

EXPLORING THE LINK BETWEEN SEXUAL KNOWLEDGE AND ATTITUDES TOWARD SEXUAL BEHAVIOR AMONG ADOLESCENTS IN BOGOR, INDONESIA

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Keywords:	ABSTACT
Adolescents, Attitudes, Sexual behavior, Sexual knowledge.	<p>Background: Adolescents in Indonesia are increasingly exposed to sexual information through media and peer interactions, leading to greater sexual knowledge. However, the relationship between sexual knowledge, attitudes, and sexual behavior remains complex, particularly within Indonesia's conservative cultural context, which does not support LGBT practices. Understanding these relationships is vital for developing sexuality education programs aligned with societal values. Objective: This study aims to examine the direct and indirect relationships between sexual knowledge, attitudes toward sexual behavior, and sexual behavior among adolescents in Bogor, Indonesia. Method: A cross-sectional quantitative study was conducted with 257 11th-grade students from public senior high schools (SMAN) in Bogor and Cibinong. Data were collected through structured questionnaires and analyzed using path analysis. Result: Sexual knowledge had a significant direct relationship with sexual behavior ($p < 0.05$), indicating that increased knowledge was associated with greater sexual activity. However, the relationship between sexual knowledge and attitudes was not significant ($p > 0.05$), suggesting that knowledge did not necessarily alter attitudes. Attitudes were significantly associated with sexual behavior ($p < 0.05$), but this relationship was weak. The indirect effect of sexual knowledge on behavior through attitudes was not significant. Conclusion: Sexual knowledge directly influences adolescent sexual behavior but does not significantly affect attitudes. Attitudes have a weak influence on behavior. These findings suggest that sexuality education in Indonesia should not only enhance knowledge but also emphasize moral and cultural values consistent with societal norms that do not support LGBT practices. Family and community involvement is crucial to fostering responsible sexual behavior among adolescents.</p>

Introduction

Adolescence is a critical period characterized by rapid physical, psychological, and social changes, including the development of sexual awareness, orientation, and behaviors. During this phase, adolescents begin exploring their sexuality, making it a crucial time to acquire accurate sexual knowledge and form positive attitudes toward diverse sexual behaviors and identities. Globally, adolescent sexual health is a growing concern due to increasing rates of teenage pregnancies, sexually transmitted infections (STIs), and risky sexual practices [1]. These concerns are particularly evident in developing countries, where cultural taboos often

restrict access to comprehensive sexual education, fostering misinformation and stigmatization[1][2].

In Indonesia, adolescent engagement in risky sexual behavior often begins between the ages of 15 and 19 [3]. A study indicated that 4.5% of adolescents had engaged in premarital sex in 2014, increasing to 5% in 2015. By 2015, this figure had reached 5.3% among male adolescents and 1.7% among female adolescents [4]. While these percentages may seem modest, they highlight a rising trend in early sexual initiation, raising concerns about the preparedness of adolescents to navigate their sexual health safely. These concerns are amplified by findings indicating that many Indonesian adolescents lack adequate knowledge about pregnancy prevention and HIV transmission, leaving them vulnerable to unintended pregnancies and sexually transmitted infections [5].

Research suggests that a lack of sexual knowledge, combined with increasingly negative attitudes toward sexual issues, could lead to risky sexual behavior, including teenage pregnancy. A study conducted in Kupang City involving 283 high school students examined the relationship between sexual knowledge, attitudes, and premarital sexual intentions. The study found that sexual intentions were significantly related to attitudes toward behavior but not directly to sexual knowledge, suggesting that attitudes may play a more influential role in determining adolescents' sexual behaviour [6]. Similarly, another study explored the relationship between social media use, knowledge, attitudes, and risky sexual behavior among adolescents. The study revealed a high prevalence of social media usage, coupled with low levels of HIV-related knowledge, negative attitudes, and risky sexual behavior. Exposure to pornographic content via social media was strongly associated with risky sexual practices. These findings highlight the influence of media consumption and attitudes on sexual behavior, emphasizing the crucial role of healthcare professionals and educators in addressing gaps in sexual health knowledge and promoting positive attitudes (Ramadani, et al., 2024)

Adolescents aged 10-19 years are 17% of the total population in Indonesia, approximately 46 million people. Among the 5 provinces with the highest adolescent population, is West Java (UNICEF, 2021). A survey conducted by the Family of Heroes of the Nation Foundation (YPKN) showed that 5,000 people in Jakarta were identified as homosexual. Indonesia is reported to have one of the largest LGBT populations in the world [7]. However, acceptance of sexual minorities remains low. A global study on LGBT exclusion suggests that the loss of LGBT rights potentially reduced Indonesia's economic output [8]. Surveys consistently reveal low acceptance rates toward LGBT individuals. In 2013, only 3% of Indonesians agreed that homosexuality should be accepted by society; although this number increased to 9% in a recent survey, societal acceptance remains minimal. A 2016 survey found that 57.7% of respondents agreed that LGBT individuals have the right to live in Indonesia, indicating some recognition of their basic rights despite moral opposition. Interestingly, while abstract moral acceptance is low, some Indonesians exhibit tolerance toward homosexuals in daily interactions [8].

