



## EFFECT OF LEARNING ENVIRONMENT AND SOCIAL SUPPORT ON CO-CURRICULAR: MEDIATION OF ACADEMIC ENRICHMENT AND SELF-EFFICACY



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**Abstract**

Students' co-curricular achievement has not received sufficient attention in school development, even though learning environment resources and social support play essential roles in shaping student participation. Limited use of facilities and inconsistent support often reduce involvement in academic enrichment activities and weaken self-efficacy. This study examines the mediating roles of educational enrichment and self-efficacy in the influence of learning environmental resources and social support on students' co-curricular achievement. A quantitative survey was conducted with 78 students at SMAN 2 Ponorogo. Data was collected using a four-point Likert questionnaire with five variables and 28 indicators, then analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to test seven direct and five indirect relationships. The results show that learning environmental resources and social support positively and significantly influence co-curricular achievement, both directly and through the mediation of academic enrichment and self-efficacy. Academic enrichment links learning resources to performance, while self-efficacy strongly mediates the influence of social support. These findings highlight the need to strengthen enrichment programs and confidence-building strategies within school initiatives. This study contributes a comprehensive PLS-SEM model integrating environmental and psychosocial factors, offering clearer insight into how these elements collectively shape students' co-curricular achievement.

## INTRODUCTION

Co-curricular achievement is an essential component of students' holistic development because it goes beyond academic achievement, which is measured solely by grades and exams. Student involvement in various co-curricular activities contributes to character building, increased motivation, and strengthening social competence and creativity (Pratama, 2023; Widiastuti et al., 2024). Co-curricular achievement reflects the results of interactions between students and the educational environment, school facilities, and social supports available. (Wasi'ah et al., 2024). Students who are active in such activities tend to have better interpersonal and leadership skills (Hart & Siahaan, 2024; Sundari, 2021). Therefore, co-curricular achievements are measurable student accomplishments outside formal academics, including leadership, cooperation, creativity, and participation in school activities.

Learning environment resources have an essential role in supporting student involvement in extracurricular activities (Wahyuningsih et al., 2025). School facilities include infrastructure that support the learning process and overall student development (Syahril, 2018). The existence of shared learning spaces, student activity spaces, and other supporting facilities can increase student involvement in various activities. Adequate facilities can encourage students' interest and motivation to actively participate in school activities (Izati & Fauzi, 2024; Setiowati & Annur, 2023). In addition, well-designed physical facilities create a



sense of comfort and enhance learning effectiveness (Fakhrezi et al., 2024; Stuart et al., 2022).

Social support also plays an important role in shaping the success of students participating in extracurricular activities. Support from peers, teachers, and parents provides moral and emotional encouragement that can boost students' confidence. (Alhafid & Nora, 2020). Students with high social support have greater confidence to participate in school competitions and activities. (Puspitasari et al., 2021; A. T. Putra et al., 2021). Parental support is the foundation of students' courage in displaying their best abilities in various activities. In addition, a supportive social environment has a positive effect on the formation of students' character and attitude of responsibility. (Oktariani et al., 2020; Wijaya et al., 2020).

Academic enrichment activities are one of the strategic means to improve students' academic and non-academic abilities. Academic enrichment activities provide a space for students to learn together, discuss, and deepen their understanding of the subject matter. Participation in this activity can improve students' critical thinking skills and sense of responsibility. (Alhuda, 2020; Juniarti & Irfan, 2023). In addition, involvement in academic enrichment can foster higher motivation to learn. The program also fosters collaboration and a healthy competitive spirit between students. (Ramadin, 2024; Sasmita, 2024).

Self-efficacy, or an individual's belief in his or her ability to complete a task, has an important role in student success. Students with high self-efficacy tend to be more optimistic in facing the learning process and extracurricular activities. (Putri, 2023; Taufik & Komar, 2021). Self-efficacy helps students to remain persistent when facing difficulties and challenges in school activities. This belief also influences decision-making and the courage to try new things. In addition, self-efficacy can act as a mediator in the relationship between social support and student achievement. (Mahsunah & Musbikhin, 2023; Pradana, 2024).

