

Interaction Effect of Adolescents' Gender and Parental Level of Education on Adolescents' Sexual Behaviours in Public Secondary Schools in Uasin Gishu County, Kenya.

Charles Too¹, Agnes Jepchoge Busienei², Abdulkadir Shehu Adam³,

¹Department of Educational Psychology, Moi University, Kenya.

²Department of Educational Management & Policy Studies, Moi University, Kenya.

*Corresponding Author

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ABSTRACT

Adolescents' sexual behaviour remains a pressing global concern due to its potential to result in serious health and social consequences. In both developed and developing countries, including Kenya, adolescents face increasing risks associated with early risky sexual behaviour. In Uasin Gishu County, limited research has documented the prevalence of such risky behaviours among secondary school students, with serious implications for their health and academic progress.

Guided by Problem Behaviour Theory, this study adopted a sequential explanatory mixed methods design to examine the interaction effect of adolescent gender and parental level of education on adolescent sexual behaviour. The study targeted 27,773 students and 187 teacher-counselors in 187 public secondary schools in Uasin Gishu County. Using Slovene's formula, a sample of 394 students was selected through stratified random sampling, while 17 teacher-counselors were sampled purposively. Quantitative data were collected using a questionnaire, while qualitative data were gathered through structured interviews.

Two-way ANOVA revealed a significant main effect of parental level of education on adolescent sexual behaviour, $F(4, 310) = 18.17, p < .001, \eta^2 = .20$. However, there was no significant main effect of gender, $F(1, 310) = 0.04, p = .842, \eta^2 < .001$, and no significant interaction between gender and parental education level, $F(4, 310) = 0.10, p = .984, \eta^2 < .001$. The model explained a significant proportion of the variance in adolescent sexual behaviour, $F(9, 310) = 8.28, p < .001$. Thematic analysis of qualitative data corroborated these findings. Accordingly, the first (H_{01}) and third (H_{03}) null hypotheses were retained, while the second (H_{02}) was rejected at $p < .05$. These findings highlight the critical role of parental education in influencing adolescent sexual behaviour and suggest that its effect is consistent across genders. The study recommends targeted, parent-focused sexual health interventions that are inclusive and contextually sensitive.

Keywords: Interaction Effect, Effect of Adolescents' Gender, Parental Level of Education Adolescents' Sexual Behaviour, Public Secondary Schools

INTRODUCTION

Adolescent sexual behaviour remains a pressing global issue due to its association with serious and potentially life-threatening outcomes, particularly among youth in both developed and developing countries such as Kenya. Healthy sexual development is a critical aspect of adolescent growth. While many adolescents are able to make informed and responsible choices about their sexual behaviour (Houck et al., 2016; Willoughby et al., 2021), others tend to act impulsively, engaging in behaviours that put them at significant risk (Alimoradi et al., 2017; De Sousa Mesquita et al., 2017).

In recent years, there has been a notable global increase in early sexual debut among adolescents. Evidence suggests that the earlier an individual initiates sexual activity, the more likely they are to engage in risky sexual behaviours later in life (Doubova et al., 2017; Srahbzu & Tirfeneh, 2020). Adolescent sexual behaviour is shaped by a complex interplay of factors, and understanding these influences is essential for the development of targeted and effective interventions. Among these factors, adolescents gender (Srahbzu and Tirfeneh, 2020; Kim et al., 2021;) and parental level of education (Aventin et al., 2020; Waliyanti and Dewantari, 2021) play pivotal roles.

Statement of the Problem

The issue of unsafe sexual behaviours among secondary school adolescents in Uasin Gishu County (Wanyonyi, 2014; Koech, 2014; Kibor, 2016; NCPD, 2017) reflects a broader national trend of increasing engagement in risky sexual activities among school-going adolescents. These behaviours often result in serious consequences such as unintended pregnancies and early parenthood, abortions, and the contraction of sexually transmitted diseases, including HIV (Kenya Demographic Health Survey, 2018). Such outcomes adversely affect both the health and educational outcomes of adolescents, sometimes leading to death and high school dropout rates. These negative impacts undermine the attainment of key national development goals, particularly those outlined in Vision 2030 related to education and health (Akatukwasa et al., 2022).

