

The Relationship between Gender-Based Class Segregation and Students' Social Skills

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ABSTRACT

Gender-based class segregation represents one form of classroom organization implemented in some educational institutions, particularly within Islamic-based schools. Such an arrangement creates patterns of student interaction that differ from those found in mixed-gender classrooms and may be associated with students' social development. This study aimed to examine the relationship between gender-based class segregation and the social skills of eighth-grade students at SMP IT Bina Insan Lubuk Pakam. A quantitative approach with an *ex post facto* design was employed. The study involved 46 eighth-grade students. Data were collected using a questionnaire that had undergone validity and reliability testing and were subsequently analyzed through preliminary assumption tests and simple linear regression. The results demonstrated a positive and statistically significant relationship between gender-based class segregation and students' social skills ($B = 0.557$; $t = 4.656$; $p < .001$; $R = .574$; $R^2 = .330$). The finding indicates that gender-based class segregation was associated with variation in students' social skills within the research context. However, the observed relationship should not be interpreted as causal evidence. The study highlights the importance of considering peer interaction and the learning environment in understanding students' social-skill development.

*Segregasi kelas berbasis gender merupakan salah satu bentuk pengorganisasian pembelajaran yang diterapkan pada sebagian lembaga pendidikan, termasuk sekolah berbasis Islam. Pengaturan tersebut membentuk pola interaksi siswa yang berbeda dari kelas campuran dan berpotensi berkaitan dengan perkembangan keterampilan sosial siswa. Penelitian ini bertujuan menganalisis hubungan antara segregasi kelas berbasis gender dan keterampilan sosial siswa kelas VIII di SMP IT Bina Insan Lubuk Pakam. Penelitian menggunakan pendekatan kuantitatif dengan desain *ex post facto*. Sampel penelitian terdiri atas 46 siswa kelas VIII. Data dikumpulkan menggunakan kuesioner yang telah melalui pengujian validitas dan reliabilitas, kemudian dianalisis menggunakan uji prasyarat dan regresi linear sederhana. Hasil penelitian menunjukkan adanya hubungan positif dan signifikan secara statistik antara segregasi kelas berbasis gender dan keterampilan sosial siswa ($B = 0,557$; $t = 4,656$; $p < 0,001$; $R = 0,574$; $R^2 = 0,330$). Temuan ini menunjukkan bahwa segregasi kelas berbasis gender berkaitan dengan variasi keterampilan sosial siswa dalam konteks penelitian. Namun, hubungan tersebut tidak menunjukkan hubungan kausal. Penelitian ini menegaskan pentingnya memperhatikan kualitas interaksi teman sebaya dan lingkungan pembelajaran dalam pengembangan keterampilan sosial siswa.*

Keywords: gender, social skills, junior high school students, school environment

Introduction

Education is a multidimensional process that contributes not only to students' academic development but also to the formation of character, interpersonal competence, adaptability, and the capacity to participate effectively in social life (Bhardwaj et al., 2025; Metsäpelto et al., 2022). Schools represent an important environment for these developmental processes because students are continuously exposed to academic demands as well as social experiences involving teachers, peers, classroom norms, and the wider school community. Through these experiences, students learn to communicate appropriately, cooperate with others, respond to

differences, regulate their behavior, assume responsibility, and establish constructive relationships. Consequently, educational development at the secondary level should not be assessed exclusively through academic achievement but should also consider students' ability to function effectively within social environments. Santos et al. (2020) found that social and emotional competencies were positively associated with student engagement, highlighting the importance of considering students' social and emotional development as an integral component of educational outcomes. This perspective suggests that the quality of education should be understood not only through what students learn academically but also through how effectively they develop the competencies necessary to interact with others and participate in their social environments.

Social skills constitute an important dimension of this broader developmental process because they enable students to respond appropriately and effectively to different interpersonal situations. These competencies extend beyond communication and friendship formation and include cooperation, responsibility, empathy, assertiveness, self-control, behavioral regulation, and the ability to respond appropriately to social expectations. Swastono and Setyandari (2024) identify cooperation, assertiveness, responsibility, empathy, and self-control as important dimensions of social skills among secondary school students. Such dimensions demonstrate that social skills represent a multidimensional construct that develops through continuous engagement with interpersonal situations. Students acquire and refine these competencies as they communicate their ideas, listen to others, negotiate differences, share responsibilities, manage disagreement, and adjust their behavior according to social expectations. Social skills should therefore not be regarded simply as fixed individual characteristics; rather, they should be understood as competencies that are shaped through the interaction between individual capacities and the social environments in which students participate.

