



Adolescent Attitudes and Multilevel Influences on Risky Sexual Behavior Prevention in a Semi-Urban Border Province of Northern Thailand: The Roles of School, Family, and Community

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Abstract

Adolescents in semi-urban border areas face sociocultural barriers that may limit effective sexual risk prevention. This study examined adolescents' attitudes toward risky sexual behavior and assessed whether perceived support from school, family, and community (SFC) systems was associated with these attitudes in a northern Thai province. A cross-sectional survey was conducted among 297 junior high school students aged 12–15 years in Mae Hong Son Province. A self-administered questionnaire assessed preventive attitudes and perceived support from SFC. Descriptive statistics, Pearson correlations, and multiple regression analyses were performed using SPSS version 22. Preventive attitudes were low to moderate ($M = 2.10$, $SD = 0.35$). Perceived school ($M = 3.49$), family ($M = 3.33$), and community ($M = 2.96$) support was moderate. SFC variables were moderately intercorrelated ($r = 0.43$ – 0.59 , $p < .001$), but showed weak, non-significant associations with preventive attitudes ($r = .05$ – $.11$, $p > .05$). Regression analysis indicated no significant association ($F(3, 293) = 1.11$, $p = .35$; $R^2 = .01$). Perceived school, family, and community support was not significantly associated with adolescents' preventive attitudes. Additional youth-centered and culturally responsive strategies may be needed to strengthen sexual health promotion in border settings.

INTRODUCTION

Adolescent risky sexual behavior remains a significant global public health concern with implications for physical, emotional, and social well-being. Sexual health awareness during adolescence is critical not only for preventing sexually transmitted infections (STIs) and unintended pregnancies but also for supporting healthy developmental trajectories into adulthood (Girmay & Mariye, 2019). The World Health Organization identifies adolescence as a period of rapid physical and psychosocial change, during which enduring attitudes and behaviors related to sexuality are formed (World Health Organization [WHO], 2020).

In Thailand, adolescents aged 10–19 years comprise approximately 8.7 million of the total population of 65 million (United Nations Children's Fund [UNICEF], 2016). Despite national policies promoting sexual and reproductive health education, risky behaviors—such as early sexual initiation, unprotected intercourse, and substance-influenced sex—remain prevalent, particularly in rural and semi-urban areas (Wungrath, Phrommasen, & Ritthimon, 2024). These behaviors are associated with adolescent pregnancy, school dropout, and long-term socioeconomic disadvantage (Wungrath et al., 2024).

International and regional evidence demonstrates that adolescent sexual risk-taking is

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shaped by multilevel influences spanning individual, interpersonal, institutional, and community domains (Felicitas et al., 2026; Thepthien & Celyn, 2022; Clark et al., 2021). Substance use, peer pressure, and exposure to high-risk environments are consistently associated with increased sexual risk behaviors. For instance, approximately one in five adolescents reports substance use prior to sexual intercourse (Gilmore et al., 2023), while exposure to violence, smoking, and drug use has been linked to higher-risk sexual profiles (Duhane et al., 2025). Substance-specific findings indicate elevated sexual risk among adolescents using synthetic marijuana (Baweja et al., 2024). Surveillance data from the U.S. Centers for Disease Control and Prevention (CDC, 2024) further support associations between substance use and condom non-use and multiple partners. These patterns align with the Social Ecological Model, which posits that adolescent behaviors emerge from interacting individual and contextual systems.

Emerging evidence also underscores the role of peer dynamics and social environments in shaping adolescent sexual behaviors. Peer influence, substance exposure, academic performance, and environmental access to sexual stimuli have been associated with increased sexual risk (Benchamas et al., 2024; Namuwonge et al., 2023; Putri & Sansuwito, 2025). Digital exposure and social media engagement further contribute to risk behaviors among adolescents (Hastutii et al., 2023). Longitudinal research suggests that negative attitudes, perceived norms, and low self-efficacy are linked with subsequent sexual risk behaviors (Knopp et al., 2023), whereas stronger parent-adolescent relationships are associated with reduced sexual exposure (Shawon et al., 2023).

Despite extensive attention to behavioral determinants, a gap remains between structural prevention efforts and adolescents' attitudinal readiness to engage in self-protective behaviors (Girmay & Mariye, 2019). Many interventions prioritize policy implementation or information dissemination, while the cognitive and affective foundations of preventive attitudes receive comparatively less empirical examination. This gap is particularly salient in semi-urban and border regions, where sociocultural norms, ethnic diversity, and taboos on sexual discussion may constrain the effectiveness of interventions (Wungrath et al., 2024).