Statistical findings by Wanyonyi (2014), Koech (2014), and Kibor (2016) indicated that the majority of adolescents in secondary schools in Uasin Gishu County engage in unsafe sexual behaviour. Their reports revealed that 66% of students were sexually active, with over 50% reporting repeated sexual encounters, and more than 40% admitting to having multiple sexual partners. Regarding specific indicators, 8% of the students had contracted STIs, 22% had experienced pregnancy, and 21% reported using contraceptives.

Adolescent sexual behaviour continues to be a major global concern due to its association with serious and potentially life-threatening outcomes. This challenge affects young people in both developed and developing countries, including Kenya. While some adolescents make responsible choices regarding sexual activity (Houck et al., 2016; Willoughby et al., 2021), others exhibit impulsive behaviour that increases their exposure to risky sexual practices (Alimoradi et al., 2017; De Sousa Mesquita et al., 2017). According to Olaleye et al. (2020) and the U.S. Centers for Disease Control and Prevention (2014), risky sexual behaviours include early initiation of sexual activity (at or before age 16), having multiple or casual sexual partners, engaging in transactional sex (exchanging sex for money), having sex while under the influence of alcohol or drugs, and unprotected intercourse (without condoms or contraceptives). In Uasin Gishu County, Kenya, limited studies on adolescent sexual behaviour and sex education in secondary schools reveal that many students are involved in such high-risk activities, which jeopardize their health and academic success (Wanyonyi, 2014).

The increasing prevalence of risky sexual behaviours in this region, characterized by early sexual debut, multiple or non-regular partners, transactional sex, substance-related sexual encounters, and unprotected sex (Kenya Demographic and Health Survey, 2018; Embleton et al., 2017), highlights the urgent need to investigate the factors driving these behaviours. Although previous research, such as that by Wanyonyi (2014), has identified the existence of these patterns among secondary school students, it provides limited insight into how specific socio-demographic variables shape these outcomes.

In particular, the roles of adolescents' gender (Fakunmoju et al., 2016; Amusan et al., 2017; Muhammad et al., 2017; Ajayi et al., 2022) and parental education level (Widman et al., 2016; Waliyanti & Dewantari, 2021; Tamayo Martinez et al., 2022) have not been sufficiently explored, despite evidence suggesting that these factors may significantly influence adolescents' sexual choices and vulnerability. This study, therefore, sought to fill this gap by investigating the interaction between adolescents' gender and their parents' level of education in shaping adolescent sexual behaviour, with a view to supporting the development of more targeted and effective school and community-based interventions.

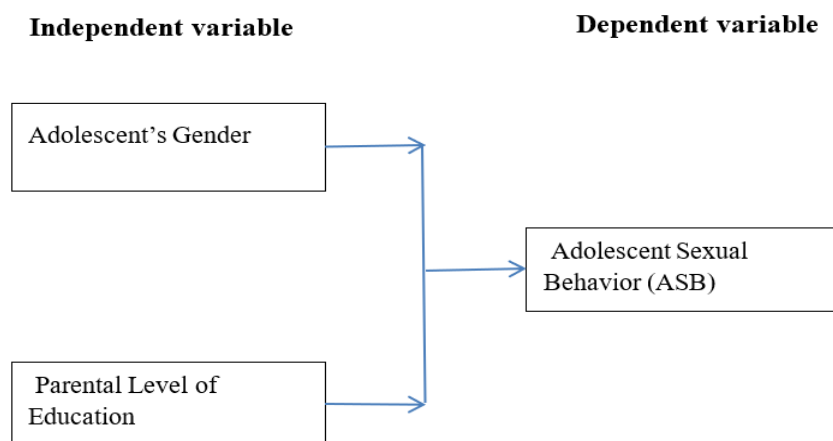
Theoretical and Model Underpinnings

This study was based on Problem Behaviour Theory (PBT) model (Jessor and Jessor (1977). The PBT theory seeks to explain behavioural outcomes for instance deviancy, substance use and risky sexual behaviours. The

model assumes that all behaviour arises out of the structure and interaction of the three systems of psychosocial components. These components include; personality system, environmental system and the behaviour system. Each system is composed of variables that serve either as instigations for engaging in problem behaviour or controls against involvement in problem behaviour. It is the balance between instigations and controls that determines the degree of proneness for problem behaviour within each system.

