

The Relationship Between Self-Control and Religiosity with Adolescent Sexual Behavior at SMAN 2 Kudus

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ABSTRACT

Adolescence involves biological, cognitive, and psychosocial changes that may influence sexual behavior. This study examined the separate associations of self-control and religiosity with sexual behavior among students at SMAN 2 Kudus. A quantitative descriptive-correlational study with a cross-sectional design involved a population of 1,178 students in grades X–XII. Proportional random sampling selected 299 students: 100 from grade X, 100 from grade XI, and 99 from grade XII. Data were collected using four-point Likert questionnaires comprising 10 self-control items, 10 religiosity items, and 15 sexual-behavior items. Questionnaire scores were categorized as low or high for self-control and religiosity and risky or non-risky for sexual behavior using the study's cut-off procedure. Associations were analyzed using Pearson's Chi-Square test at $\alpha = 0.05$. Respondents' mean age was 16.08 ± 0.797 years, and 152 (50.8%) were female. Low self-control was identified in 154 students (51.5%), low religiosity in 255 (85.3%), and non-risky sexual behavior in 161 (53.8%). Self-control was significantly associated with sexual behavior ($\chi^2(1) = 81.627$, $p < 0.001$), as was religiosity ($\chi^2(1) = 16.243$, $p < 0.001$). All expected cell counts exceeded five. These findings indicate separate statistical associations within this sample. However, the cross-sectional design does not establish temporal direction, causality, or protective effects. Interpretation should consider questionnaire classification, self-reported responses, and the single-school setting when assessing applicability to other adolescent populations.

1. Introduction

Adolescence is a developmental phase characterized by substantial biological, cognitive, and psychosocial changes. This period involves increasing autonomy, identity exploration, and exposure to social and digital environments. These changes may create opportunities for experimentation, including behaviors related to sexuality. Adolescent sexual behavior is associated with multiple individual and contextual factors, including peer relationships, family communication, and the social environment [1]. An Indonesian study among junior-high-school students also reported an association between social media use and risky sexual behavior, highlighting the relevance of digital environments to adolescent sexual-health research [2]. Adolescent sexual and reproductive health is therefore an important public-health concern, particularly when

sexual behavior may expose adolescents to unintended pregnancy and sexually transmitted infections [3].

Adolescent pregnancy remains an important public-health concern, particularly because of unintended pregnancies and the health risks associated with pregnancy during adolescence [3]. The United Nations Population Fund has highlighted the continuing burden of adolescent pregnancy and the social and structural factors surrounding adolescent reproductive health [4]. In Indonesia, national health information also identifies adolescent reproductive health as an important health issue [5]. Local administrative data, such as marriage-dispensation applications, may provide contextual information regarding adolescent social and reproductive problems. However, such administrative data cannot be interpreted as a direct measure of sexual behavior among students [6], [7].

A preliminary study conducted at SMAN 2 Kudus in January 2026 through an interview with a Guidance and Counseling teacher identified concerns regarding risky dating behavior among students. This preliminary observation provided a local rationale for examining individual factors associated with adolescent sexual behavior at the school. However, the preliminary observation was not used as an estimate of the prevalence of sexual behavior in the study population.

Self-control refers to an individual's capacity to regulate impulses, emotions, and behavior in accordance with longer-term goals and standards. The self-control perspective proposed by Gottfredson and Hirschi suggests that lower self-control is associated with greater susceptibility to immediate gratification and impulsive behavior [8]. Previous studies conducted among Indonesian adolescents have reported significant associations between self-control and premarital sexual behavior [9].

Religiosity refers to the extent to which religious beliefs, practices, experiences, and values are present and internalized in an individual's life. Previous research has examined religiosity in relation to adolescent sexual behavior, although the strength of these associations varies across dimensions of religiosity and indicators of sexual behavior [10]. However, findings from different populations cannot automatically be generalized to students at SMAN 2 Kudus.

Previous studies have generally examined self-control or religiosity in relation to adolescent sexual behavior in different school populations. The present study examines the separate associations of self-control and religiosity with sexual-behavior categories within the same school sample at SMAN 2 Kudus. The present study addresses this question among students at SMAN 2 Kudus using proportional random sampling across grades X, XI, and XII. This approach provides local evidence regarding the distribution of self-control, religiosity, and sexual behavior and their statistical associations within the study population.

Based on this background, this study aimed to determine the association between self-control and religiosity with adolescent sexual behavior at SMAN 2 Kudus.