Mae Hong Son Province, located along the Thai-Myanmar border, presents a unique socio-demographic context characterized by income

disparity, ethnic heterogeneity, and limited access to youth-friendly health services (Office of the National Economic and Social Development Council [NESDC], 2023). Previous developmental research established the School-Family-Community (SFC) Guideline for preventing risky sexual behavior among lower secondary students (Mahathamnuchock, 2021). This framework emphasized coordinated engagement across school, family, and community systems and generated multiple scholarly outputs. However, empirical evidence examining associations between perceived SFC support and adolescents' preventive attitudes remains limited.

Therefore, this study examined the relationships among perceived school, family, and community influences and adolescents' attitudes toward risky sexual behavior in a semi-urban border province of Thailand. Specifically, it aimed to describe adolescents' preventive attitudes and perceptions of SFC support and to analyze whether these perceived contextual influences were associated with adolescents' preventive attitudes.

METHOD

Study Design

This study employed a cross-sectional quantitative design to examine the relationships among adolescents' attitudes toward risky sexual behavior and their perceived support from school, family, and community systems. A quantitative approach was selected because it enables the systematic measurement of variables, statistical testing of associations, and generalization of findings across larger populations—making it appropriate for assessing behavioral patterns and contextual influences among adolescents (Creswell & Creswell, 2018; Polit & Beck, 2021). The research formed part of a larger developmental project aimed at creating and evaluating the School-Family-Community (SFC) Guideline for the prevention of risky sexual behavior among junior high school students in a semi-urban border province of Thailand (Mahathamnuchock, 2021).

Study Setting and Participants

The study was conducted in two semi-urban districts of Mae Hong Son Province, located along the Thai-Myanmar border. The province is characterized by ethnic diversity, low socioeconomic status, and limited access to sexual health education.

Participants comprised 297 junior high school students (Grades 7–9, aged 12–15 years) selected using stratified random sampling from

two public secondary schools representing different community contexts in Mae Hong Son Province. The sampling frame comprised all students enrolled in Grades 7–9 in the two selected schools (total population, $N = 842$). Stratified random sampling was applied by grade level (M.1–M.3) to ensure proportional representation across academic levels. Within each grade stratum, students were randomly selected using class enrollment lists provided by the schools.

Sample size was calculated using G*Power version 3.1 for multiple linear regression with three independent variables, assuming a small-to-moderate effect size ($f^2 = 0.05$), $\alpha = 0.05$, and statistical power of 0.80. The minimum required sample size was 263 participants. The final sample of 297 students exceeded this requirement, providing adequate statistical power for the planned analyses. Inclusion criteria were: (1) current enrolment in junior high school (Grades 7–9), (2) ability to read and write Thai, and (3) written informed consent from both students and their parents or guardians. Students with communication difficulties or who were absent during data collection were excluded.

Instrument Development

Data were collected using a self-administered structured questionnaire developed based on prior literature and findings from the qualitative phase of the School–Family–Community (SFC) guideline project. The instrument comprised four main sections: (1) Demographic characteristics: Including sex, age, grade level, birth order, daily allowance, and household composition. (2) Attitude toward risky sexual behavior: A 20-item scale assessed cognitive and affective perceptions of risky sexual practices (e.g., unprotected sex, substance use before sex, early sexual initiation). Items were rated on a 3-point Likert scale (1 = Disagree, 2 = Uncertain, 3 = Agree). Five items were removed during refinement due to weak corrected item–total correlations. A 3-point format was adopted following pilot testing with adolescents aged 12–15 years, who demonstrated difficulty distinguishing between adjacent response categories on a 5-point scale. The simplified structure reduced cognitive burden and response ambiguity in this culturally sensitive domain. (3) Perceived school (S), family (F), and community (C) support: Three subscales measured perceived environmental support for preventing risky sexual behavior. Items were rated on a 5-point Likert scale (1 = Strongly disagree to 5 = Strongly agree). A 5-point format was retained to capture variability in contextual perceptions, as pilot find-

ings indicated that students could meaningfully differentiate levels of environmental support. (4) Open-ended items: A small number of qualitative questions captured students' perspectives on barriers and facilitators to risky sexual behavior. These qualitative data were analyzed separately as part of the broader SFC project and are reported elsewhere; therefore, they are not included in the present quantitative analysis.