Conceptual Framework

Owing to the PBT (1977) Model and literature on adolescent gender, parental level of education and adolescent sexual behaviour a conceptual framework was generated. The study was conceptualized as presented in Figure 1.



LITERATURE REVIEW

Adolescents Sexual Behaviour

Adolescence is a transitional period from childhood to adulthood, characterized by significant physiological, psychological and social changes in the age group of 10-19 years (UNFPA, 2018; Sawyer et al., 2018; Ross et al., 2020). Allen and Waterman (2019) assert adolescence is seen as a time to develop independence from parents while still remaining connected to them for provision of educational and material needs. However, they argued that the typical age range of adolescence is from 12 to 18 years and this stage has remarkable physical, cognitive and psycho-social characteristics.

Globally 1.2 billion adolescents need proper education, health and other life skills to ensure a better future for themselves and their countries (Blum et al., 2017). Adolescents often lack basic sexual and reproductive health information, knowledge, and access to affordable confidential health services. However, the “sex talk” is often one of the most challenging conversations for parents and children during adolescence. Risky sexual behaviour consists of actions that heighten the likelihood of adverse outcomes linked to social interaction, such as contracting HIV/AIDS or other sexually transmitted diseases (STDs) or becoming pregnant unintentionally. Adolescents and young adults in particular have been found to be the group at the highest risk for negative health consequences related to sexual risk-taking behaviour, including STIs for instance, gonorrhoea, chlamydia, human immunodeficiency virus (HIV), syphilis, and the occurrence of unintended pregnancies (Willoughby et al., 2021; Rasberry et al., 2022). Early sex and unprotected or poorly protected sexual intercourse has negative implications on one's social status, self-perception and future health behaviour, for instance it increases the risk of unintended pregnancy and unfavourable outcomes for this age group, including early motherhood, abortion and adoption, each of which presents many challenges such as; educational, economic, social and health (Milimo et al. 2021).

The sexual behaviour of adolescents is of importance due to the increasing number of sexually active adolescents globally (World Health Organisation [WHO], 2018). While initiation of sexual activity is a part of normal behaviour and development, it may also be associated with negative outcomes, if sexual behaviour involves engagement in sexual activity at an early age, or without due attention to the risks involved

(Maswikwa, et al., 2015, Vasilenko, 2022). Teenagers and young adults may face many sexual and reproductive health risks stemming from early, unprotected, or unwanted sexual activity (WHO, 2018). For example, early initiation of sexual activity increases the period of time adolescents are exposed to the risk of sexually transmitted infections or unintended pregnancy.

Although there is no universal definition of early initiation of sexual activity, it is often classified as sexual intercourse during initial high school years (Seff et al., 2021; Rasberry et al., 2022) or sexual intercourse before the age of legal consent (Girma & Paton, 2015), it has been alluded that during adolescence, a child undergoes several physiological, psychological, and social growth and development changes, with sexual and reproductive growth and development being among the remarkable changes (Hegde et al., 2022).

Influence of Gender on Adolescents' Sexual Behaviours

Recent research explores diverse perspectives on gender definition. While some view gender as inherent biological traits of males and females (gender essentialism), others consider it a social construct (gender constructionism) (Johnson, 2021). A study investigating public definitions of gender in Australia and Canada found that most participants defined gender as personal feelings or self-identification, though many also referred to biological features or simply used terms like "male" and "female" (Hall et al., 2021). Although definitions of the term 'gender' vary significantly across demographic groups, highlighting the lack of a universally shared understanding, this study conceptualised it in terms of "male" and "female".