The school environment provides an important context for the development and expression of these competencies because students encounter repeated opportunities for social interaction throughout their educational experiences. Classroom discussions, collaborative assignments, peer relationships, extracurricular activities, teacher-student interactions, and participation in school programs all provide situations in which students can practice communication, cooperation, responsibility, emotional regulation, and interpersonal problem solving. Siddiqui and Warraich (2021) found evidence that school-based interventions can contribute to the development of non-cognitive skills, particularly when students receive opportunities for communication, self-expression, collaboration, and sustained participation. Similarly, Cipriano et al. (2023) found that school-based social and emotional learning interventions were associated with improvements in students' social-emotional skills, behavior, peer relationships, and school functioning. These findings reinforce the understanding that schools operate not only as institutions for academic instruction but also as social environments in which students repeatedly practice behaviors and competencies that are important for their broader development.

Nevertheless, students' social skills are not determined by instructional experiences alone. Sulistiyowati, Yunus, and Hastuti (2023) found that junior high school students can develop social skills through group discussions, instructional guidance, classroom rules, and other forms of learning experience. At the same time, their findings indicate that students' social development may also be influenced by individual characteristics, technological exposure, and family circumstances. This evidence suggests that social competence emerges from the

interaction of multiple environments rather than from a single educational factor. Within this broader system, the classroom deserves particular attention because it is one of the environments in which students spend substantial amounts of time interacting with peers. The way students are organized within classrooms can influence the composition of their immediate peer networks, the frequency of particular forms of interaction, and the social experiences through which interpersonal competencies are repeatedly practiced. Classroom organization may therefore represent an important contextual factor in understanding variations in students' social skills.

One classroom arrangement that raises particular questions concerning social development is the organization of students according to gender. Gender-based class segregation refers to an educational arrangement in which male and female students are assigned to separate classes during the learning process. Such practices can be found in certain educational institutions, particularly those operating within strong religious or culturally specific frameworks. Damayanti and Rismaningtyas (2021) explain that gender segregation may be implemented across particular educational activities or more broadly throughout the learning process and can influence patterns of interaction between male and female students. Mu'tamaroh and Pantiwati (Mu'tamaroh & Pantiwati, 2019) similarly describe gender-based class segregation within an Islamic school context as an institutional practice involving the placement of male and female students in separate classes. Thus, gender-based class segregation should not be viewed solely as a technical mechanism for student placement. It also creates a particular social structure by determining the composition of students' immediate peer environment and consequently shaping the forms of interaction that are most frequently available to them.

The implications of gender-based classroom organization become particularly significant within Islamic educational settings, where the separation of male and female students may be connected to institutional values, religious considerations, and approaches to student management. Al Mubaraq and Dartim (2024) examined gender-based class segregation at the junior high school level in relation to student management and the prevention of inappropriate social relationships, illustrating that segregation may form part of a broader institutional strategy for organizing student behavior and maintaining an educational environment consistent with particular moral objectives. Rudiono (2022) further demonstrates that gender segregation can be incorporated into specific learning activities and classroom-management practices, while Zainal and Asep (2023) conceptualize gender-based grouping as part of student management and the organization of the learning environment. These studies indicate that gender-based classroom organization has both institutional and social dimensions. Its educational implications therefore cannot be evaluated independently of the institutional context, the objectives underlying its implementation, and the forms of interaction available to students within and beyond the classroom.

From the perspective of social development, gender-based class segregation changes the structure of students' immediate peer environment but does not eliminate opportunities for social interaction. Students placed in gender-homogeneous classes continue to communicate with classmates, participate in group activities, cooperate in completing academic tasks, negotiate responsibilities, respond to classroom expectations, and manage interpersonal disagreements. These repeated experiences may support the development of communication, cooperation, self-regulation, responsibility, and other social competencies within relatively stable peer groups. However, the separation of male and female students also reduces

opportunities for routine cross-gender interaction within classroom settings. Schüller and Demetriou (2018) found that school-based interventions can produce positive effects on behavioral and cognitive-perceptive dimensions of social competence, although evidence concerning the transfer of these competencies across different contexts is not consistently established. This observation is important because students may develop social competencies effectively within one interactional environment without necessarily experiencing the same opportunities or challenges in another. The central issue is therefore not simply whether segregation increases or decreases social skills, but how the specific social environment created by classroom segregation relates to the forms of social competence that students develop and demonstrate.