Validity and Reliability

Content validity was established through review by three experts in adolescent health, social psychology, and education, yielding an Item–Objective Congruence (IOC) index of 0.84. A pilot test with 30 students assessed clarity, comprehension, and response distribution.

Internal consistency reliability analysis showed borderline but acceptable reliability for the attitude scale (Cronbach's $\alpha = 0.67$) and satisfactory to good reliability for the SFC subscales ($\alpha = 0.70$ – 0.81). Although the conventional threshold of 0.70 is often recommended for established instruments, reliability coefficients slightly below this level may be considered acceptable in exploratory research and in studies involving young respondents or limited response categories (Nunnally & Bernstein, 1994).

Data Collection Procedure

Data collection was conducted from March to June 2022. After obtaining approval from school administrators and parental consent, the questionnaires were distributed and completed in classroom settings under the researcher's supervision. Participants were assured of confidentiality and anonymity, and all information was used solely for research purposes.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 22. Descriptive statistics (frequencies, percentages, means, and standard deviations) were computed to describe the demographic characteristics and main variables. Demographic variables were examined for sample characterization but were not included in the bivariate or regression analyses, as the study was guided by a theory-driven, contextually focused framework that identified perceived school, family, and community influences as primary predictors of adolescents' attitudes.

For inferential analysis, Composite mean scores were calculated for attitude (dependent variable) and for school, family, and community perception subscales (independent variables).

Mean scores were interpreted using equal interval cutoffs derived from the theoretical scale range to classify responses as low, moderate, or high. Pearson correlation analysis examined bivariate relationships among the variables. Multiple linear regression (Enter method) was performed to determine the predictive effects of school, family, and community perceptions on adolescents' attitudes toward risky sexual behavior. Assumptions of linearity, normality, homoscedasticity, and multicollinearity were examined prior to regression analysis and were met; variance inflation factor (VIF) values were below 2.0, indicating no multicollinearity concerns. All analyses used a two-tailed significance level of $p < .05$.

Ethical Considerations

The study protocol was reviewed and approved by the Research Ethics Committee of Chiang Mai Rajabhat University (Approval No. IRBCA/RU 2021/104.29.07). Participation was entirely voluntary, and written informed consent was obtained from all students and their parents or legal guardians before data collection. Participants were assured of confidentiality, anonymity, and the right to withdraw from the study at any stage without any academic or personal consequences.

RESULT AND DISCUSSION

Results

Participant Characteristics

Table 1 presents participant characteristics, attitude levels toward risky sexual behavior, and perceived roles of school, family, and community in prevention. A total of 297 junior high school students participated, with nearly equal sex distribution (48.1% male; 51.9% female). Most students were in Grade M.2 (50.8%) and aged 14 years (40.4%). The majority lived with both parents (79.5%), were first- or second-born children (87.2%), and resided in households of three to four members (63.3%). Most received a daily allowance of 51–100 THB (66.7%).

Regarding attitudes, 85.9% of students demonstrated a low level of risky sexual attitude, 14.1% were categorized as moderate, and none were classified as high.

Perceived preventive roles were highest for school ($M = 3.49$, $SD = 0.54$), followed by family ($M = 3.33$, $SD = 0.63$) and community ($M = 2.96$, $SD = 0.76$).

Correlation Between Attitude and S–F–C Perception Scores

As shown in Table 2, adolescents' attitudes

toward risky sexual behavior were not significantly correlated with their perceptions of school, family, or community roles in prevention ($r = 0.05$ to 0.11 , $p > 0.05$). In contrast, strong and statistically significant positive correlations were observed among the three contextual domains—school, family, and community perceptions ($r = 0.43$ – 0.59 , $p < 0.01$). These results indicate that while adolescents tended to perceive consistency across the three preventive environments, such perceptions did not translate into corresponding differences in their personal attitudes toward risky sexual behavior.