Research on the relationship between gender and adolescent sexual behaviour has produced mixed findings. Some studies, particularly those examining socio-cultural perceptions of sexuality and relationships in Nigeria, reveal that such perceptions are shaped by deeply rooted patriarchal norms and religious ideologies that reinforce male dominance (Odimegwu et al., 2017; Odimegwu et al., 2019; Okah et al., 2023). These ideologies, including beliefs in male privilege, contribute to unequal power dynamics in sexual relationships, which may facilitate unsafe sexual practices and perpetuate the cultural devaluation of women among adolescents (Amusan et al., 2017; Ajayi et al., 2022).

In Malaysia, Muhammad et al. (2017) observed gender differences in sexual intentions among youth, which were attributed to varying levels of family cohesion and parental monitoring. Male adolescents reported significantly lower levels of parental involvement, care, and communication regarding sexual matters, coupled with minimal family cohesion. In contrast, female youth experienced higher levels of familial support. The findings indicated that males were more likely to engage in premarital sex compared to females.

Kim et al. (2021), using data from the 14th Korea Youth Risk Behavior Web-Based Survey (2018), explored gender differences in sexual behaviour and their implications for mental health among South Korean high school students. The study found that boys started sex earlier (Rao-Scott $\chi^2 = 53.55$, $p < 0.001$), used contraceptives less frequently (Rao-Scott $\chi^2 = 26.57$, $p < 0.001$), and received less school-based sex education (Rao-Scott $\chi^2 = 11.20$, $p = 0.004$). For girls, pregnancy experiences were strongly linked to suicidal ideation (Rao-Scott $\chi^2 = 9.90$, $p = 0.003$), planning (Rao-Scott $\chi^2 = 17.25$, $p < 0.001$), and attempts (Rao-Scott $\chi^2 = 23.11$, $p < 0.001$), suggesting gender-specific risks and vulnerabilities.

Ayoade et al. (2015) investigated socio-demographic predictors of adolescent sexual behaviour and found significant differences between male and female students, concluding that gender had a substantial impact on sexual conduct. Similarly, Olorunsola et al. (2021) examined patterns and predictors of adolescent sexual behaviour in Ibadan, Nigeria, and discovered that a higher proportion of male students engaged in early sexual activity and had multiple partners compared to females.

In Kenya, Muchiri and Omulema (2020) found that boys were more likely than girls to engage in risky sexual behaviours. Their study also reported significant gender differences in factors contributing to such behaviours, with boys scoring notably higher than girls ($p < 0.05$).

Bikila et al. (2021), in a study conducted in Ethiopia, found that female adolescents were twice as likely as males to discuss sexual and reproductive health issues with their parents, highlighting gender disparities in communication patterns.

In South-Eastern Nigeria, Agu et al. (2022) examined adolescents' views on the influence of gender norms and ideologies on sexuality. They found that gender was a strong predictor of sexual behaviour: boys were less likely to support premarital abstinence and were more permissive of adolescent sexual activity compared to girls.

Laddunuri (2013), in a study of secondary school students across four major Tanzanian cities, reported that male students were 1.46 times more likely to have had sexual intercourse than female students. Similarly, Muchiri and Omulema (2020) reaffirmed that boys were significantly more involved in risky sexual behaviour compared to girls.

However, not all studies found male adolescents to be more sexually active. Manaf et al. (2014), researching premarital sex among youth trainees in Malaysia, found that a higher proportion of female trainees reported having engaged in premarital sex than their male counterparts.

Contrary evidence also emerged from a study by Kingori and Kingori (2016), which explored the influence of gender on sexual behaviour among secondary school students in Nyahururu Sub-County, Kenya. Their findings indicated that gender differences had no statistically significant impact on adolescent sexual behaviours.

Similar contrasting findings were reported in a study by Azira et al. (2020), which explored Malaysian parents' knowledge, attitudes, and practices regarding the provision of sexuality education to their children. The study found no significant association between parents' gender and their involvement in delivering sexuality education to adolescents. Notably, the majority of parents believed that sexuality education should begin at an early age and be provided primarily by parents.

Influence of Parental Level of Education on Adolescents' Sexual Behaviours

Parental level of education refers to the highest level of formal education completed by a child's parents. It is a key variable in social science, psychology, and education research, as it is often linked to a range of developmental, behavioural, and academic outcomes in children (Reis et al., 2023), including their sexual behaviour.