The empirical literature presents findings that point in different directions, making the relationship between gender-based classroom organization and social skills an important question for further investigation. Karadağ et al. (2024) reported that students in coeducational settings demonstrated stronger communication skills and higher self-confidence than students in single-sex schools. Wong et al. (2018) similarly found that students from single-sex schools had fewer mixed-gender friendships and experienced greater anxiety in situations involving interaction with students of another gender. Fabes et al. (2019) emphasized the importance of gender integration and interaction with other-gender peers for creating more inclusive classroom environments, while Dijkstra and Berger (2018) reported higher levels of prosocial behavior among students in mixed-sex classrooms than among students in all-male or all-female classrooms. These findings suggest that greater opportunities for interaction across gender groups may contribute to particular aspects of social development. However, they do not necessarily establish that gender-based classroom segregation will have the same consequences in every educational setting. Differences in institutional culture, developmental stage, classroom practices, and the specific dimensions of social competence being measured may produce different outcomes.

The existing literature therefore reveals a specific gap concerning the relationship between gender-based class segregation and students' social skills. Previous research has examined gender segregation in relation to gender-responsive education, social relationships, student management, religious values, and the prevention of inappropriate interaction (Al Mubaraq & Dartim, 2024; Damayanti & Rismaningtyas, 2021). Other studies have focused on the development of students' social skills through learning models, instructional strategies, social-emotional learning, and responsibility-based educational approaches. Purnomo, Heynoek, and Kurniawan (2022), for example, examined *Teaching Personal and Social Responsibility* as an approach for supporting students' social development, while Halimah et al. (2023) investigated social skills in relation to particular learning models. Cipriano et al. (2023) and Santos et al. (2020) further demonstrate the broader relevance of social-emotional competencies to students' behavior, relationships, and engagement. Despite these contributions, relatively limited attention has been directed toward the quantitative relationship between gender-based class segregation and students' overall social skills, particularly within an Islamic junior high school context. The gap therefore involves not merely a difference in research location but the limited integration of two areas of inquiry that have generally been examined separately: the organization of students according to gender and the development of their social competencies.

This research gap is particularly relevant to SMP IT Bina Insan Lubuk Pakam, an Indonesian junior high school, where gender-based class segregation forms part of the

organization of classroom learning. Students participate in everyday instructional activities within gender-based classes, creating a distinctive peer environment in which many of their routine social experiences occur. At the same time, students remain part of the same institutional community and may encounter peers of another gender through school-wide programs, extracurricular activities, religious activities, competitions, and other organized events. This context provides an opportunity to examine classroom-level gender segregation without treating it as equivalent to a completely single-sex school. The present study therefore approaches gender-based class segregation as a characteristic of the educational environment whose relationship with students' social skills requires empirical examination rather than as a practice that should be presumed to be either beneficial or harmful. Based on this rationale, the study aims to examine the relationship between gender-based class segregation and students' social skills at SMP IT Bina Insan Lubuk Pakam. By connecting research on gender-based classroom organization with research on social development, the study seeks to provide empirical evidence concerning how classroom structure and students' social competencies are related within an Indonesian Islamic junior high school setting.

Methods

This study employed a quantitative approach using an *ex post facto* research design. A quantitative approach was selected because the study was intended to obtain numerical data and examine the relationship between the research variables through statistical procedures. Sugiyono (Sugiyono, 2023; Suhirman et al., 2026) explains that quantitative research is appropriate when research problems are clearly formulated, variables can be measured, and the resulting data can be statistically analyzed to test research hypotheses. An *ex post facto* design was employed because the condition under investigation had already occurred naturally before the study was conducted and was not manipulated by the researcher. In the present study, gender-based class segregation constituted an existing educational arrangement implemented by the school as part of its classroom organization; therefore, the researcher neither introduced an intervention nor altered the existing grouping of students. Rukminingsih et al. (2020) describe *ex post facto* research as an approach for examining conditions or events that have already occurred without manipulating the variables under investigation. On this basis, the design was considered appropriate for examining the statistical relationship between gender-based class segregation and students' social skills within a naturally occurring educational context.

The study was conducted at SMP IT Bina Insan Lubuk Pakam, an Islamic-based school that implements gender-based class segregation as part of its classroom organization. The study population consisted of all eighth-grade students, comprising 46 students distributed across two classes. Given the relatively limited population size and the accessibility of all population members, a saturated sampling technique (*sampling jenuh*) was employed. Accordingly, all members of the population were included as research participants, resulting in a sample of 46 students. Sugiyono (2023) identifies saturated sampling as one of the non-probability sampling techniques in which all members of a population are included in the sample. The use of this technique enabled the study to obtain a comprehensive representation of the eighth-grade students within the specific school context, without selecting only a subset of students to represent the population. Data were collected through questionnaires and documentation in accordance with the objectives of the study.

