

**SOCIAL EMOTIONAL LEARNING AND LEARNING MOTIVATION
ON SOCIAL EMPATHY AND STUDENT LEARNING OUTCOMES
IN SOCIAL STUDIES SUBJECTS IN ELEMENTARY SCHOOLS**

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ABSTRACT

This study aims to determine the effect of the social emotional learning model compared to conventional methods and its interaction with learning motivation on social empathy and learning outcomes of elementary school students in Social Studies (IPS). This study uses a quantitative approach with a quasi-experimental design with a 2x2 factorial model. The population in this study were all fifth-grade students at SD Negeri Kelurahan Menanggal Surabaya, totaling 250 students, with a sample size of 120 students spread across four classes (ABCD) and selected using a purposive sampling technique. The instruments used included a questionnaire to measure learning motivation and social empathy and a learning achievement test to measure mastery of the IPS material. Data collection techniques were carried out through distributing questionnaires and conducting written tests. Data were analyzed using the Multivariate Analysis of Variance (MANOVA) technique with the help of SPSS software version 27.00. The results showed that there was a significant influence of the learning model on social empathy and students' IPS learning outcomes. Social emotional learning was more effective than conventional methods in improving both. Learning motivation also had a significant effect on social empathy and learning outcomes. Furthermore, there was a significant interaction between the learning model and learning motivation on both dependent variables. This interaction indicates that social-emotional learning has a greater impact, especially on students with low motivation. The conclusion of this study is that the implementation of social-emotional learning in social studies is highly effective in building social empathy and improving students' academic achievement, especially when combined with efforts to increase learning motivation. **Keywords:** social emotional learning, learning motivation, social empathy, learning outcomes, social studies, elementary school, MANOVA

A. Introduction

21st-century education requires students to excel not only academically but also to possess emotional intelligence and social skills such as empathy. This issue has become a global concern, particularly post-pandemic, as the loss of students' social-emotional skills has been shown to have long-term negative impacts on their academic success and mental well-being. A 2023 meta-analysis involving nearly

half a million students from 50 countries showed that social-emotional learning interventions significantly improved school climate, student well-being, and academic achievement (Suciati, 2023; Utoyo et al., 2023). These findings underscore the global significance of social-emotional learning as a pedagogical approach capable of meeting the demands of a modern era, where non-cognitive competencies are

considered as important as academic outcomes.

Amidst these global trends, social studies learning at the elementary level often still focuses on conventional methods that emphasize memorization and one-way teaching. However, recent studies from Indonesia show that the implementation of **Project-Based Learning (PjBL)** and a real-world experience approach can increase student empathy and environmental awareness (Amalia et al., 2024; Aulia & Sudaryanti, 2023). Furthermore, (Babys & Yunitasari, 2024; Umayyah et al., 2023) found that the use of an experiential learning model combined with poster media significantly improved fifth-grade students' social studies learning outcomes (Amanda, 2023; Saputri & Maemonah, 2023). However, the direct effectiveness of social emotional learning (SEL) compared to conventional methods remains poorly defined, particularly in the Indonesian social studies context. This indicates a research gap that requires further empirical study.

Social-emotional learning has the potential to facilitate the development of students' social empathy, cognitive skills, and affective abilities. According to (Dzakiyyah et al., 2023; Rakhma Ardhiani & Darsinah, 2023), these two main components of empathy influence each other and play a crucial role in social interactions. Furthermore, students' learning motivation is also thought to contribute significantly to their academic achievement. (Lesmoyo et al., 2023; Rd. Syifa Nafi'ah et al., 2023) show that students with high SEL abilities tend to perform superiorly in literacy and numeracy. However, the simultaneous relationship between learning models, learning motivation, social empathy,

and social studies learning outcomes has not been explored in depth in the literature.

The grand theory of this research is based on the holistic education paradigm and the theory of social cognitive development, which emphasizes the importance of integrating emotional and social elements into the learning process for holistic student development. This theory assumes that learning that accommodates social emotional aspects can enhance students' affective responses, which in turn positively impacts academic outcomes and social interactions.

Although numerous meta-analytic studies demonstrate the effectiveness of SEL (Amelia, 2023; Rachmawati, 2019), some literature also reports inconsistent results regarding its direct effects on academic achievement. Furthermore, studies in Indonesia are still limited to experiential or project-based approaches and have not explored the role of learning motivation as a moderating variable within a factorial design framework.