Multiple Regression Analysis

As shown in Table 3, a standard multiple regression analysis examined whether adolescents' perceptions of school, family, and community roles predicted their attitudes toward risky sexual behavior. The overall model was not statistically significant, $F(3, 293) = 1.11$, $p = .35$, explaining only 1.1% of the variance in attitude scores ($R^2 = 0.011$, Adjusted $R^2 = .001$). None of the predictors reached significance. Family perception showed a small, non-significant positive association with attitude ($\beta = 0.109$, $p = 0.139$), while school ($\beta = 0.009$, $p = 0.894$) and community ($\beta = -0.014$, $p = 0.858$) effects were negligible. These findings indicate that perceived structural supports alone do not substantially influence adolescents' preventive attitudes, consistent with the Theory of Planned Behavior (Ajzen, 1991) and Social Cognitive Theory (Bandura, 2001), which emphasize internal cognition and peer modeling as stronger determinants. Likewise, ecological perspectives (Bronfenbrenner, 1979; McLeroy et al., 1988) suggest that while contextual systems matter, attitude formation occurs primarily through proximal and experiential factors.

Discussion

Limited Predictive Influence of School, Family, and Community Contexts

The present study examined whether perceived school, family, and community influences predicted adolescents' attitudes toward risky sexual behavior in a semi-urban border province of Thailand. Contrary to expectations, none of the three contextual domains demonstrated statistically significant associations, and the overall model explained only 1.1% of the variance. While family support showed a weak positive direction, the effect size was negligible. These findings suggest that adolescents' perceptions of structural or social support may not directly translate into preventive attitudes or internalized behavioral

Table 1. Participant Characteristics, Attitude Levels, and Perceived Roles of School, Family, and Community in Preventing Risky Sexual Behavior (N = 297)

Variable	Category	n	%	Mean	SD	Interpretation
Participant Characteristics						
Sex	Male	143	48.1	—	—	—
	Female	154	51.9	—	—	—
Age group (years)	12–13	100	33.7	—	—	—
	14	120	40.4	—	—	—
	15	77	25.9	—	—	—
Grade level	M.1	61	20.5	—	—	—
	M.2	151	50.8	—	—	—
	M.3	85	28.6	—	—	—
Living arrangement	With both parents	236	79.5	—	—	—
	With relatives	26	8.8	—	—	—
	Temporary housing	16	5.4	—	—	—
	Other	19	6.4	—	—	—
Birth order	First child	146	49.2	—	—	—
	Second child	113	38.0	—	—	—
	Third or later	38	12.8	—	—	—
Household size (persons)	1–2	28	9.4	—	—	—
	3	73	24.6	—	—	—
	4	115	38.7	—	—	—
	5–6	81	27.3	—	—	—
Daily allowance (THB/day)	< 50	90	30.3	—	—	—
	51–100	198	66.7	—	—	—
	101–200	9	3.0	—	—	—
Attitude Toward Risky Sexual Behavior						
Attitude level	Low	255	85.9	—	—	—
	Moderate	42	14.1	—	—	—
	High	0	0.0	—	—	—
Perceived Roles in Prevention (SFC Framework)						
School	—	—	—	3.49	0.54	Moderate–high
Family	—	—	—	3.33	0.63	Moderate
Community	—	—	—	2.96	0.76	Low–moderate

Note. Percentages are based on valid responses. Grade level refers to lower secondary education in Thailand (M.1–M.3, equivalent to Grades 7–9). The daily allowance is reported in Thai Baht (THB). Attitude scores were categorized as Low (1.00–1.66), Moderate (1.67–2.33), and High (2.34–3.00), with higher scores indicating more preventive attitudes. Perception scores were measured using a 5-point Likert scale (1 = very low to 5 = very high) and interpreted as Low (1.00–2.33), Moderate (2.34–3.67), and High (3.68–5.00).

Table 2. Pearson Correlation Coefficients Among Adolescent Attitudes Toward Risky Sexual Behavior and Perceived School, Family, and Community Roles (N = 297)

Variable	1	2	3	4
1. Attitude toward risky sexual behavior	—	0.050	0.105	0.056
2. School perception		—	0.432**	0.487**
3. Family perception			—	0.594**
4. Community perception				—

Note. $p < .01$ (two-tailed). ** indicates significant correlations at the 0.01 level. The attitude score represents preventive attitudes toward risky sexual behavior; S, F, and C denote perceived school, family, and community roles, respectively.