.These conflicting attitudes demonstrate the complex socio-cultural landscape surrounding sexual orientation in Indonesia, further emphasizing the need for inclusive sexual education. Adolescents navigating this environment may develop biased or discriminatory attitudes if their sexual knowledge is inadequate or influenced by negative media portrayals. Understanding the link between sexual knowledge and attitudes toward both sexual behavior and sexual diversity is, therefore, crucial for promoting acceptance and fostering healthier sexual development among Indonesian youth.

Despite increasing recognition of adolescent sexual health issues, limited research has explored the intersection between sexual knowledge, attitudes toward sexual behavior, and acceptance of diverse sexual orientations among Indonesian adolescents. This study aims to

investigate the relationship between sexual knowledge and attitudes toward sexual behavior, with an emphasis on attitudes toward sexual diversity, among adolescents in Bogor, Indonesia.

METHODS

Study Design

This study employed an analytical descriptive approach with a cross-sectional design, utilizing quantitative methods to examine the relationship between sexual knowledge and attitudes toward sexual behavior among adolescents in urban areas, with particular attention to preventing early sexual deviations and LGBT-related stigma. The study was conducted in Bogor City, Indonesia, as a representation of urban adolescent populations facing increasing exposure to media and diverse sexual information.

Population and Sample

The population in this study consisted of 11th-grade high school students in two public senior high schools (SMAN) in Bogor City. A cluster sampling technique was applied, followed by purposive sampling within the selected schools. The sample consisted of 257 11th-grade students, comprising approximately 154 female students (60%) and 103 male students (40%), who met the following inclusion criteria: (1) 11th-grade students (Science or Social Science track); (2) In good physical and mental health; (3) Willing to participate by providing informed consent.

Variables and Instruments

The study examined three main variables:

1. Sexual Knowledge (Independent Variable). Measured using a questionnaire consisting of two domains: Understanding of sexual orientation (e.g., homosexuality, LGBT); and understanding of the causes of sexual deviations.
2. Attitudes Toward Sexual Behavior (Independent Variable). Measured using a questionnaire consisting of three domains: Attitudes toward parental upbringing, attitudes toward adverse childhood experiences, and attitudes toward heterosexual and homosexual relationships.
3. Sexual Behavior (Dependent Variable). Representing the sexual behavior of adolescents, assessed based on self-reported experiences and intentions regarding sexual activity.

The questionnaire was developed based on previously validated instruments, adapted to the Indonesian adolescent context, and pre-tested for clarity and reliability before data collection.

Data Collection

Primary data were obtained through self-administered questionnaires distributed to the respondents. The questionnaire covered: Sexual knowledge, Attitudes toward sexual behavior, with an emphasis on views toward LGBT issues and early sexual initiation.

Statistical Analysis

The Partial Least Squares Structural Equation Modeling (PLS-SEM) approach was employed to analyze the relationship between sexual knowledge and attitudes toward sexual behavior. PLS-SEM was chosen due to its suitability for exploratory research involving latent variables and its robustness in handling small-to-moderate sample sizes.

Ethical Considerations

The study obtained ethical clearance from the relevant institutional ethics committee. Written informed consent was obtained from all participants prior to data collection. Participants' anonymity and confidentiality were strictly maintained throughout the study.