Previous research has shown that the relationships among learning environment resources, social support, academic enrichment activities, and self-efficacy are complex and can vary across contexts. However, empirical evidence on how these variables interact to influence co-curricular achievement remains limited. A deeper understanding of these relationships is essential for formulating effective, data-driven educational strategies. Based on this, this study aims to examine the influence of learning environment resources and social support on students' co-curricular achievement. In addition, this study analyzes the role of academic enrichment activities and self-efficacy in mediating the relationship between these variables.

## METHODS

### Research Design and Participants

This study used a quantitative approach with a survey method (Apriliani et al., 2023; Putra, 2022; Widayanto et al., 2021). The design of this study was explanatory and correlational using Partial Least Squares Structural Equation Modelling (PLS-SEM). PLS-SEM 3.0 is a multivariate statistical method used to analyze the relationship between latent and measurable variables in a structural model. The selection of PLS-SEM as a data analysis method is based on its advantages in handling complex models, predictive hypothesis testing, and relationships with nonnormal distributions, as well as its ability to overcome the problems of multicollinearity and relatively small sample sizes.

Through this approach, the research combined explanatory and correlational elements to understand the patterns of relationships between variables in a conceptual model based

on the new research title. PLS-SEM provides researchers with flexibility to examine the influence of learning environment resources and social support on co-curricular achievement, with academic enrichment activities and self-efficacy as mediating factors. This study uses a probability sampling technique, specifically simple random sampling, so that every student has an equal chance of being selected. The research sample consisted of 78 students participating in academic enrichment activities at SMAN 2 Ponorogo.

### Measurement

The data collection technique used a questionnaire containing five research variables. Independent variables included Learning Environment Resources (X1) and Social Support (X2). The mediation variable consisted of Academic Enrichment Activities (Z1) and Self-efficacy (Z2), while the bound variable was Co-curricular Achievement (Y). This study used the Likert scale with four alternative answers, namely: strongly agree (4), agree (3), disagree (2), and strongly disagree (1) (Daryono et al., 2024; Widyastuti et al., 2023). The variables of the research instrument are displayed in **Table 1**.

**Table 1.** Research Variables

Variable	Indicator	Construct	Reference
Learning Environment Resources (X1)	Availability of activity space	LER1	(Azmi et al., 2024; Harefa et al., 2024; Izati & Fauzi, 2024; Jufrihan et al., 2024; Setiowati & Annur, 2023; Syahril, 2018)
	Equipment Completeness	LER2	
	Ease of access	LER3	
	Utilization of Facilities	LER4	
	Facility conditions	LER5	
	Activity support technology	LER6	
Social Support (X2)	Teacher support	SS1	(Alhafid & Nora, 2020; Oktariani et al., 2020; Puspitasari et al., 2021; A. T. Putra et al., 2021; Utami et al., 2024; Wijaya et al., 2020)
	Parental support	SS2	
	Peer support	SS3	
	Emotional support	SS4	
Academic Enrichment Activities (Z1)	Active participation in activities	AEA1	(Juniarti & Irfan, 2023; Lay et al., 2025; Masnawati et al., 2023; Meilani et al., 2023; Rizki & Ratnasari, 2025; Sasmita, 2024)
	Leadership development	AEA2	
	Task completion creativity	AEA3	
	Activity Output	AEA4	
	Social skills development	AEA5	
Self-Efficacy (Z2)	Student interests	SE1	(Krisnawati et al., 2022; Mahsunah & Musbikhin, 2023; Pradana, 2024; Sucitno, 2020; Taufik & Komar, 2021; Vantoria et al., 2023)
	Student confidence	SE2	
	Self-potential	SE3	
	Social engagement	SE4	
	Social engagement	SE5	
	Social engagement	SE6	
	Student activeness	SE7	
	Self-regulation	SE8	
Co-curricular Achievement (Y)	Collaboration skills	CCA1	(Alivia & Sudadi, 2023; Gunawan et al., 2023; Hart & Siahaan, 2024; Sundari, 2021; Wasi'ah et al., 2024; Widiastuti et al., 2024)
	Achievements achieved in co-curricular activities	CCA2	
	Social skills	CCA3	
	Motivation	CCA4	
	Increased independence	CCA5	