The primary research instrument was a questionnaire designed to obtain quantitative data concerning gender-based class segregation and students' social skills. The questionnaire was developed on the basis of indicators representing the constructs of the respective variables so that each construct could be operationalized into measurable statements. Prior to its use in the main data collection, the instrument underwent validity and reliability testing to ensure that the items provided sufficiently valid and consistent measurements for subsequent analysis. Of the 50 statements initially developed, 44 items were determined to be valid and were retained for the main study. Instrument reliability was assessed using Cronbach's Alpha, which produced a coefficient of 0.950, indicating a very high level of internal consistency. Documentation was additionally used as supporting data to provide contextual information concerning the research setting and the implementation of gender-based classroom organization. This procedure ensured that the quantitative analysis was based on an instrument whose measurement quality had been examined before being administered to the research participants.

The collected data were analyzed using SPSS version 25.0 through a sequence of statistical procedures comprising a residual normality test, a linearity test, and simple linear regression. The residual normality test was conducted to assess whether the residuals of the regression model met the relevant distributional assumption, whereas the linearity test was used to determine whether the relationship between gender-based class segregation as variable X and students' social skills as variable Y followed a linear pattern. After these assumptions were examined, simple linear regression was employed to assess the statistical relationship between the two variables. The analysis provided information regarding the direction of the relationship, the magnitude of the relationship as reflected in the regression coefficient, and the statistical significance of the regression model. The R-squared value was also examined to determine the proportion of variance in students' social skills statistically accounted for by gender-based class segregation within the model. Accordingly, interpretation of the findings was not limited to statistical significance but also considered the direction and explanatory proportion of the model. Given the *ex post facto* design, the regression findings are interpreted as evidence of a statistical relationship within the study context rather than as definitive evidence of causality.

Result

Research Context and Instrument Testing

The study was conducted at SMP IT Bina Insan Lubuk Pakam, an Islamic-based junior high school that implements gender-based class segregation as part of its classroom organization. The analysis involved 46 eighth-grade students, who constituted the research sample. Accordingly, the findings presented in this section represent the empirical conditions observed among eighth-grade students within this particular educational setting. The presentation of the results follows the sequence of the statistical procedures applied in the study, beginning with the evaluation of instrument validity and reliability, followed by the assessment of the normality and linearity assumptions, and concluding with the analysis of the relationship between gender-based class segregation and students' social skills. The sequence is intended to present the empirical findings systematically, allowing each subsequent analysis to be understood on the basis of the preceding statistical results.

Before the main analysis was conducted, the research instrument was subjected to validity testing to determine whether the questionnaire items met the specified measurement criteria. The initial instrument consisted of 50 questionnaire items. Item validity was examined

using the Pearson Product–Moment correlation with the assistance of SPSS. The instrument was tested on 32 students who were not included in the main research sample but had characteristics comparable to those of the research participants. Based on the number of respondents involved in the instrument trial, the degrees of freedom (df) were 30, with an r -table value of 0.349 at the 5% significance level. An item was considered valid when its calculated r value exceeded the critical r -table value and its significance level was below 0.05.

The validity testing resulted in 44 valid items out of the 50 items initially developed, while six items did not meet the established validity criteria. The six items that failed to satisfy the criteria were excluded from the main data collection. Consequently, the final questionnaire used in the main study consisted of 44 valid items. The reduction from 50 to 44 items resulted from the empirical screening process rather than from an arbitrary reduction of the instrument. Thus, only items that met the predetermined statistical requirements were retained for subsequent data collection and analysis. Following the validity assessment, the 44 retained items were subjected to a reliability analysis using Cronbach's Alpha. The analysis produced a Cronbach's Alpha coefficient of 0.950 across the 44 items. This coefficient indicates a very high level of internal consistency among the retained items. The reliability result therefore provided additional evidence that the items retained after the validity screening demonstrated a consistent measurement pattern. Based on the validity and reliability results, the 44-item instrument was subsequently used to collect the data analyzed in the main study.

Table 1. Reliability Test Results

Cronbach's Alpha	N of Items
.950	44

Source: SPSS output, 2026.

Preliminary Analysis

After the research instrument had met the validity and reliability criteria, the analysis proceeded to the preliminary assessment of the data. This stage consisted of two statistical examinations: residual normality and linearity. The normality test was conducted to examine the distribution of the residuals generated by the regression model, whereas the linearity test was used to determine whether the relationship between gender-based class segregation and students' social skills followed a linear pattern. The results of these preliminary analyses were considered before proceeding to the main relationship analysis using simple linear regression.

1 Normality Test

The normality test was conducted using the One-Sample Kolmogorov–Smirnov Test based on data from the 46 students included in the study. The analysis produced an Asymp. Sig. (2-tailed) value of 0.689. This value was higher than the 0.05 significance threshold. Based on the statistical criterion applied, the residuals therefore met the normality assumption. The result indicates that the distribution of the residuals did not show a statistically significant departure from normality.