RESULT AND DISCUSSION

Measurement Model Testing Results (Outer Model)

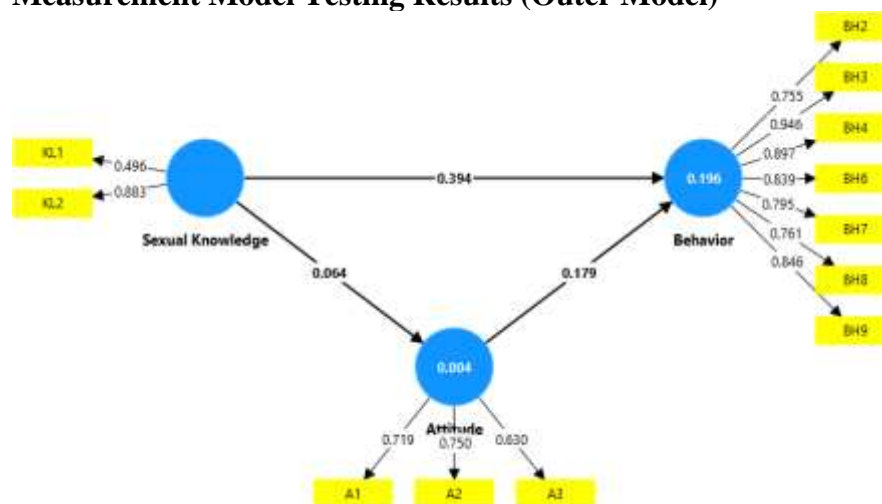


Figure 1. Outer Model processed using PLS-SEM

Figure 1 shows that most indicators for each variable have an outer loading > 0.70 and are significant, indicating that all indicators are strongly correlated and reliable in measuring their respective variables/constructs. Meanwhile, indicators with outer loading values between 0.4 and 0.7 can still be considered and included as indicators for the latent construct. Therefore, it can be concluded that the outer loadings in this study have met the rule of thumb requirements suggested by Hair et al. (2022:117)[9].

Internal Consistency Reliability and Convergent Validity

Internal Consistency Reliability is used to determine whether the indicators/items measuring a variable/construct have similar/strong scores. Hair et al. (2022:119-121)[9] include three measurements to assess internal consistency reliability: Cronbach's alpha, composite reliability (Rho C), and reliability coefficient (Rhoa A).

Tabel 1. Internal Consistency Reliability and Convergent Validity

Variable/Construct	Cronbach's Alpha	Composite Reliability (Rho A)	Composite Reliability (Rho C)	Average Variance Extracted (AVE)
Sexual Knowledge	0.712	0.721	0.752	0.520
Attitudes	0,927	0,936	0,942	0,700
Behavior	0.710	0.720	0.750	0.530

Source: SmartPLS 4 Output, processed by the researcher (2024)

The results of the three internal consistency reliability measurements in this study are shown in Table 1 above, where all variables/constructs have Cronbach's alpha, composite reliability (Rho C), and reliability coefficient (Rhoa A) values greater than 0.70 and are significant. This means that all indicators/measurement tools have high internal consistency reliability in measuring their respective variables/constructs. The results of the Average Variance Extracted (AVE) calculation in this study are shown that all variables/constructs have AVE values greater than 0.50. This means that all variables/constructs strongly correlate and have convergent validity in explaining the variance of their respective indicators/measurement tools.

Results of Measurement Model Testing (Inner Model)

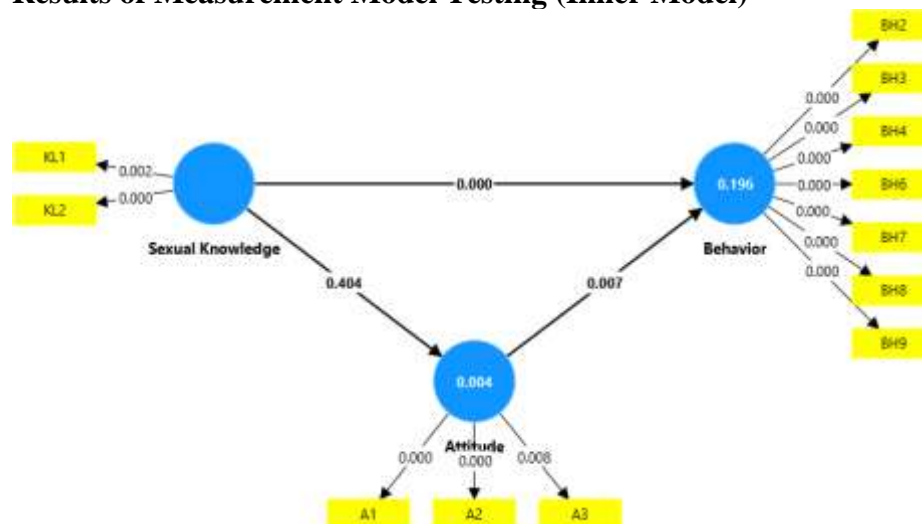


Figure 2. Outer Model di proses dengan PLS-SEM

Multicollinearity Test in the Structural Model

The multicollinearity test in the structural model at the construct level is conducted to ensure that there are no multicollinearity issues among the constructs forming the path model. The multicollinearity test is performed by calculating the inner VIF (Variance Inflation Factor). The results of the inner VIF calculation in this study are shown in Table 2 below, where the inner VIF for all variables/constructs has values below five and below three.