In practice, many elementary school social studies teachers still use lecture and question-and-answer methods without considering students' emotional dynamics. This demonstrates the urgent need for a more comprehensive and evidence-based approach. This research is relevant to both education and society, as its findings can inform school policy recommendations regarding SEL training, motivation-boosting strategies, and improving the quality of social studies instruction. At the community level, improving social empathy and learning outcomes among the younger generation is expected to produce individuals who are not only intelligent but also caring

and adaptive in facing social challenges.

Several recent relevant studies support the urgency of this research. First, (Sania Wahyuni & Rini Rinawati, 2023; Sulhiah et al., 2023) found that learning not only increases empathy but also environmental awareness; however, their designs did not directly compare with conventional methods. Second, (Letasado et al., 2024) showed that experiential learning models influence social studies learning outcomes, but did not explicitly measure empathy and did not consider learning motivation as an additional variable. Third, (Fitri, 2023; Syahyoeseva & Nurhafizah, 2023) demonstrated positive academic and social impacts, but no studies focused on the Indonesian elementary school context using a quasi-experimental factorial design. Limitations in this literature include the lack of simultaneous measurement of social empathy and academic outcomes, the lack of moderating variables such as learning motivation, and the paucity of research directly comparing conventional and SEL methods in elementary school social studies classrooms.

Thus, this study aims to address this gap with a 2×2 factorial design, simultaneously testing the effects of learning models and learning motivation on two important outcomes: social empathy and social studies learning outcomes. This research not only adds to the body of knowledge but also provides practical guidance for teachers and policymakers in creating a social studies curriculum that shapes students with cognitive and social-emotional abilities that reflect the hopes of future society.

B. Research methods

This study uses a **quantitative** approach with a quasi-experimental type and a 2x2 factorial design. This design allows researchers to analyze the influence of two independent variables, namely learning models (social emotional learning and conventional methods) and levels of learning motivation (high and low), on two dependent variables at once, namely social empathy and social studies learning outcomes. Data analysis was carried out using the Multivariate Analysis of Variance (MANOVA) statistical technique with the help of SPSS software version 27.00.

The use of MANOVA in this study is considered appropriate because there are two dependent variables (social empathy and learning outcomes) that are analyzed simultaneously. If only using ANOVA, then the two dependent variables will be analyzed separately, which can increase the risk of type I error. MANOVA provides the advantage of seeing the simultaneous influence of learning models and learning motivation on both dependent variables, and is able to detect interactions between independent variables on the dependent variable more comprehensively. This is very relevant to the learning context where social empathy and learning outcomes are interrelated as outcomes of social studies education in elementary schools.

The population in this study was all fifth-grade students at a Public Elementary School in the Menanggal Village area, Surabaya, totaling 250 students. Fifth-grade students were selected because at this level, students have sufficiently developed cognitive and social skills to receive interventions in the form of social-

emotional learning. From this population, a sample of 120 students was taken using a purposive sampling technique. This technique was used because the researcher needed students with certain characteristics that fit the research criteria, such as being in fifth grade, having equivalent basic abilities, and allowing for group division based on the level of learning motivation. The number of samples used has taken into account the minimum requirements in MANOVA analysis so that the analysis results have good statistical power.

The sample was divided into four experimental classes coded Class A, B, C, and D, each containing 30 students. This division was based on a combination of two independent variables: learning model and learning motivation. Class A consisted of students with high motivation who participated in social emotional learning, Class B consisted of students with low motivation who also participated in social emotional learning, Class C consisted of students with high motivation who participated in conventional methods, and Class D consisted of students with low motivation who participated in conventional methods. The classification of high and low motivation was obtained through initial measurements using a learning motivation scale, and the division of categories was done using a median split technique.

The independent variables in this study consist of two, namely the learning model (social emotional and conventional) and the level of learning motivation (high and low). While the dependent variables consist of social empathy and social studies learning outcomes. To measure social empathy, a social empathy scale based on theory (Mayar et al., 2023;

Shaleh, 2023) is used, which includes aspects of cognitive empathy and affective empathy. This scale consists of 20 items with a 4-point Likert format, and has undergone content validity testing by experts and reliability testing with Cronbach's Alpha with an α value ≥ 0.70 . Meanwhile, social studies learning outcomes are measured through an objective multiple-choice test of 25–30 questions, which are arranged based on the Basic Competency (KD) indicators in the fifth-grade social studies curriculum. This test is validated by subject teachers and its reliability tested with KR-20. To measure learning motivation, a learning motivation scale consisting of 20 items is used, with indicators including learning goals, perseverance, and learning independence.