The normality of the residuals was also examined graphically using the Q–Q Plot of Regression Standardized Residual. The plotted residual points generally followed the diagonal reference line, indicating a distribution pattern that was consistent with the expected normal

distribution. The points did not exhibit pronounced departures from the reference line across the distribution. The graphical pattern therefore provided visual evidence that was consistent with the statistical result obtained from the Kolmogorov–Smirnov test.

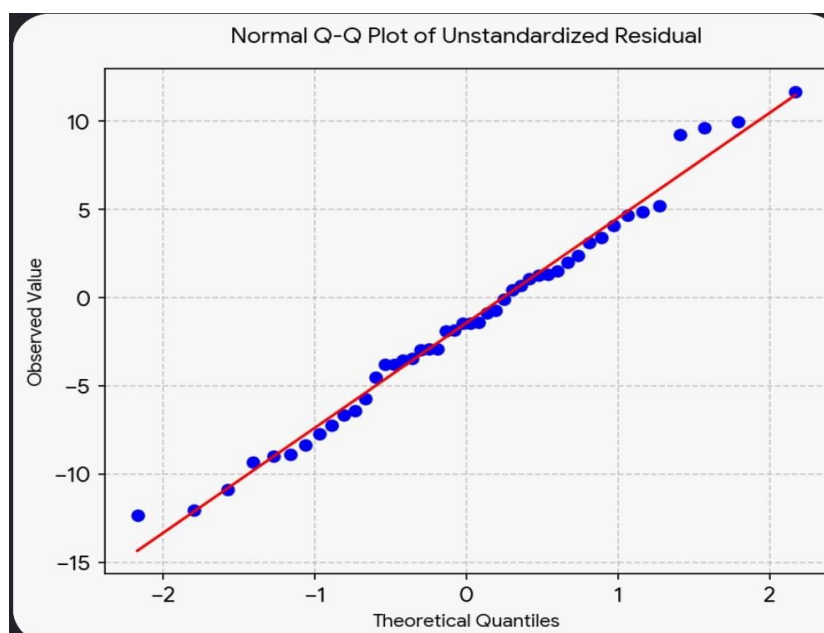


Figure 1. Q–Q Plot of Regression Standardized Residual | *Source: SPSS output, 2026.*

The statistical result of the normality test is presented in Table 2.

Table 2. Normality Test Results, One-Sample Kolmogorov-Smirnov Test

N	Asymp.sig.(2-tailed)	Keterangan
46	0,689	Normal

Source: SPSS output, 2026.

2 Linearity Test

The linearity test was subsequently conducted to determine whether the relationship between gender-based class segregation (X) and students' social skills (Y) followed a linear pattern. The analysis produced a significance value of 0.000 for the Linearity component and 0.084 for Deviation from Linearity. The significance value for the linear component was below 0.05, while the significance value for deviation from linearity was above 0.05. These results indicate that the linear component of the relationship was statistically significant and that there was no statistically significant deviation from linearity. Accordingly, the observed relationship between gender-based class segregation and students' social skills met the linearity criterion required for the subsequent regression analysis.

Table 3. Linearity Test Results

Variabel	Sig. Linearity	Sig. Deviation From Linearity	Keterangan
Segregasi Kelas-Keterampilan Sosial	0,000	0,084	Linear

Source: SPSS output, 2026.

Relationship between Gender-Based Class Segregation and Students' Social Skills

Following the instrument assessment and preliminary analysis, the main statistical analysis was conducted to examine the relationship between gender-based class segregation and students' social skills. A simple linear regression model was applied, with gender-based class segregation specified as the predictor variable (X) and students' social skills specified as the outcome variable (Y). The ANOVA result for the regression model produced an F value of 21.675 with a significance level of $p < .001$. Since the significance level was below 0.05, the regression model demonstrated a statistically significant relationship between the variables examined in the study. The coefficient analysis provided further information regarding the relationship represented by the regression model. The gender-based class segregation variable produced a t value of 4.656 with a significance level of $p < .001$. The unstandardized regression coefficient was $B = 0.557$. The positive coefficient indicates that the statistical relationship represented by the model was positive. Within the observed sample, higher scores on the gender-based class segregation variable were therefore associated with higher scores on students' social skills. This statement describes the direction of the statistical relationship observed in the data and does not, at this stage, attribute the relationship to a particular causal mechanism.