### Data Analysis

The statistical analysis of this study used the PLS-SEM measurement technique (Daryono et al., 2024; Fauzan et al., 2023; Supriyanto et al., 2022). The outer model testing stage is the measurement model testing stage that aims to demonstrate validity and assess the reliability of indicators and constructs. Some of the requirements that must be met are

the indicator loading factor  $>0.70$  and the AVE reflective construct  $>0.50$ . Reliability estimates using Cronbach Alpha, Rho\_A, and CR values  $>0.70$  (Daryono et al., 2023; Hariyanto et al., 2022). The goodness-of-fit testing stage of the model aims to test the predictability and feasibility of the model. The criteria that must be met include predictive relevance, which assesses the model's predictive power on the blindfolded output. The inner testing stage of the model tests the significance of direct (H-DIR 1-7) and indirect (H-IND 8-11) influences.

## RESULT AND DISCUSSION

### RESULT

#### Evaluation of Measurement Models

Evaluation of measurement models is essential to ensure that the indicators used to measure latent constructs or variables align with the research objectives and are of high quality. Checking the validity of constructs is the main objective of model evaluation measurements. Analyzing the relationship between the indicator and the construct being measured can ensure that it truly reflects the aspect of the construct in question. By analyzing factor loadings, reliability, and discriminant validity, researchers can decide which indicators to include and which to omit.

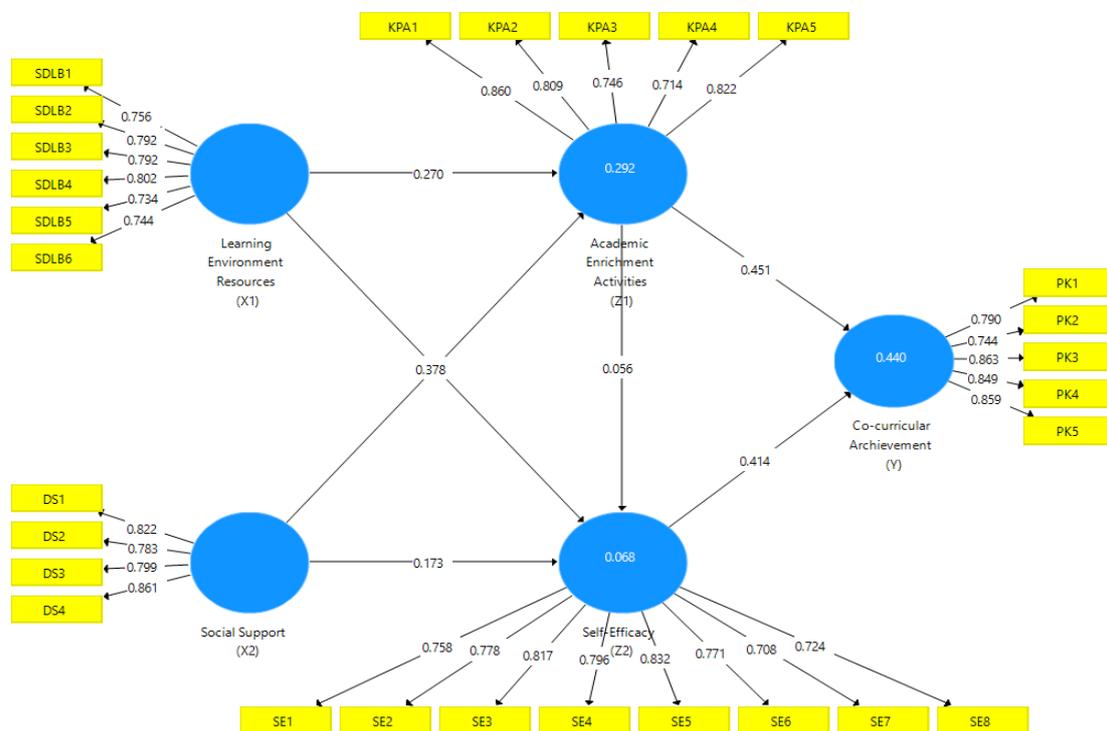


Figure 1. Evaluation of the Measurement Model

Convergent validity is measured using a standard loading factor limit of 0.700. Based on the load factor coefficient value in **Table 2**, the most dominant statement item in measuring the co-curricular achievement variable (Y) is the Collaboration indicator (CCA3) with a load factor of 0.863, indicating that this indicator is the most able to represent the co-curricular achievement construct. Meanwhile, the weakest statement item was in the self-efficacy variable (Z2), with a value of 0.708 (SE6), but this value was still within the acceptable validity limit. The Average Variance Extracted (AVE) value for each variable has also met the minimum criteria of  $> 0.50$ , namely: school environmental resources (X1) of 0.594, social

support (X2) of 0.667, academic enrichment activities (Z1) of 0.627, self-efficacy (Z2) of 0.599, and co-curricular achievement (Y) of 0.676. Thus, it can be concluded that each of the subvariables and variables in the instruments in the research model has supported the convergent validity condition.