The research procedure involved three main stages, namely pre-test, treatment, and post-test. The pre-test was conducted to measure the initial ability of social empathy and social studies learning outcomes before treatment. After that, treatment was given according to the research design. Classes A and B received social emotional learning, which included emotional exploration activities, social reflection exercises, and strengthening social interactions in the context of social studies material. Classes C and D received social studies learning with conventional methods, namely lectures, assignments, and questions and answers. After the learning was completed, a post-test was conducted to measure the development of social empathy and learning outcomes in each student.

The data obtained were analyzed using two-way MANOVA (2x2). Before conducting the analysis,

prerequisite tests were first carried out , including the multivariate normality test (using the Shapiro-Wilk test and Mardia Test), the homogeneity of variance test with Levene's Test , and the homogeneity of the covariance matrix test with Box's M Test . Furthermore, MANOVA was carried out with multivariate statistics Wilks' Lambda and Pillai's Trace to test the main effects and interactions. If a significant effect was found, the analysis was continued with univariate ANOVA for each dependent variable, as well as further tests (post hoc Bonferroni) if a significant interaction occurred.

With this design and method, the research is expected to provide empirical evidence regarding the effectiveness of social emotional learning compared to conventional methods, as well as the role of learning motivation in forming social empathy and improving elementary school students' social studies learning outcomes more comprehensively.

C. Results

To determine whether the data is normally distributed, a normality test was performed using the Kolmogorov-Smirnov/Shapiro-Wilk method. The following presents the results of the normality test on the research data:

Table 1 Normality Test Results

One-Sample Kolmogorov-Smirnov Test			Unstandardized Residual
N			120
Normal Parameters ^{a,b}	Mean		.0000000
	Std. Deviation		7.37598489
Most Extreme Differences	Absolute		.069
	Positive		.069
	Negative		-.053
Test Statistic			.069
Asymp. Sig. (2-tailed) ^c			.200 ^d
Monte Carlo Sig. (2-tailed) ^e	Sig.		.171
	99% Confidence Interval	Lower Bound	.161
		Upper Bound	.180

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.
- d. This is a lower bound of the true significance.
- e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 299883525.

A normality test was performed on the residuals using the One-Sample Kolmogorov-Smirnov Test method to ensure that the data met the assumptions of a normal distribution before further analysis using multivariate analysis (MANOVA). This normality test is important because in parametric statistics, such as MANOVA, one of the main prerequisites is that the residuals of the distribution model must be normal. This test was performed on unstandardized residuals with a sample size of 120 students. The test results showed that the mean residual value was 0.0000000 with a standard deviation of 7.37598489, which indicated that the residuals were distributed symmetrically around the mean value of zero. Furthermore, the Kolmogorov-Smirnov statistical value obtained was 0.069, with a significance value of Asymp. Sig. (2-tailed) of 0.200, and a Monte Carlo Sig. (2-tailed) value of 0.171 with a 99% confidence interval between 0.161 and 0.180. Because the significance value is greater than the 0.05 level of significance, it can be concluded that there is no significant deviation from the normal distribution. In other words, the residuals from the analysis model in this study are distributed normally statistically. Therefore, the results of this test indicate that the data have met the normality assumption required for the use of multivariate parametric analysis such as MANOVA. This strengthens the validity of the test on the influence of learning

models (social emotional vs. conventional) and learning motivation on social empathy and learning outcomes in social studies. By fulfilling this basic assumption, the results of further analysis conducted will have reliability and statistical power that can be scientifically accounted for.

The homogeneity test is performed to determine whether data from two or more groups have the same variance (homogeneity). This test is important to ensure that subsequent statistical analyses meet basic assumptions. The results of the homogeneity test for variance between groups are presented below:

Table 2 Results of Homogeneity Test

Test of Homogeneity of Variances	Mean	df1	df2	Sig.
Mean	1.092	1	118	.298
Median	0.236	1	118	.336
Trimmed Mean	0.282	1	118	.336
Adjusted df	0.236	1	118	.336

One of the important prerequisite tests performed before further analysis such as MANOVA is the homogeneity of variance test. This test aims to ensure that data from treatment groups have equal variances, or are homogeneous. Failure to meet the homogeneity assumption can affect the validity of multivariate analysis results, as MANOVA requires that data from different treatment groups have relatively similar variances.