The overall magnitude of the relationship was represented by an R value of 0.574. In addition, the model produced an R Square value of 0.330. This means that 33.0% of the variance in students' social skills was statistically accounted for by gender-based class segregation within the regression model. The remaining 67.0% of the variance was not accounted for by the predictor included in this model. This value does not identify the specific factors associated with the remaining variance because such factors were not examined within the present regression model. The R and R Square values therefore describe the statistical explanatory capacity of the model within the observed sample. The regression equation obtained from the analysis was:

$$Y = 54.126 + 0.557X$$

The equation consists of a constant of 54.126 and a regression coefficient of 0.557 for gender-based class segregation. The positive coefficient represents the direction of the relationship in the fitted regression model. Mathematically, the coefficient indicates an increase of 0.557 units in the predicted value of students' social skills for every one-unit increase in the gender-based class segregation score within the model. The equation therefore provides a numerical representation of the relationship identified through the regression analysis.

Taken together, the statistical findings indicate a positive and statistically significant relationship between gender-based class segregation and students' social skills among the 46 eighth-grade students included in the study at SMP IT Bina Insan Lubuk Pakam. This conclusion is supported by the significant regression model ($F = 21.675$, $p < .001$), the significant regression coefficient ($t = 4.656$, $p < .001$), the relationship coefficient ($R = .574$), and the coefficient of determination ($R^2 = .330$). These findings provide empirical support for the research hypothesis concerning the existence of a relationship between gender-based class segregation and students' social skills within the specific research context.

Table 4. Simple Linear Regression Results

Variable	B	t	Sig.
Constant	54.126	7.564	< .001
Gender-Based Class Segregation	0.557	4.656	< .001

Source: SPSS output, 2026.

Table 5. Model Summary

R	R Square
0.574	0.330

Source: SPSS output, 2026.

Discussion

The findings of this study indicate a positive and statistically significant relationship between gender-based class segregation and the social skills of eighth-grade students at SMP IT Bina Insan Lubuk Pakam. The regression analysis produced an unstandardized coefficient of $B = 0.557$, with $t = 4.656$ and $p < .001$, while the correlation coefficient was $R = .574$. The model yielded an R^2 value of .330, indicating that gender-based class segregation statistically accounted for 33.0% of the variance in students' social skills within the regression model. This result is noteworthy because gender-based segregation is commonly understood as a classroom arrangement that may reduce the frequency of interaction between male and female students. From a theoretical perspective, reduced cross-gender interaction might be expected to limit the diversity of students' social experiences. However, the positive direction of the relationship observed in the present study indicates that, within the specific educational context examined, students in gender-segregated classes demonstrated higher social-skills scores. This finding should not be interpreted as evidence that segregation directly causes stronger social skills. Rather, it indicates that classroom organization according to gender is statistically associated with the social experiences that occur within the particular learning environment under investigation.

This finding can be situated within a perspective that conceptualizes students' social development as embedded in their educational environments and peer relationships. Mitic et al. (2021), through a systematic review and exploratory meta-analysis covering 364 studies, demonstrated the interconnectedness of social-emotional skills, peer relationships, and school environments in supporting social development during early adolescence. This perspective is relevant because social skills do not develop independently from students' everyday experiences. Schools function not merely as sites for academic instruction but also as social environments in which students continuously encounter peers, teachers, rules, responsibilities, expectations, and interpersonal challenges. Classroom organization may therefore be regarded as one contextual factor shaping the configuration of students' everyday social experiences. From this perspective, the positive association identified in the present study may not be attributable simply to the gender composition of the classroom but may also reflect the patterns of communication, cooperation, responsibility, and peer interaction that emerge within that organizational structure.

This interpretation is further supported by research on school-based social and emotional learning, which demonstrates that social competencies can develop through structured educational experiences. Cipriano et al. (2023), in a meta-analysis involving 424 studies, 252 interventions, and 575,361 students, reported improvements in social-emotional skills, behavior, peer relationships, school climate, and school functioning following school-based

social and emotional learning interventions. Taylor et al. (2017), based on a meta-analysis of 82 interventions involving 97,406 students, similarly found that improvements in social-emotional competencies could persist beyond the immediate intervention period and were associated with subsequent positive developmental outcomes. Although neither study specifically examined gender-based class segregation, their findings provide an important basis for understanding why students' social competencies may be responsive to structured and repeated educational experiences. Consequently, the social implications of classroom organization should not be considered solely in terms of who is physically present in the classroom. Attention should also be given to whether students are provided with repeated opportunities to communicate, cooperate, regulate their behavior, assume responsibility, solve interpersonal problems, and participate in collective activities.