Table 3. Multiple Regression Analysis Predicting Adolescents' Attitudes Toward Risky Sexual Behavior From Perceived School, Family, and Community Influences

Predictor	B	SE B	β	t	p
Constant	0.938	0.144	—	6.51	< 0.001
School	0.006	0.044	0.009	0.13	0.894
Family	0.060	0.041	0.109	1.48	0.139
Community	-0.006	0.035	-0.014	-0.18	0.858

Note. Dependent variable: attitude toward risky sexual behavior. Predictors: perceived school, family, and community influences. The regression model was not statistically significant, $F(3, 293) = 1.11$, $p = 0.35$, $R^2 = 0.011$.

norms.

From a social-ecological perspective, contextual influences may operate indirectly by shaping proximal cognitive and interpersonal mechanisms rather than exerting direct effects. For example, family communication may enhance self-efficacy, which, in turn, influences attitudes, while school climate may shape perceived peer norms that affect behavioral intentions. Because the current regression model tested only direct pathways, it may underestimate the multi-layered mechanisms underlying adolescent attitude formation and the complexity of adolescent attitude formation.

This pattern aligns with prior research indicating that adolescent sexual attitudes are shaped more strongly by peer and experiential influences than by formal structures, even when institutional supports exist (Felicitas et al., 2026; Shawon et al., 2024; Clark et al., 2021). The findings are theoretically consistent with Ajzen's (1991) Theory of Planned Behavior, which emphasizes personal beliefs, perceived norms, and behavioral control as determinants of attitudes, rather than structural cues alone. Similarly, Bandura's (2001) Social Cognitive Theory underscores self-efficacy and observational learning within peer and media environments as central to adolescent behavior. These frameworks explain why institutional or community contexts may show limited direct predictive power when youth agency and lived

experiences dominate attitudinal formation.

Empirical evidence further supports this interpretation. Settheekul et al. (2019) identified peer norms, parental monitoring, and communication as stronger predictors of sexual behavior than institutional support. A participatory life skills program in Southern Thailand improved knowledge and decision-making but produced only modest attitudinal change, highlighting the importance of active youth engagement over structural authority (Pummanee et al., 2022). Among Thai undergraduates, risky sexual behavior was more closely associated with substance use, academic performance, and permissive environments than with institutional or family support (Benchamas et al., 2024).

International findings reinforce the salience of informal networks. Peer mentorship programs have significantly enhanced sexual health knowledge and attitudes, demonstrating the influence of peer-led mechanisms (Putri & Sansuwito, 2025). Lubis and Rusdiyah (2023) reported that attitudes, parental roles, peer influence, and information sources were more predictive of sexual behavior than school-level factors. Hastutii et al. (2023) similarly found that peer influence and social media exposure were significantly associated with sexual behavior, underscoring the growing impact of digital environments.

Within the Thai context—particularly semi-urban border areas such as Mae Hong

Son—cultural norms, ethnic diversity, and taboos surrounding sexual discussion may further weaken attitudinal internalization (Wungrath et al., 2024). Preventive messages delivered through schools, families, or communities may be acknowledged but only superficially integrated. Didactic, rule-based delivery approaches often limit attitudinal impact (Girmay & Mariye, 2019), while family discussions may be constrained by hierarchy or embarrassment. Community efforts may emphasize moral discipline rather than open dialogue, reducing cognitive and emotional engagement.

This interpretation aligns with Bronfenbrenner's (1979) ecological systems theory and McLeroy et al.'s (1988) social-ecological model, both of which conceptualize behavior as emerging from dynamic interactions across multiple levels. When these levels fail to communicate effectively, influence attenuates. Nevertheless, life skills-based and student-centered approaches have shown potential in reducing risky sexual behaviors among Thai adolescents when empowerment and reflection are emphasized (Sisited, 2018).

The strong intercorrelations among school, family, and community domains observed in this study suggest a coherent prevention climate. However, structural coherence does not guarantee attitudinal transmission at the individual level. The ecosystem may appear aligned, yet emotional and cognitive internalization remains limited.

Cultural and Developmental Implications for Adolescent Sexual Health Education

The findings also reveal deeper cultural and developmental dynamics shaping adolescent sexual attitudes in Northern Thailand. Mae Hong Son, characterized by multiethnic communities and traditional hierarchies, presents contextual challenges to comprehensive sexual health education. Although national policy supports life-skills-based curricula, local adaptation may be constrained by educator and parental discomfort. Adolescent sexual decision-making is influenced by peer norms, parental communication, and psychological factors beyond policy frameworks (Thepthien & Celyn, 2022). Consistently, age, peer norms, and parental monitoring predict sexual risk behaviors more strongly than institutional support such as curriculum or policy (Settheekul et al., 2019).