The results of Levene's Test of Homogeneity of Variances show that in the combined variable of *social empathy and learning outcomes*, the Levene statistical value based on the Mean is 1.092 with degrees of freedom (df1 = 1, df2 = 118) and a significance value (Sig.) of 0.298. Similarly, the results based on the median, trimmed mean, and median with adjusted df also show significance values above 0.05, namely 0.236, 0.282, and 0.236, respectively. Significance values greater than 0.05 indicate that there is no significant difference in variance between groups.

Thus, it can be concluded that the assumption of homogeneity of variance was met, both when analyzed based on the mean, median, and trimmed mean.

This means that the treatment groups in this study had an equal level of data diversity, so that further analyses such as MANOVA can be continued with a high level of confidence. Fulfillment of this assumption also strengthens the validity of the findings regarding the influence of social emotional learning and learning motivation on social empathy and social studies learning outcomes. Therefore, this homogeneity test provides additional evidence that the experimental design in this study meets the requirements for obtaining statistically valid results.

Between-Subjects Factors table presents information about the independent factors used in the analysis, along with the categories or levels of each factor. This table is used to show the structure of the research design and the division of subjects based on the factors studied. The following is the *Between-Subjects Factors* table for this study:

Table 3 Results of the Analysis in the Between-Subjects Factors Section

Between-Subjects Factors			
	Value	Label	N
model pembelajaran	1.00	pembelajaran sosial emosional	60
	2.00	metode konvensional	60
motivasi belajar	1.00	tinggi	52
	2.00	rendah	68

Based on the analysis results in the *Between-Subjects Factors* section, it is known that this research design involves two main factors, namely learning model and learning motivation. The first factor is the learning model, which consists of two categories, namely social emotional learning (code 1.00) and conventional methods (code 2.00), each involving 60 students. This indicates that the number of students in each treatment group for the learning model factor has been evenly distributed, thus allowing a balanced and fair comparison between the two types of learning approaches.

The second factor is learning motivation, which is also divided into two categories, namely high learning

motivation (code 1.00) and low learning motivation (code 2.00). In this case, the number of students with high motivation was 52 students, while students with low motivation were 68 students. Although there was a slight imbalance in the number of participants in the two motivation categories, this difference was still within reasonable limits and did not affect the validity of the analysis, especially because the analysis method used was MANOVA, which is relatively robust to differences in the number of samples between groups if other assumptions (such as Normality and homogeneity of variance) have been met.

This distribution illustrates that the 2x2 factorial design has been applied consistently, with a total of 120 students divided into four treatment group combinations, namely: (1) social emotional learning with high motivation, (2) social emotional learning with low motivation, (3) conventional methods with high motivation, and (4) conventional methods with low motivation. This structure provides a strong basis for evaluating both the main effects of each independent variable, as well as the interaction between the learning model and learning motivation on the two dependent variables in the study, namely social empathy and social studies learning outcomes. With clear groupings and sufficient data on each group combination, this study is ready for further analysis using a multivariate approach.

Descriptive statistical analysis was conducted to provide an overview of the research data, including the mean, standard deviation, number of subjects (N), minimum, and maximum values. These statistics are used to determine the characteristics of the data before further analysis. The following presents the results of the descriptive statistical analysis for each group:

Table 4 Results of Descriptive Statistical Analysis

Descriptive Statistics					
	model pembelajaran	motivasi belajar	Mean	Std. Deviation	N
empati sosial	pembelajaran sosial emosional	tinggi	69.7941	6.49839	34
		rendah	76.5769	5.06101	26
		Total	72.7333	6.77950	60
	metode konvensional	tinggi	62.6111	1.78684	18
		rendah	63.2143	3.00029	42
		Total	63.0333	2.69316	60
	Total	tinggi	67.3077	6.34788	52
		rendah	68.3235	7.60683	68
		Total	67.8833	7.07841	120
	hasil belajar	pembelajaran sosial emosional	tinggi	69.7941	6.49839
rendah			76.5769	5.06101	26
Total			72.7333	6.77950	60
metode konvensional		tinggi	62.6111	1.78684	18
		rendah	63.2143	3.00029	42
		Total	63.0333	2.69316	60
Total		tinggi	67.3077	6.34788	52
		rendah	68.3235	7.60683	68
		Total	67.8833	7.07841	120