Within this framework, the positive association identified in the present study may be related to the forms of interaction that remain active despite gender-based classroom organization. Segregation does not eliminate social interaction; rather, it modifies the composition of the peer group and the forms of interaction that students experience most frequently. Students continue to communicate during classroom instruction, complete group assignments, negotiate responsibilities, participate in classroom activities, respond to differing opinions, and adjust their behavior to shared expectations. These recurring experiences may provide opportunities to practice communication, cooperation, self-regulation, social adjustment, and conflict management. Social skills can therefore develop within same-gender peer groups even when routine interaction between male and female classmates is reduced. The present findings suggest that reduced cross-gender interaction does not necessarily imply a reduction in students' overall social experiences. Instead, students may experience relatively intensive interaction within their immediate peer groups. The positive coefficient observed in this study may consequently be related more closely to the frequency and quality of interaction occurring within the classroom than to segregation as an organizational policy in isolation.

Another consideration concerns the possibility that gender-based classrooms provide students with a particular level of social comfort. Within a relatively homogeneous peer group, some students may feel more comfortable expressing opinions, asking questions, assuming leadership roles, cooperating with classmates, and participating in group activities. Such perceived comfort may provide additional opportunities for students to practice interpersonal behaviors during everyday learning. This interpretation, however, requires caution because the present study did not directly measure psychological comfort, perceived safety, interaction anxiety, or students' subjective perceptions of gender-based classroom organization. Consequently, social comfort cannot be identified as an empirically demonstrated mechanism underlying the statistical relationship. It should instead be regarded as a plausible theoretical explanation that warrants examination in future research. Maintaining this distinction is important to ensure that the interpretation of the findings remains within the boundaries of the evidence provided by the present data.

The complexity of the relationship becomes more apparent when the findings are considered alongside Wong et al. (2018), who reported that students from single-sex schools had fewer cross-gender friendships and greater anxiety in mixed-gender situations. Their findings suggest that gender-segregated educational environments may influence not only the frequency of interaction but also the psychological characteristics of subsequent interpersonal encounters. In relation to the present findings, this raises the possibility that students may demonstrate strong social skills within the interactional environments they regularly experience

while having fewer opportunities to develop equivalent competencies in contexts involving peers of another gender. Therefore, an overall social-skills score should not automatically be interpreted as evidence of equally strong competence across all interpersonal situations. The present findings are more appropriately understood as reflecting the relationship between students' social competencies and the interactional environment available to them within a particular school. This contextual distinction may also explain why the results differ from studies examining educational environments in which gender separation is implemented more comprehensively.

This distinction becomes particularly important when the findings are compared with research favoring coeducational environments. Karadağ et al. (2024), in a large meta-analysis encompassing 677 studies, 798 effect sizes, and 1,179,558 participants, found that students in coeducational settings demonstrated better communication skills and higher self-confidence than students in single-sex schools. If communication and self-confidence are considered important dimensions of social competence, these findings appear to contrast with the positive relationship identified in the present study. However, the apparent discrepancy should be interpreted in light of differences in the level and context of gender organization. Karadağ et al. (2024) primarily examined broader differences between coeducational and single-sex educational settings, whereas the present study examines gender-based segregation at the classroom level within an Islamic junior high school. Students at SMP IT Bina Insan Lubuk Pakam remain members of a shared institutional community and may encounter students of another gender through school-wide activities, extracurricular programs, religious activities, competitions, and other institutional events. Classroom segregation in this context should therefore be understood as a partial and context-specific form of gender separation rather than as a comprehensive restriction of cross-gender experiences.

This contextual distinction is also relevant to the findings of Damayanti and Rismaningtyas (2021), who highlighted how gender segregation in education can alter interactional patterns between male and female students. Their findings do not necessarily contradict the present results. Rather, both sets of findings can be interpreted as indicating that reduced cross-gender interaction and the development of overall social competence may coexist within the same educational environment. Students may have fewer opportunities to interact with peers of another gender while simultaneously receiving frequent opportunities to cooperate, negotiate, communicate, share responsibilities, and solve problems with same-gender peers. This interpretation is further informed by Al Mubaraq and Dartim (2024), whose research examined gender-based class segregation at the junior high school level in relation to student management and the prevention of inappropriate social relationships. These studies illustrate that gender-based segregation may serve different institutional purposes depending on the educational context. The present study approaches the arrangement from a different analytical perspective by examining its statistical relationship with students' social skills. Its implications therefore cannot be determined solely by the presence of gender separation but must also be considered in relation to the institutional objectives and educational practices accompanying it.