**Table 2.** Outer Model: Convergent Validity and Reliability

Not	Variable	Indicator	Convergent Validity			Consistency Reliability	
			FL ( $f > 0.70$ )	AVE ( $> 0.50$ )	CA ( $\alpha > 0.70$ )	Rho-A ( $\rho > 0.70$ )	CR ( $d > 0.70$ )
1		LER1	0.756				
2		LER2	0.792				
3	Learning Environment Resources (X1)	LER3	0.792	0.594	0.865	0.872	0.898
4		LER4	0.802				
5		LER5	0.734				
6		LER6	0.744				
7		SS1	0.822				
8	Social Support (X2)	SS2	0.783	0.667	0.833	0.840	0.889
9		SS3	0.799				
10		SS4	0.861				
11		AEA1	0.860				
12	Academic Enrichment Activities (Z1)	AEA2	0.809	0.627	0.850	0.853	0.893
13		AEA3	0.746				
14		AEA4	0.714				
15		AEA5	0.822				
16		SE1	0.758				
17	Self-Efficacy (Z2)	SE2	0.778	0.599	0.904	0.908	0.923
18		SE3	0.817				
19		SE4	0.796				
20		SE5	0.832				
21		SE6	0.771				
22		SE7	0.708				
23		SE8	0.724				
24		CCA1	0.790				
25	Co-curricular Achievement (Y)	CCA2	0.744	0.676	0.880	0.884	0.912
26		CCA3	0.863				
27		CCA4	0.849				
28		CCA5	0.859				

The SmartPLS output in the table below shows that all variables have values of CA (0.833 to 0.904), rho\_A (0.840 to 0.923), and CR (0.889 to 0.923). Thus, it can be concluded that the internal consistency of the instrument's reliability in 3 aspects has a value of  $> 0.70$ . The Fornell-Larcker test is one of the methods used in Partial Least Squares Structural Equation Modelling (PLS-SEM) to evaluate the validity of construct discriminators in a model. This test aims to ensure that the different constructs in the model can be distinguished from each other. This is done by comparing the variance described by the construct with the variance described by other constructs in the model. If the variance described by one construct is greater than the variance described by another construct, then the construct has good discriminant validity. Based on **Table 3**, the correlation value of social support (X2)

of 0.817 is more significant than the correlation value of academic enrichment activities (Z1) of 0.792, followed by co-curricular achievement (Y) of 0.822, self-efficacy (Z2) of 0.774, and the lowest correlation value in learning environment resources (X1) of 0.771 as well as for the assessment of correlation of other variables.

**Table 3.** Discriminant Validity: The Fornell Larcker

Variable	(X2)	(Z1)	(Y)	(Z2)	(X1)
Social Support (X2)	0.817				
Academic Enrichment Activities (Z1)	0.479	0.792			
Co-curricular Achievement (Y)	0.476	0.524	0.822		
Self-Efficacy (Z2)	0.236	0.178	0.494	0.774	
Learning Environment Resources (X1)	0.372	0.411	0.384	0.183	0.771

One of the main goals of HTMT testing is to measure the validity of discriminants in the model. HTMT is used to test the extent to which constructs measured with different indicators represent the same or different constructs in the model. HTMT is also useful for assessing the multicollinearity between constructs in the model. Multicollinearity can occur when constructs are closely interrelated, which can lead to problems in estimating and interpreting results in SEM analysis. The results of the PLS Algorithm test in **Table 4** reveal that the HTMT value in all dimensions has a value of <0.90 (0.206 to 0.566).