Based on the results of descriptive statistical analysis, it can be seen that in general there are quite striking differences in social empathy scores and social studies learning outcomes between students who participated in social emotional learning and those who participated in conventional methods, both in terms of high and low levels of learning motivation. In the group of students with social emotional learning, the average (mean) social empathy score for students with high learning motivation was 69.79 with a standard deviation of 6.49, while for students with low motivation, the average was actually higher, namely 76.58 with a standard deviation of 5.06. When combined as a whole, the average social empathy in the social emotional learning group reached 72.73. This shows that social emotional interventions seem to be able to increase social empathy, even in students with low learning motivation.

Meanwhile, in the conventional method group, the average social empathy score for students with high motivation was only 62.61 with a standard deviation of 1.78, and for students with low motivation, it was only slightly higher at 63.21 with a standard deviation of 3.00. The overall average social empathy score for the conventional method group was 63.03, which was significantly lower than the social-emotional learning group. This indicates that the conventional method is less able to optimally cultivate social empathy, even when students have high learning motivation.

Similar results were also seen in the social studies learning outcomes variable, where the average learning outcome score for the high-motivation social emotional learning group was 69.79, and for the low-motivation group was 76.58, with a total average of 72.73. Meanwhile, in the conventional method group, the learning outcome for students with high motivation was only 62.61, and for those with low motivation it was 63.21, with a total average of 63.03. Interestingly, the same pattern emerged: students with low learning motivation in social emotional learning actually had a higher average learning outcome than students with high motivation, suggesting that social emotional learning may have compensatory power in supporting less motivated students. When compared as a whole, the average total social empathy score for all students was 67.88 with a standard deviation of 7.08, while the average total learning outcome was also 67.88, indicating a close alignment between the two learning achievement indicators.

These findings descriptively provide a strong indication that social emotional learning is superior to conventional methods in improving both social empathy and social studies learning outcomes, regardless of students' learning motivation. Furthermore, the difference in scores between the high- and low-motivation groups in social emotional learning also opens up room for further exploration of how this approach can holistically address students' emotional and academic needs. However, to determine whether these differences are statistically significant and not simply due to random variation, further analysis using MANOVA is necessary, which will test the main effects and interactions between the learning model and learning motivation on both dependent variables.

To determine the effect of learning methods and learning motivation on two dependent variables, namely learning outcomes and students' critical thinking skills, simultaneously, MANOVA analysis was used. This multivariate test uses

Pillai's Trace, Wilks' Lambda, Hotelling Trace, and Roy's Largest Root statistics to identify whether there are significant differences based on the combination of the two dependent variables between groups. The complete results of the MANOVA analysis are presented in the following table:

Table 5 Multivariate Tests

Multivariate Tests ^a						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.995	23754.820 ^b	1.000	116.000	<.001
	Wilks' Lambda	.005	23754.820 ^b	1.000	116.000	<.001
	Hotelling's Trace	204.783	23754.820 ^b	1.000	116.000	<.001
	Roy's Largest Root	204.783	23754.820 ^b	1.000	116.000	<.001
Model	Pillai's Trace	.538	135.340 ^b	1.000	116.000	<.001
	Wilks' Lambda	.462	135.340 ^b	1.000	116.000	<.001
	Hotelling's Trace	1.167	135.340 ^b	1.000	116.000	<.001
	Roy's Largest Root	1.167	135.340 ^b	1.000	116.000	<.001
motivasi_belajar	Pillai's Trace	.131	17.491 ^b	1.000	116.000	<.001
	Wilks' Lambda	.869	17.491 ^b	1.000	116.000	<.001
	Hotelling's Trace	.151	17.491 ^b	1.000	116.000	<.001
	Roy's Largest Root	.151	17.491 ^b	1.000	116.000	<.001
Model * motivasi_belajar	Pillai's Trace	.095	12.244 ^b	1.000	116.000	<.001
	Wilks' Lambda	.905	12.244 ^b	1.000	116.000	<.001
	Hotelling's Trace	.108	12.244 ^b	1.000	116.000	<.001
	Roy's Largest Root	.106	12.244 ^b	1.000	116.000	<.001

a. Design: Intercept + Model + motivasi_belajar + Model * motivasi_belajar
 b. Exact statistic