Widman et al. (2016) suggested that parents who have attained college education may hold different values regarding sexual behaviour for their children compared to parents without college education. Similarly, Imaledo et al. (2013) noted that parents with lower levels of education and socioeconomic status often face challenges in effectively influencing their children's sexual behaviours.

Tamayo Martinez et al. (2022) examined the relationship between parental education, child non-verbal intelligence, and parenting practices in relation to school achievement. Their findings indicated that higher parental education was associated not only with greater child intelligence but also with improved academic performance, attributed in part to supportive family-related factors.

In a study conducted in Sierra Leone, Small et al. (2023) explored the complex relationship between sexual health literacy, parental education, and risky sexual behaviour among male and female college students. The results revealed strong associations between parental education and students' sexual risk behaviours. Specifically, the father's education level (loading factor = .843, $p = .0001$) and income (loading factor = .695, $p = .0001$) were identified as key contributors to students' sexual health literacy. Additionally, parental education ($\beta = -.128$, $p = .05$) and STI knowledge ($\beta = -.160$, $p = .05$) were found to significantly reduce sexual risk, underscoring the critical role of parental education in shaping sexual health literacy and behaviour among college students.

Contrasting evidence was reported by Golshiri et al. (2020), who investigated the link between parental education and adolescent violence in Isfahan province. Using Chi-square and logistic regression analysis, the study found no statistically significant relationship between parental education levels and the prevalence of violent behaviour among students ($p > 0.05$).

Similarly, Azira et al. (2020) examined Malaysian parents' knowledge, attitudes, and practices regarding sexuality education and found no significant association between parents' educational level and their involvement in providing sexuality education to adolescents. However, the majority of parents believed that sexuality education should begin at an early age and be primarily delivered by parents themselves.

Hypotheses

The reviewed literature highlights gender and parental level of education as key factors influencing adolescent sexual behaviour. However, it remains unclear whether there are statistically significant differences in adolescents' sexual behaviours based on these variables. Additionally, there is a need to determine whether an interaction effect exists between gender and parental level of education in shaping adolescent sexual behaviours. Against this backdrop, the present study aimed to examine the interaction effect between gender and parental level of education on adolescent sexual behaviours among students in public secondary schools in Uasin Gishu County, Kenya.

The study was guided by the following null hypotheses:

- **H₀₁:** There is no statistically significant difference in adolescent sexual behaviour based on gender among students in public secondary schools in Uasin Gishu County, Kenya.
- **H₀₂:** There is no statistically significant difference in adolescent sexual behaviour based on parental level of education among students in public secondary schools in Uasin Gishu County, Kenya.
- **H₀₃:** There is no statistically significant interaction effect between gender and parental level of education on adolescent sexual behaviour among students in public secondary schools in Uasin Gishu County, Kenya.

METHODOLOGY

Research Design

Survey descriptive design was used in this study to assess the predictive effect of adolescent-parent communication has no statistical predictive effect on adolescent sexual behaviour in public secondary schools. Sequential explanatory typology of mixed methods approach was used to collect both quantitative and qualitative data. Therefore, priority was typically given to quantitative data, whereas the qualitative results were used to complement the quantitative findings of this study (QUANqual).

Sample.

At the time of this study there were 187 public secondary schools in the County with a total student population of 56298 (Uasin Gishu County Education Report, 2018). The study targeted 27773 students from Form 2 and Form 3 classes comprising of 14430 and 13343 respectively. For purposes of data collection Slovene's formula (1991) was used to arrive at a representative sample of three hundred and ninety-four (394) students out of the twenty-seven thousand seven hundred and seventy-three (27773) target population. The six sub-county jurisdictions in Uasin Gishu County were used as strata, and simple random sampling was used to randomly select 1 boys' school, 1 girls' school, and 1 mixed school in each sub county/stratum to participate in the study. Proportionate simple random and purposive sampling techniques were used to select students and teacher counsellors to participate in the study respectively.