Descriptive findings indicated that most participants demonstrated low-to-moderate preventive attitudes, suggesting partial awareness but limited intrinsic motivation. Rapid digital expos-

ure may normalize romantic and sexual content while adult supervision remains inconsistent. Empirical studies show that high exposure to sexual media content increases likelihood of sexual intercourse (Muanphetch & Maharachapong, 2020), and low sexual media literacy is associated with greater risk behaviors (Thongnopakun & Buarod, 2019). Qualitative evidence indicates that many parents and teachers feel unprepared to address these influences (Mahathamnuchock, 2021). Mothers often lack communication skills and sexual health knowledge, while cultural norms discourage open discussion about contraception or condom use (Teppasom et al., 2021). Even when communication occurs, it is frequently framed within traditional values and limited factual depth (Sangkla & Chancharoen, 2019).

These findings underscore the need to modernize the School-Family-Community (SFC) guideline into a more youth-centered framework integrating digital engagement, peer leadership, empowerment, and social support. Evidence demonstrates that combining structural support with youth agency and digital participation improves knowledge and engagement compared to structure-only models (Norkaew et al., 2025). Youth development programs emphasizing connectedness and confidence also yield behavioral benefits, though attitudinal change remains modest, indicating the necessity for sustained intervention (Muanphetch et al., 2020).

From a developmental perspective, adolescence involves identity exploration. Interventions based solely on external control—such as school rules or parental warnings—may provoke resistance rather than internalization. Empowerment and peer-led strategies that facilitate discussion and reinterpretation of sexual health messages are therefore critical. Peer environments can exert both harmful and protective effects. Bullying victimization has been shown to predict condom nonuse among Thai adolescents (Dadras, 2025), whereas participatory and peer-engaged approaches effectively reshape norms and promote healthier decision-making (O'Donnell et al., 2017).

Implications

This study contributes empirical evidence to the broader understanding of adolescent sexual health promotion in semi-urban and border provinces. The weak predictive power of school, family, and community contexts suggests that attitude formation requires deeper psychological and cultural engagement. For future applications, policymakers and educators should emphasize dialogue-based sexual health education, parental

capacity-building, and community-driven youth platforms. Integrating local cultural leaders and youth volunteers into prevention initiatives could help bridge the communication gap identified here.

Limitations and Future Directions

This study has several limitations. First, the cross-sectional design precludes causal inference about the relationship between contextual perceptions and adolescent attitudes. Second, data were self-reported and may be subject to social desirability bias, particularly given the sensitive nature of sexual behavior topics. Third, the use of a 3-point Likert scale may have reduced response variability, potentially attenuating observed associations. Fourth, the attitude scale demonstrated borderline internal consistency ($\alpha = 0.67$), suggesting the need for further psychometric refinement. Finally, peer influence and media exposure variables were not included, limiting comprehensive ecological modeling.

Methodologically, future studies should employ mixed-methods or longitudinal designs to capture the dynamic interaction between structural and personal factors. Qualitative exploration may reveal why adolescents perceive preventive systems as less relevant to their lived realities. Additionally, structural equation modeling (SEM) could further test the latent relationships among environmental support, media exposure, and attitude formation, providing a more nuanced understanding of the mechanisms involved.

CONCLUSION

This study demonstrates that although adolescents in semi-urban Northern Thailand recognize preventive efforts within school, family, and community environments, these structural influences exert minimal impact on their attitudes toward risky sexual behavior. The findings suggest that attitude formation extends beyond institutional or parental guidance and is more strongly shaped by individual cognition, peer norms, and sociocultural context.

For sustainable prevention, stakeholders should prioritize dialogue-based education, strengthened family communication, and community engagement strategies that empower adolescents to critically reflect on and internalize protective behavioral norms. The SFC (School–Family–Community) framework remains valuable but requires adaptation into a participatory prevention model integrating local culture, media literacy, and meaningful youth engagement. Future research should further examine these path-

ways using mixed-methods and longitudinal designs to better capture the evolving dynamics of adolescent sexuality in culturally diverse settings.

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AI Usage Disclosure

This manuscript received limited assistance from an AI-based language tool (ChatGPT, OpenAI) for linguistic refinement and formatting. The authors independently reviewed, edited, and approved all content and take full responsibility for the final version. No AI tools were used in data analysis, figure generation, or interpretation of findings.

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