The MANOVA analysis results showed that there was a significant effect of the learning model on social empathy and social studies learning outcomes simultaneously (Wilks' Lambda = 0.462, $p = 0.000$). This means that social emotional learning is proven to be more effective than conventional methods. In addition, learning motivation also had a significant effect on both dependent variables (Wilks' Lambda = 0.869, $p = 0.000$), indicating that students with high motivation tend to have better empathy and learning outcomes. Interestingly, there was a significant interaction between the learning model and learning motivation (Wilks' Lambda = 0.905, $p = 0.001$), indicating that learning effectiveness is greatly influenced by students' motivation levels. Overall, social emotional learning proved to be a superior and adaptive approach to improving social empathy and social studies learning outcomes, especially in the context of elementary school students with varying levels of motivation.

To determine the simultaneous effect of independent variables on more than one dependent variable, a MANOVA (Multivariate Analysis of Variance) analysis was performed. This analysis is

used to test whether there are significant multivariate differences between groups based on the combination of dependent variables. The following are the results of the MANOVA analysis in this study:

Table 6 MANOVA Analysis Results

Tests of Between-Subjects Effects						
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	empati sosial	3505.112 ^a	3	1168.371	55.155	<.001
	hasil belajar	3505.112 ^a	3	1168.371	55.155	<.001
Intercept	empati sosial	503203.712	1	503203.712	23754.620	<.001
	hasil belajar	503203.712	1	503203.712	23754.620	<.001
Model	empati sosial	2866.939	1	2866.939	135.340	<.001
	hasil belajar	2866.939	1	2866.939	135.340	<.001
motivasi_belajar	empati sosial	370.506	1	370.506	17.491	<.001
	hasil belajar	370.506	1	370.506	17.491	<.001
Model * motivasi_belajar	empati sosial	259.361	1	259.361	12.244	<.001
	hasil belajar	259.361	1	259.361	12.244	<.001
Error	empati sosial	2457.254	116	21.183		
	hasil belajar	2457.254	116	21.183		
Total	empati sosial	558940.000	120			
	hasil belajar	558940.000	120			
Corrected Total	empati sosial	5962.367	119			
	hasil belajar	5962.367	119			

a. R Squared = .588 (Adjusted R Squared = .577)

Based on the analysis results of the Tests of Between-Subjects Effects, important information was obtained regarding the influence of each independent variable (learning model and learning motivation) and their interactions on two dependent variables, namely social empathy and social studies learning outcomes. Data analyzed using SPSS version 27 showed that all research hypotheses were statistically acceptable, with a strong level of significance ($p < 0.05$). The following is the interpretation based on the six research hypotheses:

1. Hypothesis 1 (H_1) states that there is a significant influence between learning models on students' social empathy. This is evidenced by the F value = 135.340 and a significance value of $p = 0.000$, which means it is highly statistically significant. Social emotional learning has been proven to be more effective in increasing social empathy than conventional methods, because this approach is designed to foster emotional awareness, social skills, and interpersonal concern in the context of social studies learning.
2. Hypothesis 2 (H_2) indicates that the learning model also has a significant influence on students' social studies learning outcomes. With identical F values and significance ($F = 135.340$, $p = 0.000$), it can be concluded that students who participate in social emotional learning demonstrate

higher academic achievement in social studies. This approach likely encourages more active engagement and relevance of the material to students' real lives.

3. Hypothesis 3 (H_3) examines the effect of learning motivation on students' social empathy. The results showed an F value of 17.491 and $p = 0.000$, indicating that learning motivation has a significant effect on social empathy. Students with high learning motivation tend to be more open to learning that fosters emotional and social aspects, such as in social emotional learning.
4. Hypothesis 4 (H_4) was also significantly proven, where learning motivation influences social studies learning outcomes. The F value = 17.491 and $p = 0.000$ indicate that the higher a student's learning motivation, the better their learning outcomes. This finding reinforces the assumption in educational motivation theory that intrinsic motivation can increase the effectiveness of the learning process and academic achievement.
5. Hypothesis 5 (H_5) tested the interaction between learning model and learning motivation on social empathy, with $F = 12.244$ and $p = 0.001$, indicating a significant interaction. This means that the effect of learning model on social empathy does not stand alone, but is influenced by students' motivation levels. For example, students with low motivation actually experienced greater increases in empathy when participating in social emotional learning compared to those learning through conventional methods.
6. Hypothesis 6 (H_6) states that there is an interaction between learning model and learning motivation on social studies learning outcomes, and the results are also significant ($F = 12.244$, $p = 0.001$). This means that the effectiveness of a learning approach in improving learning outcomes is highly dependent on students' motivation levels. Social emotional learning appears to be

more effective under various motivational conditions, including for students who are less motivated.