Table 2. Inner VIF (Variance Inflation Factor)

Path	VIF
Sexual Knowledge -> Attitude	1,000
Sexual Knowledge -> Behavior	1,004
Sexual Knowledge -> Attitude	1,000

Source: SmartPLS 4 Output, processed by the researcher (2024)

Table 2. shown that all variables/constructs in this study do not have multicollinearity issues among their predictor constructs and meet the rule of thumb in Hair et al. (2022:191) [9], where an inner VIF value below 5 is recommended, and ideally below 3, to ensure that multicollinearity does not have a substantial effect on the structural model's estimation.

Coefficient of Determination or Explained Variance, R²

The coefficient of determination (R^2) illustrates the amount of variation in the endogenous variable that can be explained by other exogenous/endogenous variables in the model.

Table 3. R-Square and Adjusted R-Square

Variable/Construct	R-Square	Adjusted R-Square
Behavior	0.196	0.190

Source: SmartPLS 4 Output, processed by the researcher (2024)

The results of the coefficient of determination (R^2) test in this study are shown in Figure 2 and Table 4 above, where the variables of sexual knowledge and attitude influence the variable of behavior by 0.196 or 19.6%. Meanwhile, 0.804 or 80.4% of the behavior variable is influenced by variables outside of this study. Value of 0.196 influence value is categorized as weak in Sarstedt et al. (2017:20).

Effect Size f^2

Effect size f^2 is a measurement used to assess the relative impact of a predictor construct on the endogenous construct in terms of its explanatory power (Hair et al., 2022).

Table 4. Q^2 predict and $PLSpredict$ (Manifest Variable)

Path	f-Square
Attitude -> Behavior	0,040
Sexual Knowledge -> Attitude	0,004
Sexual Knowledge -> Behavior	0,192

Source: SmartPLS 4 Output, processed by the researcher (2024)

The results of the effect size f^2 test in this study are shown in Table 4, where it is found that the presence of the sexual knowledge variable has a large effect in increasing the behavior, with a structural effect size of 0.192, based on the criteria in Sarstedt et al. (2017). Additionally, The effect size of Attitude on Behavior is 0.040, categorized as a small effect. This suggests that Attitude only has a slight influence on adolescents' sexual behavior compared to other variables. The effect size of Sexual Knowledge on Attitude is 0.004, which is negligible according to the guidelines. This implies that Sexual Knowledge has a very minimal or practically insignificant impact on shaping adolescents' Attitudes.

Path Coefficients

Table 5. Interpretation of Path Coefficients

Path	Original Sample (O)	T-Statistics	P-Values	Interpretation
Attitude → Behavior	0.179	2.716	0.007	Significant ($p < 0.05$), indicating a positive relationship. This suggests that the more positive adolescents' attitudes toward sexual behavior, the more likely their sexual behavior increases. However, the relationship is considered weak, as the path coefficient is only 0.179.

Path	Original Sample (O)	T- Statistics	P- Values	Interpretation
Sexual Knowledge → Attitude	0.064	0.835	0.404	Not significant ($p > 0.05$), indicating no substantial effect of sexual knowledge on adolescents' attitudes toward sexual behavior. This implies that an increase in sexual knowledge does not necessarily lead to a change in adolescents' attitudes toward sexual behavior.
Sexual Knowledge → Behavior	0.394	7.358	0.000	Highly significant ($p < 0.01$), with a strong positive relationship. This means that the better the adolescents' sexual knowledge, the more likely their sexual behavior increases. The path coefficient of 0.394 suggests that sexual knowledge is a relatively strong factor in influencing adolescents' sexual behavior.
Sexual Knowledge → Attitude → Behavior Behavior (Indirect Effect)	0.011	0.795	0.427	Not significant ($p > 0.05$), indicating that the indirect effect of sexual knowledge on behavior through attitudes is not statistically meaningful. This suggests that sexual knowledge does not significantly influence sexual behavior through the mediating role of attitudes.

DISCUSSION

The findings of this study provide valuable insights into the relationship between sexual knowledge, attitudes, and sexual behavior among adolescents in Bogor, Indonesia. The results highlight both direct and indirect pathways through which sexual knowledge and attitudes may shape adolescent sexual behavior.