**Table 4:** Discriminant Validity: The HTMT

Variable	X2	Z1	X1	Z2	Y
Social Support (X2)					
Academic Enrichment Activities (Z1)	0.555				
Co-curricular Achievement (X1)	0.566	0.529			
Self-Efficacy (Z2)	0.268	0.219	0.547		
Learning Environment Resources (Y)	0.431	0.467	0.430	0.206	

### Structural Model Evaluation

Structural evaluation in testing on PLS-SEM has the main objective, which is to assess the accuracy of the proposed model predictions. This is done by evaluating the extent to which the model can explain empirical data variations and predict endogenous variables well. Overall, structural evaluation aims to improve understanding of the phenomenon being studied in the context of the research. By analyzing the relationships between variables, researchers can identify the factors that contribute to the phenomenon and develop a deeper insight into the dynamics involved.

R<sup>2</sup> (Coefficient of Determination) provides an overview of how well the PLS-SEM model explains the variation in the observed endogenous variables (constructs). The higher the R<sup>2</sup> value, the greater the proportion of variation in the construct that the model can explain. R<sup>2</sup> allows comparisons between different PLS-SEM models. Researchers can use the R<sup>2</sup> value to compare the effectiveness of different models in explaining variations in observed constructs. Based on **Table 5**, the R<sup>2</sup> coefficient in the co-curricular achievement variable obtained a value of 0.440. It can be interpreted that school environmental resources, social

support, academic enrichment activities, and self-efficacy affect co-curricular achievement by 44.00% and the remaining 56.00% help determine how significant the contribution of latent variables to constructs is.

$f^2$  (effect measure) is one of the measures in PLS-SEM to evaluate the strength of the influence of latent variables on the observed construct. Specifically,  $f^2$  measures the predictive power of latent variables against a particular construct in the model. More specifically,  $f^2$  is calculated by dividing the square of the regression load of the latent variable in a given construct by the number of residual errors (error variance) of that construct. The results provide an idea of how much the latent variable contributes in explaining the variation in the observed constructs.  $f^2$  helps in determining how significant the latent variable contributes to the observed construct.  $f^2$  allows a comparison between the contributions of several latent variables to the same construct, so that it can be known and determined which latent variable has the strongest influence on the observed construct. Thus, the output of the effect measure showed that the most dominant variable in influencing co-curricular achievement was academic enrichment activities ( $f^2 = 0.352$ ) included in the strong category and the weakest variable was learning environment resources ( $f^2 = 0.089$ ) included in the small category.

**Table 5.** Structural Model Measurements:  $R^2$ ,  $f^2$ ,  $Q^2$

Variable	$R^2$		$f^2$		Construct Cross_ Validated ( $Q^2$ )				
	Value	Decision	Value	Decision	Redundancy		Communality		Predictive
					SSE	Q2	SSE	Q2	Power
CCA (Y)	0.440	Moderate	-	-	284.540	0.270	192.008	0.508	Strong
SE (Z2)	0.068	Weak	0.296	Medium	602.007	0.035	318.663	0.489	Strong
AEA (Z1)	0.292	Moderate	0.352	Large	323.498	0.171	223.920	0.426	Strong
SS (X2)			0.174	Medium	312.000	-	175.438	0.438	Strong
LER (X1)			0.089	Small	468.000	-	268.958	0.425	Strong

The next test by looking at the predictive relevance value ( $Q^2$ ) aims to validate the model's predictive ability according to the reality in the field. The results of the relevant calculations in the  $Q^2$  predictive were obtained with values of 0.035 to 0.270 and 0.425 to 0.508 in the cross-validated communality construct. So, the model in measuring overall co-curricular achievement can explain the model analysis of 35.00% to 50.00% of the phenomenon being studied. The results of both procedures show that co-curricular achievement has strong predictive power.

### Measurement of Direct Effects

One main purpose of hypothesis testing is to test the relationships between variables in the proposed model. This is done by analyzing the strength and significance of the relationships between the variables identified in the model. Immediate effect evaluation allows researchers to test consistency between empirical findings and theories that support the model. Furthermore, this test analyzes the significance of the mediating effect in the research model. It is important to understand the mechanisms underlying the relationships between variables and how certain variables can mediate or change relationships between other variables.