Overall, the R Squared value = 0.588 (Adjusted R² = 0.577) indicates that 58.8% of the variation in social empathy and learning outcomes can be explained by the learning model, learning motivation, and their interaction. This is a fairly high number, indicating that the model used in this study is robust and has substantial explanatory power. These results provide strong empirical support for the implementation of the social emotional learning approach in elementary schools, especially in the context of social studies learning that demands students' understanding of social values, empathy, and active involvement in the social environment. In addition, these findings emphasize the importance of considering learning motivation factors as moderating variables that influence the effectiveness of learning models.

To clarify the interaction between the independent variables and the dependent variable in a MANOVA analysis, an interaction plot is used. This plot provides a visual representation of how combinations of factors, such as learning model and learning motivation, influence the dependent variables, namely learning outcomes and social-emotional outcomes. The line patterns in the interaction plot help interpret whether there is a significant interaction between the factors. The following figure presents the visualization of this interaction:

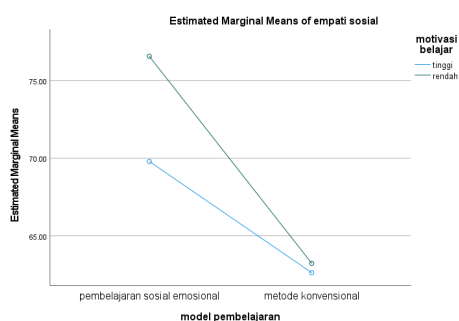


Figure 1 Social Emotional Interaction Plots

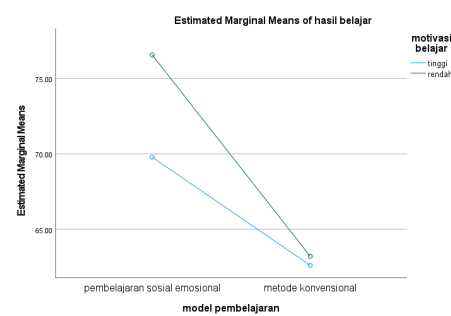


Figure 2 Plots of Learning Outcome Interactions

Discussion

The results of this study strengthen the evidence that the social emotional learning model significantly improves students' social empathy, as indicated by the F value = 135.340 ($p < .001$). This finding is in line with the findings of a recent meta-analysis by Pham (2024), which showed that SEL programs encourage improvements in "social awareness" and "relationship skills," two important indicators of empathy ([Journal of SEL, 2024]; [Educational Psychology Review, 2023]). Theoretically, SEL allows students to develop self-reflection and emotion regulation, two fundamental components of emotional intelligence according to Goleman (1995), which ultimately strengthens their ability to understand others' feelings in the context of social studies.

Furthermore, this study also showed that the social emotional learning model improved social studies learning outcomes with $F = 135.340$ ($p < .001$). These results support empirical evidence from CASEL (2023), which revealed that SEL interventions improved students' academic performance by 11–13 percentiles compared to the control group. Conceptually, Goleman (1995) emphasized that increasing emotional intelligence improves student engagement and helps them focus, facilitating understanding of the subject matter. In the context of social studies, the use of this method is relevant because social studies require not only factual knowledge but also an understanding of human values and social wisdom.

Another important finding is that learning motivation also significantly influences social empathy and social studies learning outcomes ($F = 17.491$; $p < .001$). This aligns with self-determination theory (Ayu et al., 2023; Siti Nurjannah Ashari, Amirullah, 2023) and research on intrinsic motivation in education, which shows that highly motivated students demonstrate more active participation, greater persistence, and better learning outcomes. Practically, motivated students are more likely to engage in social-emotional learning activities and understand the material more deeply, thus demonstrating empathy and improving academic performance.