RESULTS

Descriptive Statistics

Descriptive Statistics of Gender and Adolescent Sexual Behaviour

The descriptive statistics showed that the mean scores for adolescent sexual behaviour between male and female adolescents were nearly identical, and both groups showed moderate variability in their responses, as reflected by standard deviations around 5. The closeness in the means suggests no major gender difference in reported sexual behaviours based on this descriptive data alone as shown in Table 1.

Table 2. Descriptive Statistics of Gender and Adolescent Sexual Behaviour			
		Adolescent Sexual Behaviour	
Gender	N	Mean	Standard Deviation
Male	188	20.24	5.65
Female	132	20.36	5.30

The average adolescent sexual behaviour (ASB) score was 20.24 (SD = 5.65) for male participants and 20.36 (SD = 5.30) for female participants. This indicates that, on average, male and female students reported very similar levels of sexual behaviour, with females scoring marginally higher by 0.12 points. However, this difference is minimal and may not be practically or statistically significant without further inferential testing (e.g., t-test or ANOVA).

Descriptive Statistics of Parental Level of Education and Adolescent Sexual Behaviour

The descriptive statistics on adolescent sexual behaviour (ASB) based on parental level of education revealed notable differences in mean scores across the categories as shown in Table 2.

Mean Scores for ASB			
Parental Level of Education	N	Mean	SD
Informal	9	14.1111	4.3141
Primary	58	20.5517	3.8488
Secondary	180	21.0889	5.1190
Tertiary	54	21.1296	5.2415
University	19	12.4737	6.8829

The descriptive analysis showed that students whose parents had a tertiary level of education recorded the highest mean ASB score (M = 21.13, SD = 5.24), followed closely by those whose parents had secondary education (M = 21.09, SD = 5.12). Adolescents whose parents had primary education reported a slightly lower mean score (M = 20.55, SD = 3.85). In contrast, students whose parents had informal education and university education reported the lowest mean ASB scores, with means of 14.11 (SD = 4.31) and 12.47 (SD = 6.88), respectively. These variations suggest that parental education may influence adolescent sexual behaviour, though further inferential analysis is needed to determine whether these differences are statistically significant.

Interaction Effect between gender and parental level of education on adolescent sexual behaviour among students in public secondary schools in Uasin Gishu County, Kenya.

Two-way ANOVA was carried out in order to establish Interaction Effect between gender and parental level of education on adolescent sexual behaviour among students in public secondary schools in Uasin Gishu County, Kenya and to test the hypotheses which were set. The results are presented in Table 3.

Table 3. Interaction Effect between gender and parental level of education on adolescent sexual behaviour					
Source	Sum of Squares	df	Mean Square	F	Sig
Corrected Model	1870.251a	9	207.806	8.276	.000

Intercept	19834.374	1	19834.374	789.938	.000
Gender	.994	1	.994	.040	.842
PLE	1824.435	4	456.109	18.165	.000
Gender*PLE	9.618	4	2.404	.096	.984

The results of the Two-way analysis of variance (ANOVA) on the effects of adolescent gender (AG) and parental level of education (PLE) on adolescent sexual behaviour (ASB) showed a significant main effect of parental level of education on adolescent sexual behaviour, $F(4, 310) = 18.17, p < .001, \eta^2 = .20$, indicating that adolescent sexual behaviour significantly varied across different levels of parental education. However, there was no significant main effect of gender on adolescent sexual behaviour, $F(1, 310) = 0.04, p = .842, \eta^2 < .001$. Additionally, the interaction between gender and parental level of education was not statistically significant, $F(4, 310) = 0.10, p = .984, \eta^2 < .001$, suggesting that the influence of parental education on adolescent sexual behaviour did not differ by gender.

The model explained a significant proportion of variance in adolescent sexual behaviour, $F(9, 310) = 8.28, p < .001$. Based on the results of the two-way ANOVA, the first null (H_{01}) and the third (H_{03}) null hypotheses were retained, while the second (H_{02}) was rejected at $p < .05$.