Attitude → Behavior

The direct relationship between attitudes and sexual behavior was found to be significant ($p = 0.007$), although the strength of this association was relatively weak (path coefficient = 0.179). This finding suggests that more positive attitudes toward sexual behavior are associated with increased sexual behavior among adolescents. However, the weak path coefficient implies that attitudes alone may not be a dominant factor influencing adolescent sexual behavior. This is consistent with Rahma (2019), who concluded that sexual knowledge and behavior are positively related[10], and Hindradjat et al. (2022), who found that although attitudes contributed to premarital sexual intentions, other factors such as peer pressure and parental supervision played significant roles[11]. Blanc et al. (2023) further emphasized that positive attitudes toward sexual behavior were associated with increased sexual engagement, especially among bisexual women and homosexual men compared to their heterosexual peers. These findings collectively suggest that while attitudes are relevant, adolescent sexual behavior

is often driven by a complex interplay of knowledge, peer influences, and environmental factors [12].

When connecting these results to broader psychological and social determinants, such as attitudes toward parental upbringing, adverse childhood experiences, and heterosexual and homosexual relationships, it becomes evident that adolescent sexual behavior is intricately linked to family dynamics and early life experiences. Adolescents who experience supportive parental upbringing tend to develop more positive attitudes toward relationships and sexuality, which may moderate risky sexual behavior. Conversely, authoritarian or neglectful parenting styles may lead to the development of permissive or defiant sexual attitudes, contributing to increased sexual behavior, even if knowledge and peer influences are also at play [13][14].

Similarly, adverse childhood experiences (ACEs), such as abuse, neglect, or exposure to family conflict, can shape adolescents' sexual attitudes and behaviors. Multiple studies have found that individuals with higher ACE scores are more likely to engage in early initiation of substance use behaviors, particularly opioids [15]. ACEs are also linked to lower educational attainment and increased risks of depression, drug use, and smoking in adolescence [16]. Therefore, the weak association observed between attitudes and behavior in this study could reflect the influence of unresolved childhood trauma, which may override the effect of attitudes alone.

Moreover, attitudes toward heterosexual and homosexual relationships can further contextualize this finding. Adolescents who hold positive attitudes toward diverse sexual orientations (e.g., acceptance of homosexuality and LGBT individuals) may exhibit different patterns of sexual exploration compared to those with heteronormative or stigmatizing views. For instance, adolescents with open attitudes toward same-sex relationships may feel more empowered to explore their sexuality safely, while those with negative attitudes may engage in covert or risky sexual behaviors due to fear of stigma.

Combining these perspectives suggests that adolescents' sexual behavior is not solely determined by their individual attitudes toward sex but is also shaped by their upbringing, childhood experiences, and perceptions of sexual diversity. These factors create a psychosocial environment that either facilitates or restricts their sexual decision-making. Therefore, interventions aiming to promote healthy adolescent sexual behavior should address family-based factors, early adverse experiences, and encourage inclusive attitudes toward diverse sexual relationships to ensure a more holistic and sustainable impact.

Sexual Knowledge → Attitude

The relationship between sexual knowledge and attitudes was found to be not significant ($p = 0.404$), indicating that an increase in sexual knowledge does not necessarily lead to changes in adolescents' attitudes toward sexual behavior. This finding suggests that although adolescents may acquire factual information about sexuality, this knowledge does not automatically translate into more permissive or conservative attitudes toward sexual practices. Santrock (2011) emphasized that knowledge alone is often insufficient to alter deeply rooted attitudes, as these attitudes are also influenced by personal values, family upbringing, peer pressure, and broader cultural norms. Adolescents in societies with conservative cultural expectations, such as Indonesia, may receive sexual knowledge but still maintain restrictive or negative attitudes toward sexual behavior due to prevailing social and religious stigmas.

Supporting this view, a study conducted by Lestari et al. (2017) in Kupang, Indonesia, similarly found that sexual knowledge was not directly associated with adolescents' attitudes toward premarital sexual behavior [7]. Their study highlighted that while knowledge about reproductive health and sexual risks increased, it did not necessarily reduce rigid attitudes toward premarital sex, as these attitudes were predominantly shaped by religious teachings and

local cultural norms. These findings indicate that interventions aimed at improving sexual knowledge should be accompanied by efforts to address cultural beliefs, promote open discussions about sexuality, and involve multiple stakeholders, including parents and educators, to facilitate more comprehensive attitude and behavior changes among adolescents.