2. Research Method

2.1. Study Design and Setting

This study used a quantitative descriptive-correlational design with a cross-sectional approach. In accordance with a cross-sectional approach, self-control, religiosity, and sexual behavior were assessed within the same data-collection period [11]. The study was conducted at SMAN 2 Kudus from January to April 2026, with primary data collection conducted in March 2026.

2.2. Population and Sample

The population consisted of 1,178 active students in grades X, XI, and XII during the 2025/2026 academic year. The sample size was determined using the Slovin formula with an error margin of 0.05. Table 1 presents the population and sample distribution by grade, comprising 100 students from grade X, 100 from grade XI, and 99 from grade XII, for a total sample of 299 students.

Table 1. Sample Distribution by Grade

Grade	Population	Sample
X	395	100
XI	395	100
XII	388	99
Total	1,178	299

Students were selected randomly using a lottery technique from the student lists within each grade until the required proportional quota was reached.

The inclusion criteria were active students in grades X–XII who were registered at SMAN 2 Kudus during the 2025/2026 academic year, were willing to participate, and completed the required consent procedures. Exclusion criteria included students who were ill or absent during data collection, students undergoing disciplinary suspension, and respondents whose questionnaires were incomplete or internally inconsistent.

2.3. Instruments and Measurement

Three structured questionnaires were used to measure the study variables. The assessment of questionnaire quality requires evidence of validity and reliability to support the interpretation of the measured constructs [12].

Self-control was measured using a 10-item questionnaire with four response options: strongly agree, agree, disagree, and strongly disagree. Total scores ranged from 10 to 40. The categories of low and high self-control were determined using the mean/median cut-off procedure documented in the study.

Religiosity was measured using a 10-item questionnaire using the same four-point Likert scale. Total scores ranged from 10 to 40, and respondents were categorized into low and high religiosity according to the mean/median cut-off procedure documented in the study.

Sexual behavior was measured using a 15-item questionnaire with four response options. Total scores ranged from 15 to 60. Respondents were categorized as having risky or non-risky sexual behavior according to the mean/median cut-off procedure documented in the study. The questionnaire assessed tendencies related to premarital sexual interaction and related behaviors. The classification represented the study's operational

category and was not intended to constitute a clinical diagnosis.

The study documents that the questionnaires underwent validity and reliability testing before being used for data collection. However, the numerical validity coefficients and reliability coefficients were not available in the readable text/output of the supplied thesis. Therefore, no numerical coefficient is reported here to avoid introducing unsupported values.

2.4. Data Collection and Ethical Considerations

Data were collected using an online questionnaire after respondents received an explanation of the research objectives, procedures, confidentiality, and voluntary nature of participation. Respondents were informed that there were no right or wrong answers and that their responses would be kept confidential and used solely for research purposes.

The study received ethical approval from the Health Research Ethics Committee of Universitas Muhammadiyah Purwokerto (KEPK-UMP) under registration number KEPK/UMP/44/VIII/2026, dated 6 August 2026. The research was conducted at SMAN 2 Kudus after the required research permission had been obtained. Consent procedures for adolescent participants were conducted in accordance with the approved research protocol. Respondent identities were not included in the research dataset, and confidentiality was maintained throughout data collection and analysis.

2.5. Statistical Analysis

Univariate analysis was used to describe respondent characteristics and the distribution of self-control, religiosity, and sexual-behavior categories using frequencies, percentages, means, and standard deviations as appropriate.

Bivariate analysis was performed to examine the association between self-control and sexual behavior and between religiosity and sexual behavior using Pearson's Chi-Square test with a significance level of $\alpha = 0.05$.

The assumptions of the Chi-Square test were examined using expected cell counts. In the self-control analysis, no expected cell count was below five, with a minimum expected count of 66.92. In the religiosity analysis, no expected cell count was below five, with a minimum expected count of 20.31. Therefore, Pearson's Chi-Square test was considered applicable to both 2×2 contingency tables.

Odds ratios (ORs) with 95% confidence intervals were calculated as measures of association. The ORs were interpreted as measures of association and not as evidence of causation or protective effects.

3. Result and Discussion

3.1. Characteristics of Respondents

A total of 299 students participated in the study. Table 2 summarizes the respondents' demographic characteristics. Of the 299 students, 152 (50.8%) were female and 147 (49.2%) were male. The mean age was 16.08 ± 0.797 years, with a range of 14–19 years.