Equally interesting, an interaction was found between learning models and learning motivation on both social empathy and social studies learning outcomes ($F = 12.244$; $p = .001$). This means that the effectiveness of the social-emotional learning model is more pronounced in students with low motivation. This is relevant to findings (Amelia, 2023; Saputri & Maemonah, 2023), which show that SEL interventions are most beneficial for less motivated students, because SEL supports a sense of emotional safety and increases learning interest. This model suggests that social-emotional learning is not only effective for high-achieving students but is also inclusive and accessible to those with lower motivation.

These results support (Sania Wahyuni & Rini Rinawati, 2023; Sulhiah et al., 2023), who assert that education must encompass cognitive, affective, and social aspects. Thus, social-emotional learning not only supports students' empathy and academic development but also holistically influences their character and attitudes—an important approach in character education and social studies.

Several previous studies support these findings. (Musafir et al., 2023; Nurhayati et al., 2023), for example, found that project-based learning in social studies classes increased empathy and environmental awareness, although they

did not compare it to conventional methods. (Fahira et al., 2023; Hasanah, 2023) also found improved learning outcomes through experiential learning, but did not explicitly measure empathy or incorporate learning motivation. This difference illustrates the uniqueness of this study in examining two outcome variables simultaneously and accounting for motivation.

However, some studies have shown conflicting results. (Nurhasanah et al., 2023; Tri Kumala Dewi et al., 2023) stated that movement-based learning methods improve academic outcomes better than conventional methods, without emotional benefits such as empathy. This difference in results may be due to the different cultural contexts and subject areas of social studies in Indonesia, which require the integration of values and social narratives, making social-emotional methods more appropriate in the context of this study.

Theoretically, this study extends the findings of (Khairunnisa et al., 2023; Lenny Andriani Shanty et al., 2023), which illustrate the broad impact of SEL not only on social-emotional dimensions but also on academic ones. The 2×2 factorial model used here shows that the combination of learning and motivational variables provides richer and more in-depth insights than previous studies with simpler designs.

From a practical perspective, these results offer important implications: elementary schools, particularly SD Negeri Menanggal Surabaya, should integrate SEL into their social studies curriculum. Intensive training for teachers is essential to enable them to implement SEL techniques such as emotional expression, reflection on social values, and empathy-based collaborative activities. These strategies will support students with varying levels of motivation, especially those who need an extra push.

Methodologically, the use of a 2×2 factorial design and the use of learning motivation as a moderating variable strengthens the study's internal validity. This design provides more in-depth

insights than a simple experimental design. Future studies could expand the geographic context, incorporate additional variables such as parental support, or explore teacher emotional resilience as a mediator of the effectiveness of social-emotional learning.

Thus, this study not only confirms the effectiveness of social emotional learning in improving empathy and academics, but also provides a practical and conceptual framework for the implementation of comprehensive social emotional education in elementary schools, an important contribution to the development of a more humane and contextual social studies education.

D. Conclusion

Based on the research results, it can be concluded that the social emotional learning model is significantly more effective than conventional methods in improving social empathy and learning outcomes in elementary school students' social studies. This approach has been proven to be able to develop better emotional and social awareness in students and encourage higher academic engagement. In addition, learning motivation also plays a significant role in improving both aspects. The interaction between the learning model and learning motivation shows that learning effectiveness is strongly influenced by the level of student motivation, where social emotional learning remains effective even for students with low motivation. Based on these findings, it is recommended that elementary schools, particularly public elementary schools in Menanggal Village, Surabaya, begin to systematically integrate social emotional learning into the social studies learning process. Teachers need to be provided with ongoing training in implementing social emotional strategies that are appropriate to the social context and student characteristics. In addition, schools also need to build a learning culture that supports increased student learning motivation, for example by reinforcing

personal learning goals, appreciating the process, and creating a supportive classroom environment. Future researchers can expand the context of this study by testing the effectiveness of similar models at different educational levels or by involving other variables such as the role of teachers or family support. The theoretical implications of this study indicate that social-emotional learning is not only beneficial in the affective domain but also has a positive impact on academic achievement, thus strengthening the position of holistic education theory and motivation theory in the context of social studies learning. Practical implications: teachers and elementary education policymakers can use these results as a basis for curriculum development and teacher training that prioritizes a balance between students' cognitive and emotional intelligence. From a methodological perspective, the successful use of MANOVA analysis with a factorial design also demonstrates that this approach is relevant in evaluating the multiple effects of two independent variables on more than one dependent variable in the field of education.

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