When viewed through the lens of understanding sexual orientation (e.g., homosexuality, LGBT) and the causes of sexual deviations, these findings suggest that mere dissemination of knowledge about diverse sexual identities and practices may not be sufficient to foster acceptance and reduce prejudice among adolescents. In societies with strong heteronormative values and stigma against LGBT individuals, adolescents may receive basic information about sexual orientation and variations in sexual behavior, but their attitudes toward non-heteronormative identities may remain negative due to deeply entrenched cultural and religious beliefs. Research in Indonesia and other Southeast Asian countries has shown that LGBT individuals often face discrimination and social exclusion, rooted in traditional gender norms and limited understanding of sexual diversity [7]. Thus, sexual knowledge programs that merely deliver factual information about LGBT identities without challenging heteronormative attitudes or addressing discriminatory norms are unlikely to yield meaningful changes in adolescents' acceptance of sexual diversity.

Moreover, understanding the causes of sexual deviations, often framed negatively in conservative societies, can be particularly influenced by these unchanging attitudes. Adolescents may gain knowledge about the biological or psychological factors contributing to diverse sexual expressions, but without shifting the underlying societal belief that such behaviors are "deviant" or "sinful," this knowledge may fail to transform their attitudes into more accepting or non-judgmental views. For example, studies on comprehensive sex education in Western contexts emphasize that knowledge coupled with values-based discussions about diversity leads to greater empathy and acceptance of different sexual orientations [17].

Therefore, the insignificant relationship between sexual knowledge and attitudes in this study highlights the need for sexuality education programs to integrate content on sexual orientation and diversity within a framework that actively challenges stigma and promotes respect for all identities. This would enable adolescents not only to acquire knowledge about LGBT issues and sexual variations but also to develop empathetic and inclusive attitudes, fostering a more supportive social environment for sexual minorities.

Sexual Knowledge → Behavior

The finding that increased sexual knowledge is linked to increased sexual behavior can also be examined in the context of understanding sexual orientation (e.g., homosexuality, LGBT) and the causes of sexual deviations. Adolescents who acquire broader sexual knowledge, including information about diverse sexual orientations and identities, may become more open to exploring their sexual identity and engaging in sexual experiences that align with their orientation. This is particularly relevant for LGBT adolescents, who often seek sexual knowledge as a means of understanding their own identity, as heteronormative sexual education frequently neglects or marginalizes their experiences [18]. Access to inclusive and comprehensive sexual knowledge can empower adolescents, regardless of their sexual orientation, to make informed decisions about their sexual behavior and relationships, although it may also encourage exploration as a natural part of identity development.

However, the impact of sexual knowledge is not solely positive and can be influenced by how the information is framed and delivered. When sexual knowledge is presented in a manner that stigmatizes non-heteronormative identities or frames certain sexual behaviors as "deviant," it can reinforce negative stereotypes and internalized stigma among LGBT

adolescents. Rostosky et al. (2008) found that adolescents who lack affirmative education about sexual orientation may experience confusion and guilt when exploring their sexuality, increasing their vulnerability to risky sexual behaviors [19]. Additionally, if sexual knowledge is delivered in a value-neutral or purely factual manner without addressing diversity and acceptance, adolescents may still retain discriminatory attitudes toward LGBT individuals or continue viewing non-heterosexual orientations as “sexual deviations”.

These findings underscore the necessity of integrating sexual knowledge with education on sexual orientation, gender identity, and respect for diversity. Comprehensive sexuality education should not only provide factual information about sexual health and contraception but also actively challenge societal biases against LGBT individuals and correct misconceptions about sexual deviations. Programs should emphasize that diverse sexual orientations are normal and valid, while also equipping adolescents with the critical thinking skills necessary to navigate their own sexual development and form inclusive attitudes toward others. This holistic approach is essential to ensure that sexual knowledge leads not only to informed behavior but also to the development of positive, respectful attitudes toward sexual diversity in society.

Sexual Knowledge → Attitude → Behavior (Indirect Effect)

The indirect effect of sexual knowledge on sexual behavior through attitudes was not significant ($p = 0.427$). This indicates that attitudes do not mediate the relationship between sexual knowledge and sexual behavior. This result further reinforces the idea that sexual behavior among adolescents may be influenced more directly by knowledge and other contextual factors, such as peer influence, media exposure, and personal experiences, rather than through changes in attitudes alone. Research by Pangkahila (2010) also supports this notion, suggesting that Indonesian adolescents' sexual behavior is more strongly driven by a complex interplay of various factors, including media exposure and peer influence[20][21].