Table 2. Characteristics of Respondents

Characteristic	n	%
Male	147	49.2
Female	152	50.8
Total	299	100.0

Respondents had a mean age of 16.08 years, with an age range of 14–19 years. These characteristics provide the demographic context for interpreting the findings among students at SMAN 2 Kudus. This developmental period is characterized by continuing biological, cognitive, and psychosocial changes. Such characteristics provide a relevant context for studying individual factors associated with adolescent behavior.

3.2. Distribution of Self-Control, Religiosity, and Sexual Behavior

Table 3. Distribution of Study Variables

Variable	Category	n	%
Self-control	Low	154	51.5
	High	145	48.5
Religiosity	Low	255	85.3
	High	44	14.7
Sexual behavior	Risky	138	46.2
	Non-risky	161	53.8
Total		299	100.0

Table 3 presents the distribution of the study variables. Low self-control was identified in 154 students (51.5%), low religiosity in 255 students (85.3%), and risky sexual behavior in 138 students (46.2%). The proportion classified as having low self-control reflects the distribution of questionnaire scores under the classification rule used in this study [8].

Most respondents were categorized as having low religiosity, namely 255 students (85.3%), while 44 students (14.7%) were categorized as having high religiosity. This relatively large proportion should be interpreted in relation to the questionnaire, scoring procedure, and cut-off used in this study. In particular, the category represents the distribution generated by the instrument and the study's cut-off and should not be interpreted as meaning that 85.3% of respondents had no religious commitment.

Regarding sexual behavior, 161 students (53.8%) were categorized as non-risky and 138 students (46.2%) as risky. Because sexual behavior was assessed through self-reported questionnaire responses, the distribution should be interpreted with consideration of possible reporting bias and socially desirable responding [13].

3.3. Association Between Self-Control and Sexual Behavior

Table 4. Association Between Self-Control and Sexual Behavior

Self-control	Non-risky n (%) within group	Risky n (%) within group	Total
Low	44 (28.6%)	110 (71.4%)	154
High	117 (80.7%)	28 (19.3%)	145
Total	161 (53.8%)	138 (46.2%)	299

Pearson Chi-Square: $\chi^2(1) = 81.627$; $p < 0.001$

Minimum expected count: 66.92

OR = 10.45; 95% CI = 6.08–17.94

As shown in Table 4, risky sexual behavior was reported by 110 of 154 students (71.4%) categorized as having low self-control, compared with 28 of 145 students (19.3%) categorized as having high self-control. Pearson's Chi-Square test showed a statistically significant association between self-control and sexual behavior, with $\chi^2(1) = 81.627$ and $p < 0.001$. Students categorized as having low self-control had 10.45 times the odds of being classified as having risky sexual behavior compared with students categorized as having high self-control (95% CI: 6.08–17.94).

The finding is consistent with the theoretical perspective of self-control proposed by Gottfredson and Hirschi, which links lower self-control with greater susceptibility to immediate gratification and impulsive behavior [8]. Previous Indonesian studies have also reported significant associations between self-control and adolescent sexual behavior [9]. A study involving late adolescents in Kupang also reported a negative correlation between self-control and risky sexual behavior, indicating that higher self-control scores were associated with lower risky sexual-behavior scores [14].

However, the present result should not be interpreted as evidence that low self-control causes risky sexual behavior. Because self-control and sexual behavior were measured simultaneously, temporal direction cannot be determined. Other factors, including peer relationships, family communication, and the social environment, may also be associated with adolescent sexual behavior but were not included in the present bivariate analyses [1]. An Indonesian study among respondents aged 18–21 years also reported an association between parental communication patterns and risky sexual behavior, supporting the relevance of family communication as an additional variable for future research [15]. Exposure to pornography is another relevant factor examined in studies of adolescent sexual behavior, although findings differ across sexual-behavior indicators [16].

The observed association therefore provides evidence of a statistical relationship within the study population rather than evidence of an intervention effect or a protective effect.

3.4. Association Between Religiosity and Sexual Behavior

Table 5. Association Between Religiosity and Sexual Behavior

Religiosity	Non-risky n (%) within group	Risky n (%) within group	Total
Low	125 (49.0%)	130 (51.0%)	255
High	36 (81.8%)	8 (18.2%)	44
Total	161 (53.8%)	138 (46.2%)	299

Pearson Chi-Square: $\chi^2(1) = 16.243$; $p < 0.001$

Minimum expected count: 20.31

OR = 4.68; 95% CI = 2.09–10.46

As shown in Table 5, risky sexual behavior was reported by 130 of 255 students (51.0%) categorized as having low religiosity, compared with 8 of 44 students (18.2%) categorized as having high religiosity.