Qualitative Data on Adolescents' Gender, Parental Level of Education and Adolescent Sexual Behaviour (ASB)

All seventeen teacher counsellors interviewed agreed that gender differences in adolescent sexual behavior are no longer as pronounced as they once were. In the past, adolescents often felt pressured to conform to traditional gender roles and expectations, which significantly influenced their sexual behaviours. One teacher counsellor remarked:

"The statistics I have on those who have been to my office for counselling on sex-related issues do not lean in any particular direction. I see both boys and girls in equal measure." (HGC1)

The counsellors also concurred that parents with higher levels of education, such as tertiary or university degrees, tend to promote open communication, critical thinking, and informed decision-making regarding sexual health. One counsellor observed:

"Parents with higher education levels are generally more exposed to issues of sexuality and understand the importance of listening to and talking with their children about it. There are words related to sex that can only be expressed in English or Kiswahili. It's difficult to say them in vernacular, so parents who have gone to school have an advantage over those who cannot express themselves in either English or Kiswahili." (HGC2)

DISCUSSION

Adolescents' Gender and Adolescent Sexual Behaviour

The results of the study indicated that there was no significant main effect of gender on adolescent sexual behaviour, $F(1, 310) = 0.04, p = .842, \eta^2 < .001$. This suggests that male and female adolescents did not differ significantly in their reported sexual behaviours. The negligible effect size ($\eta^2 < .001$) further supports the conclusion that gender contributes minimally to the variation in adolescent sexual behaviour. These findings may reflect evolving social dynamics where traditional gender roles are less influential on adolescents' sexual conduct. The results align with the literature and empirical findings of Kingori and Kingori (2016) and Azira et al. (2020), who reported minimal gender-based differences in adolescent sexual behaviours. However, they contradict the conclusions of several earlier and more recent studies, including Laddunuri (2013), Ayoade et al. (2015), Muhammad et al. (2017), Muchiri and Omulema (2020), Kim et al. (2021), Olorunsola et al. (2021), Bikila et al. (2021), and Agu et al. (2022), which documented significant gender disparities in sexual behaviour among adolescents. This divergence in findings underscores the importance of considering contextual and temporal shifts in adolescent development and socialization patterns.

Parental Level of Education and Adolescent Sexual Behaviour

The results of the study revealed a significant main effect of parental level of education on adolescent sexual behaviour, $F(4, 310) = 18.17$, $p < .001$, $\eta^2 = .20$, indicating that adolescent sexual behaviour varied significantly across different levels of parental education. This finding suggests that parental educational attainment plays a critical role in shaping or influencing the sexual behaviours of adolescents. The effect size ($\eta^2 = .20$) is considered large, indicating that parental education accounted for a substantial proportion of the variance in adolescent sexual behaviour. Higher levels of parental education may be associated with improved parent-child communication, increased awareness of adolescent sexual health issues, and more effective monitoring, all of which may contribute to more responsible sexual behaviour among adolescents. In contrast, lower levels of parental education may be linked to limited access to accurate information, fewer open conversations about sexuality, and reduced parental supervision, factors that may increase adolescents' susceptibility to risky sexual behaviours.

These findings are consistent with earlier and recent studies. For instance, Imaledo et al. (2013) found that adolescents whose parents had higher education were more likely to receive accurate sexual health information and adopt safer sexual practices. Similarly, Widman et al. (2016) emphasized that parental communication, often influenced by education level, was a protective factor against risky sexual behaviours. More recently, Tamayo Martinez et al. (2022) and Small et al. (2023) reported that adolescents with well-educated parents had greater access to reproductive health resources and were more likely to delay sexual debut.

However, the current findings contrast with those of Golshiri et al. (2020) and Azira et al. (2020), who found no statistically significant relationship between parental education and adolescent sexual behaviour. These discrepancies may be attributed to contextual differences such as cultural norms, socioeconomic factors, or the methodological designs used in those studies.

Interaction Effect of Adolescents Gender and Parental Level of Education on Adolescents Sexual Behaviour

The results of the study revealed that the interaction between gender and parental level of education was not statistically significant, $F(4, 310) = 0.10$, $p = .984$, $\eta^2 < .001$, suggesting that the influence of parental education on adolescent sexual behaviour did not differ by gender. This finding suggests that the effect of parental educational attainment on adolescents' sexual behaviour is consistent for both males and females. In other words, regardless of whether the adolescent is male or female, parental education exerts a similar influence on their sexual decision-making and behaviour.