Exposure to sexually explicit content can shape adolescents' perceptions of sexuality, often normalizing risky behaviors or creating unrealistic expectations about relationships and sex [20][22]. On the positive side, media can also serve as an educational tool, increasing adolescents' knowledge about sexual health, contraception, and sexually transmitted infections (STIs). However, the quality and accuracy of information obtained from media sources vary, posing potential risks if not guided by appropriate education and parental supervision.

Peer influence is another significant factor that shapes adolescent sexual behavior, as adolescents often seek approval from their peers and are likely to conform to group norms, including those related to sexual activities [21] [23]. Peers can either encourage or discourage sexual exploration depending on their values and behaviors. Adolescents in dating relationships or those whose peers are sexually active are more likely to engage in sexual behavior themselves. Demographic factors such as age, socio-economic background, and urban versus rural settings also interact with peer influence to shape sexual decisions. Gender differences are particularly notable, with studies indicating that males are more likely to engage in sexual activities compared to females, possibly due to societal expectations that encourage male sexual assertiveness while promoting female sexual restraint [21].

Family dynamics, particularly parenting styles, play a crucial role in shaping adolescents' sexual attitudes and behaviors. Parents who adopt open communication and authoritative parenting approaches tend to foster healthier sexual attitudes in their children, reducing their likelihood of engaging in risky sexual behavior [21]. Conversely, adolescents from families with neglectful or overly strict parenting styles may seek information and validation from peers or media, increasing their risk of engaging in unsafe sexual practices. Parental involvement and proper guidance remain critical in helping adolescents navigate the

vast amount of sexual information they encounter, ensuring that they develop both knowledge and values that support responsible decision-making regarding their sexual health.

COCNLUSION

The findings of this study indicate that the relationship between sexual knowledge and sexual behavior among adolescents is direct and significant; however, it is not mediated by attitudes, while the relationship between sexual knowledge and attitudes is not significant. This suggests that increased sexual knowledge among adolescents tends to encourage engagement in sexual behavior, but such knowledge does not necessarily lead to changes in their attitudes toward sexual behavior. Attitudes toward sexual behavior themselves show a significant but weak relationship with sexual behavior, implying that adolescent behavior is more influenced by other factors such as peer influence, media exposure, parenting styles, and life experiences, including adverse childhood experiences. Furthermore, the results of this study emphasize the importance of a sexual education approach that not only focuses on enhancing factual knowledge but also fosters moral and cultural values aligned with Indonesian societal norms, which do not support LGBT, while strengthening the role of families and social environments in shaping healthy and responsible adolescent sexual behavior.

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REFERENCES

- [1] M. Vieira Martins et al., “Adolescent pregnancy: An important issue for paediatricians and primary care providers—A position paper from the European academy of paediatrics,” Feb. 08, 2023, Frontiers Media SA. doi: 10.3389/fped.2023.1119500.
- [2] P. Diana and S. Esposito, “Epidemiology, risk factors, and prevention strategies of HIV, HPV, and other sexually transmitted infections among cisgender and transgender youth: a narrative review,” 2024, Frontiers Media SA. doi: 10.3389/fpubh.2024.1342532.
- [3] Y. N. K. Rizqi, L. Nafisah, and A. A. Aryani, “Service Implementation Analysis of Adolescent Reproductive Health toward Adolescents’ Expectations and Needs,” J. Kesehat. Masy., vol. 17, no. 2, pp. 269–278, Jan. 2022, doi: 10.15294/kemas.v17i2.26477.
- [4] Puslitbang, “Health Risk Behavior in Middle and High School Students in Indonesia. Research and Development Agency of the Indonesian Ministry of Health,” 2015.
- [5] Policy Brief, “Policy Brief 2 Adolescent Sexual and Reproductive Health in Indonesia: The Unfinished Business,” 2020.
- [6] P. A. L. Kolin, M. K. P. Abdy Kerat, R. Pasifikus, C. Wijaya, and I. Y. Kiling, “Sexual Knowledge and Sexual Attitudes towards Premarital Sexual Intentions of High School Adolescents,” 2021.
- [7] F. Robiah Al Adawiyah, H. Aswar, P. D. Widyaputry, and F. Wahyuni, “The Threat of The LGBT Community In Indonesia and How Muslims Should Act,” Dauliyah J. Islam Int. Aff., vol. 8, no. 2, pp. 196–207, Aug. 2023, doi: 10.21111/dauliyah.v8i2.10522.