Pearson's Chi-Square test demonstrated a statistically significant association between religiosity and sexual behavior, $\chi^2(1) = 16.243$, $p < 0.001$. Students categorized as having low religiosity had 4.68 times the odds of being classified as having risky sexual behavior compared with students categorized as having high religiosity (95% CI: 2.09–10.46).

This finding is consistent with an Indonesian study reporting a significant association between religiosity and adolescent premarital sexual behavior [17]. Religious beliefs and practices may form part of an adolescent's personal values and behavioral framework. However, the present study only measured religiosity through a categorized questionnaire score and did not examine the mechanisms through which religious beliefs, practices, or experiences might relate to sexual behavior.

The finding therefore should be interpreted as an association within this sample rather than evidence that increasing religiosity would prevent risky sexual behavior. The cross-sectional design does not permit conclusions regarding causality or temporal direction. This cautious interpretation is supported by a meta-analysis showing that religious service attendance had weak associations with selected sexual-behavior indicators and should not be considered sufficient on its own to protect young people's sexual health [10].

The high proportion of respondents classified as having low religiosity (85.3%) also needs to be interpreted cautiously. The category was determined using the study's mean/median cut-off procedure. Therefore, this percentage represents the distribution of scores according to the instrument and cut-off used in the sample and should not be interpreted as an absolute measure of the religious commitment of the students.

The present study identified statistically significant associations between self-control and sexual behavior and between religiosity and sexual behavior among students at SMAN 2 Kudus. In both analyses, respondents categorized as having low self-control or

low religiosity had a greater proportion of risky sexual behavior than respondents in the corresponding high categories.

The association between self-control and sexual behavior is compatible with the self-control perspective, which emphasizes the role of impulse regulation and the ability to delay immediate gratification [8]. Previous studies among Indonesian adolescents have also reported relationships between self-control and sexual behavior [9]. The present study adds local evidence from SMAN 2 Kudus using proportional random sampling across three grade levels.

The association between religiosity and sexual behavior is also consistent with previous research examining religious commitment and adolescent risk behavior [10], [17]. However, religiosity is a multidimensional construct, and the present study did not separately examine individual dimensions such as religious belief, ritual practice, religious experience, or moral consequences. Consequently, the statistical association should not be interpreted as evidence of a specific mechanism.

The results also demonstrate the importance of distinguishing statistical association from causal interpretation. The cross-sectional design does not establish whether differences in self-control or religiosity preceded differences in sexual behavior. It is also possible that other variables not measured in the present study contributed to the observed patterns. Therefore, the findings should be understood as associations observed among the 299 students included in this study.

Taken together, the findings indicate separate associations of self-control and religiosity with sexual-behavior categories in this school sample. These associations were not adjusted for potential confounders. Religiosity was assessed using an overall questionnaire score rather than separate dimensions, limiting interpretation of the mechanisms underlying the observed association. The findings should therefore be interpreted in light of the study's measurement procedures, self-reported data, and cross-sectional design.

Several limitations should be considered. First, sexual behavior was measured through self-reported responses to sensitive questions, creating the possibility of social-desirability bias or under-reporting [13]. Previous longitudinal research has also identified inconsistencies in adolescents' self-reported sexual behavior, highlighting the importance of clearly reporting response-consistency checks and any resulting exclusions [18]. Second, the study was conducted in only one school, limiting the generalizability of the findings to adolescents in other schools or communities. Third, the cross-sectional design prevents

determination of temporal direction and causality [11]. Fourth, potentially relevant factors such as peer influence, family environment, digital-media exposure, access to sexual information, and other behavioral characteristics were not simultaneously analyzed.

Future research may involve larger samples from multiple schools and use longitudinal or multivariable designs to examine the temporal and independent relationships among self-control, religiosity, and adolescent sexual behavior. The present findings can nevertheless provide local information for school-based assessment and counseling, while the effectiveness of any intervention should be evaluated through an appropriate intervention study rather than inferred from this observational research.

4. Conclusion

Among 299 students at SMAN 2 Kudus, 51.5% were categorized as having low self-control, 85.3% as having low religiosity, and 53.8% as having non-risky sexual behavior. Self-control was significantly associated with sexual behavior ($\chi^2(1) = 81.627$, $p < 0.001$), and religiosity was also significantly associated with sexual behavior ($\chi^2(1) = 16.243$, $p < 0.001$).

These findings describe statistical associations observed in the study population and should not be interpreted as evidence of causation or a proven protective effect. The interpretation should consider the self-reported nature of the sexual-behavior data, the single-school setting, and the cross-sectional design.

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