, such as improving healthcare access, supporting income-generating initiatives, and promoting gender equality. Pettifor et al. (2018) highlighted that young women in this region are particularly vulnerable due to factors such as gender inequality, limited educational opportunities, and economic dependence on older male partners, commonly known as "sugar daddies." Addressing these issues is essential for the LO curriculum to be truly effective in reducing HIV rates and empowering adolescents to make healthier choices.

This study is not without limitations. The reliance on self-reported data may introduce social desirability bias, with participants potentially underreporting or misrepresenting sensitive information about their sexual practices. This could affect the accuracy of the results, particularly in cultural contexts where discussions on sexual behaviour are stigmatized. Additionally, the cross-sectional design limits the ability to establish causal relationships between the identified factors and risky sexual behaviours. Longitudinal studies are needed to better understand the temporal dynamics and causality of these associations. Lastly, the study was conducted in a specific rural area of South Africa, which may limit the generalizability of the findings to other rural settings.

CONCLUSION AND RECOMMENDATIONS

The prevalence of risky sexual behaviour was very high among Grade 10–12 girls. Experiences of gender-based violence were a significant predictor of risky sexual behaviour. The findings of this study suggest the need for a multifaceted approach to addressing risky sexual behaviour among high school girls in rural South Africa. For example, enhanced training for Life Orientation teachers on delivering gender-sensitive content and collaboration with local NGOs for community engagement are recommended.

It is further recommended that comprehensive sexual education programmes be implemented in schools,

focusing not only on increasing sexual health knowledge but also on practical skills for decision-making. Additionally, parental involvement should be encouraged through community-based initiatives that equip parents with the knowledge and tools to guide their children effectively.

Future research should explore longitudinal approaches to better understand the causal relationships between these factors and risky sexual behaviour, while also expanding to other rural and urban regions for broader insights.

Ethical Approval: The study was ethically approved by the Sefako Makgatho Health Sciences University's ethics committee (Ref No: SHS/18/PH/39/1611). Additionally, the Provincial Department of Education approved the study.

Conflicts of Interest: None declared.

ORCID iDs:

Mulaudzi, S.¹: Nil identified
Hoque, M.²: Nil identified

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