- [8] M. V Lee Badgett, A. Hasenbush, and W. E. Luhur, "LGBT Exclusion in Indonesia and Its Economic Effects," 2017.
- [9] E. Edeh, W.-J. Lo, and J. Khojasteh, Review of Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook, vol. 30, no. 1. 2023. doi: 10.1080/10705511.2022.2108813.
- [10] M. Rahma, "The Relation between Sexuality Knowledge and Sexual Behavior of Adolescents," 2019.
- [11] J. Hindradjat, N. Hidayah, B. B. Wiyono, and M. Muslihati, "Adolescents's Perception of Healthy Sexual Behavior: Containing Indonesian's Philosophy of Life," Open Access Maced. J. Med. Sci., vol. 10, no. E, pp. 1738–1745, Sep. 2022, doi: 10.3889/oamjms.2022.10812.
- [12] A. Blanc, C. Díaz-Batanero, M. Sánchez-García, and D. Dacosta, "Comparison of Different Sexual Behaviors According to Sexual Orientation and the Mediating Role of Attitudes toward Sexual Behaviors between Sexual Orientation and Sexual Behaviors in Young Adults," Int. J. Sex. Heal., vol. 35, no. 2, pp. 284–295, 2023, doi: 10.1080/19317611.2023.2193596.
- [13] S. Fernández Tapia, "Determinantes sociales que condicionan la actividad sexual precoz de los adolescentes," Rev. Peru. ciencias la salud, vol. 2, no. 3, pp. 61–69, Oct. 2020, doi: 10.37711/rpcs.2020.2.3.194.
- [14] F. C. Anyanwu, H. A. Akinsola, A. K. Tugli, and N. Obisie-Nmehielle, "A qualitative assessment of the influence of family dynamics on adolescents' sexual risk behaviour in a migration-affected community," Int. J. Qual. Stud. Health Well-being, vol. 15, no. 1, Jan. 2020, doi: 10.1080/17482631.2020.1717322.
- [15] H. Guarino et al., "Adverse Childhood Experiences Predict Early Initiation of Opioid Use Behaviors," Front. Sociol., vol. 6, May 2021, doi: 10.3389/fsoc.2021.620395.
- [16] L. C. Houtepen, J. Heron, M. J. Suderman, A. Fraser, C. R. Chittleborough, and L. D. Howe, "Associations of adverse childhood experiences with educational attainment and adolescent health and the role of family and socioeconomic factors: A prospective cohort study in the UK," PLoS Med., vol. 17, no. 3, p. e1003031, Mar. 2020, doi: 10.1371/journal.pmed.1003031.
- [17] ELAINE C. GOMEZ, "IMPACT OF VALUES EDUCATION IN DAILY LIVES OF STUDENTS: A QUALITATIVE STUDY," Southeast Asian J. Multidiscip. Stud., vol. 16, no. 1, pp. 1–23, 2022.
- [18] S. Badriah, F. Tambuala, L. Herlinah, D. Mariani, L. Nurcahyani, and H. Setiawan, "The effect of comprehensive sexual education on improving knowledge, attitudes, and skills in preventing premarital sexual behavior in adolescents," Kontakt, vol. 25, no. 1, pp. 404–410, 2023, doi: 10.32725/kont.2023.004.
- [19] E. Schuch, "TRACE : Tennessee Research and Creative Exchange Sexual Evangelism : Youth Activism and the Fight for Comprehensive Sex Education in East Tennessee," 2023.
- [20] A. Ashari, Ria Yulianti Triwahyuningsih, and Fika Nurul Hidayah, "Determinants of Adolescent Sexual Behavior in Cirebon Regency," Sci. Psychiatr., vol. 3, no. 3, pp. 267–

271, Jun. 2022, doi: 10.37275/scipsy.v3i3.150.

- [21] P. Ningrum and K. Kusbaryanto, “Factors influence sexual behavior in adolescent: a literature review,” JNKI (Jurnal Ners dan Kebidanan Indones. (Indonesian J. Nurs. Midwifery), vol. 9, no. 2, p. 119, Aug. 2021, doi: 10.21927/jnki.2021.9(2).119-127.
- [22] E. Gagliano, “Relationship Between Attitudes And Media Exposure With Premarital Sex Behavior In Adolescents,” 2022. [Online]. Available: <https://ijhet.com/index.php/ijhess/>
- [23] P. Hastutii, R. Salsabila, A. Budiarti, and E. Yunitasari, “The correlation between social media use, peer influence, and sexual behaviour among adolescents,” in Journal of the Pakistan Medical Association, Pakistan Medical Association, Feb. 2023, pp. S39–S41. doi: 10.47391/JPMA.Ind-S2-9.