Research on gender integration further demonstrates that the social consequences of classroom composition are multidimensional. Fabes et al. (2019) emphasized the importance of gender integration and interaction with other-gender peers in promoting more inclusive classroom climates, while Dijkstra and Berger (2018) reported higher levels of prosocial behavior among students in mixed-sex classrooms than among students in all-male or all-female

classrooms. These findings differ from the positive association identified in the present study, but the discrepancy does not necessarily mean that one set of findings invalidates the other. One possible explanation is that social skills represent a multidimensional construct encompassing communication, cooperation, empathy, self-regulation, assertion, leadership, peer support, and relationship maintenance. A particular educational environment may facilitate some of these competencies more strongly than others. Purnomo et al. (2022), through their work on *Teaching Personal and Social Responsibility*, likewise emphasized the importance of learning experiences that intentionally develop responsibility, cooperation, interaction, and appropriate social behavior. Thus, the relationship observed in the present study may reflect the interaction between classroom structure, peer relationships, pedagogical practices, and opportunities for students to assume different social roles rather than the independent effect of segregation itself.

The R^2 value of 0.330 provides an additional basis for interpreting the findings proportionately. This value indicates that gender-based class segregation statistically accounted for 33.0% of the variance in students' social skills within the regression model, while approximately 67.0% of the variance remained unexplained by the predictor included in the analysis. The result therefore should not be interpreted as evidence that classroom segregation is the sole or dominant determinant of students' social competence. Other factors may contribute substantially, including peer relationships, teacher support, school climate, family environment, individual characteristics, emotional regulation, extracurricular participation, and social experiences outside the classroom. This interpretation is consistent with Lestari and Zainuddin (2024), whose comparison of students across different environmental settings indicated that environmental differences do not automatically produce significant differences in social skills. Their findings reinforce the understanding that social competence develops through multiple interacting conditions rather than through a single contextual variable. Accordingly, the 33.0% explanatory proportion identified in the present study is more appropriately understood as evidence that gender-based classroom organization represents one relevant contextual variable within a broader developmental system, rather than a singular explanation for students' social skills.

Overall, the findings demonstrate that the relationship between gender-based class segregation and students' social skills is contextual and multidimensional. The positive coefficient of $B = 0.557$ and the p value below .001 indicate a statistically significant relationship within the eighth-grade student population at SMP IT Bina Insan Lubuk Pakam, but the result cannot be interpreted as evidence that segregation causes higher social skills. Because the study employed an *ex post facto* design, the regression analysis establishes a statistical association rather than causal direction. The findings instead highlight the importance of examining classroom organization together with the quality of interaction occurring within that environment. Gender-based segregation may reduce certain opportunities for cross-gender interaction while still providing students with substantial opportunities to develop communication, cooperation, responsibility, self-regulation, and social adjustment through peer relationships. The practical implication is that schools should not regard gender-based segregation as a stand-alone strategy for developing social competence. If gender-based classroom organization is maintained, schools can strengthen students' social development through collaborative learning, extracurricular activities, student leadership, community-service programs, competitions, and other structured experiences that broaden students' interpersonal competencies. Such an approach can preserve the intended institutional organization while

ensuring that students are exposed to diverse opportunities for social learning. Ultimately, the contribution of the present study lies in demonstrating that the social implications of gender-based classroom organization are not universal but depend on institutional context, peer interaction, pedagogical practices, and the particular dimensions of social competence being measured.

Conclusion

This study demonstrates a positive and statistically significant relationship between gender-based class segregation and the social skills of eighth-grade students at SMP IT Bina Insan Lubuk Pakam. The finding indicates that, within the context examined, organizing students into gender-based classes was associated with variation in their social-skills outcomes. However, this relationship should not be interpreted as evidence that gender-based class segregation directly causes an improvement in students' social skills. Rather, the finding suggests that social competencies may develop through different forms of interpersonal experience, including communication, cooperation, adaptation to classroom expectations, shared responsibility, and sustained peer relationships within the school environment. Accordingly, the study objective of examining the relationship between gender-based class segregation and students' social skills has been achieved, while also demonstrating that the social implications of classroom organization need to be understood in relation to the particular educational context in which the arrangement is implemented.

From an academic perspective, this study contributes to the discussion of the relationship between gender-based classroom organization and adolescent social development, particularly within the context of an Islamic junior high school. The findings indicate that gender-based class segregation should not be characterized in absolute terms as either inherently restrictive or inherently beneficial to students' social development, because students' social experiences are also shaped by the quality of peer relationships, instructional practices, teacher support, school climate, and opportunities for interaction beyond the immediate classroom. Therefore, schools that implement gender-based classroom organization should continue to provide learning experiences that intentionally foster communication, cooperation, empathy, responsibility, leadership, and constructive conflict resolution. Future research may examine specific dimensions of social skills in greater detail and incorporate broader forms of student interaction to develop a more comprehensive understanding of how gender-based classroom organization is related to students' social development across different educational contexts.

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