This non-significant interaction implies that factors associated with parental education, such as access to information, communication about sexuality, monitoring practices, and parental attitudes toward adolescent sexuality, affect adolescents similarly, irrespective of gender. It could also reflect a shift in social norms, where boys and girls are increasingly receiving comparable guidance, expectations, and opportunities to engage in discussions about sexuality within the family setting, particularly in households with educated parents.

The negligible effect size ($\eta^2 < .001$) reinforces the conclusion that gender does not moderate the relationship between parental education and adolescent sexual behaviour. This challenges earlier assumptions or findings from more traditional or patriarchal contexts where gender often shaped the nature and extent of parental involvement in matters related to adolescent sexuality. It may also highlight progress toward more egalitarian parenting practices and the diminishing of gendered barriers to sexual health education and parental engagement.

Taken together, these findings support the notion that parental education is a key determinant of adolescent sexual behaviour, but its impact is not conditioned by the adolescent's gender. This has important implications for policy and intervention programs, suggesting that efforts to improve adolescent sexual health through parent-focused education and awareness initiatives can be applied universally, without necessarily requiring gender-specific tailoring.

CONCLUSION

The findings of this study provide important insights into the factors influencing adolescent sexual behaviour. Notably, gender did not have a significant main effect, indicating that male and female adolescents engage in sexual behaviour at comparable levels. However, parental level of education emerged as a significant factor, with adolescent sexual behaviour varying considerably across different levels of parental education. This suggests that more educated parents may play a stronger role in shaping responsible sexual decision-making among their children, likely through enhanced communication, guidance, and supervision. Importantly, the study also found that the interaction between gender and parental education was not statistically significant, implying that the influence of parental education on adolescent sexual behaviour is consistent across both genders.

Collectively, these findings underscore the pivotal role of parental education in adolescent sexual development and suggest that interventions aimed at improving adolescent sexual health should consider engaging and educating parents, regardless of the gender of their children. Gender-neutral strategies that empower parents with knowledge and communication skills may be effective in promoting healthier sexual behaviours among adolescents.

RECOMMENDATIONS

Based on the findings of this study, it is recommended that sexual and reproductive health education initiatives incorporate parent-focused components, with a particular emphasis on enhancing parental knowledge and communication skills regardless of gender. Educational programs and community outreach should target parents, especially those with lower levels of formal education, to equip them with accurate information and strategies for effectively guiding their adolescent children on matters related to sexuality. Since the influence of parental education on adolescent sexual behaviour is consistent across both male and female adolescents, interventions should adopt a gender-inclusive approach, ensuring that both boys and girls benefit equally from supportive and informed parental engagement. Additionally, schools and health agencies should collaborate to develop family-based sexual health programs that foster open dialogue between parents and adolescents, thereby promoting responsible sexual behaviour across diverse family contexts.

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Conflict Of Interest

The authors declare no conflict of interest.

ABOUT THE AUTHORS

Dr. Charles Too is a Senior Lecturer in the Department of Educational Management and Policy Studies, Moi University, Kenya. The author has published articles in peer reviewed journals and has research interests on: Leadership in Education, Quality Management Systems in Education, Performance Contracts and Policy Issues in Education. He is a trained Quality Internal Auditor (ISO 9001:2015 standards). Charles has tremendous passion for Information Technology and is a resource person in applied statistics and data analysis in research.

Dr. Agnes Jepchoge Busienei is a Lecturer in the Department of Counselling Psychology at Moi University, Kenya. She has published scholarly articles in peer-reviewed journals, and her research interests focus primarily on counselling and related areas of psychological practice.

Abdulkadir Shehu Adam graduated with Master of Education in Research in the Department of Educational Management and Policy Studies under CERM-ESA, Moi University, Kenya. He obtained his first degree in Chemistry Education from Bayero University Kano, Nigeria, graduated with First Class Honors. The author

has strong passion for Teaching, and has research interests on: Science Education, ICT in Education, Students Performance, and Educational Psychology.