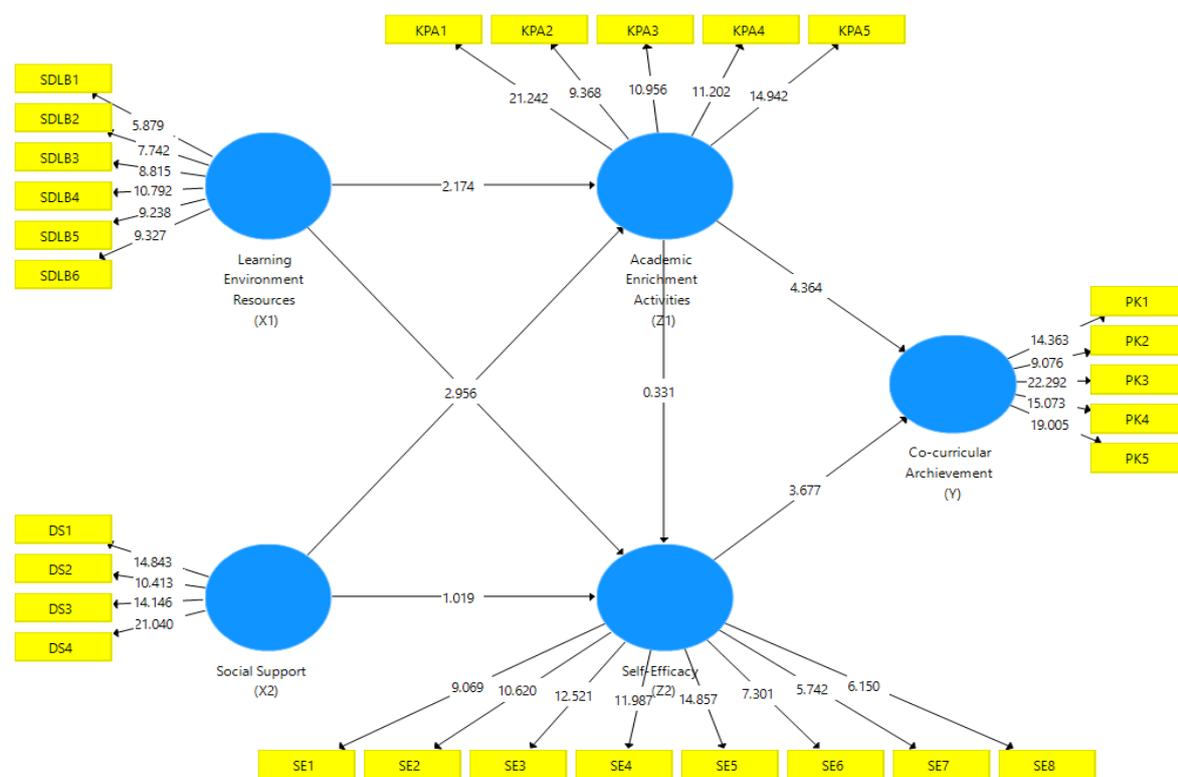


Figure 2. Evaluation of Path Analysis

A hypothesis can be accepted with significant criteria if it has a T-statistical value above 1.96. Meanwhile, the hypothesis can be accepted with a positive or negative influence if the  $\beta$ -values of the correlation coefficient value indicate a positive or negative influence direction. Based on the table below, the H-DIR5 hypothesis of academic enrichment activities (Z1)  $\rightarrow$  self-efficacy (Z2) obtained a  $\beta$ -value = 0.056 and a P-value = 0.743 (0.05). This shows that the variable of academic enrichment activities (Z1) has a positive, but not significant effect on self-efficacy (Z2). This can be interpreted that if the variable of academic enrichment activities (Z1) increases, the self-efficacy variable will also increase, but not significantly. In the H6 hypothesis, academic enrichment activities (Z1)  $\rightarrow$  co-curricular achievement (Y)  $\beta$ -values = 0.451 and P-value = 0.000 (0.05). This shows that academic enrichment activities have a positive and significant effect on non-co-curricular (Y) achievements. This can be interpreted that if the variables of academic enrichment activities increase, the variables of co-curricular achievement will also increase and vice versa.

Table 6. Result Of Path Coefficients: Direct Effect

Hypothesis	Path Analysis	$\beta$ -Value (+/-)	Sampel mean	SDV	T-Statistic (>1.90)	$\rho$ -Value (<0.05)	Decision
H-DIR1	LER $\rightarrow$ AEA	0.270	0.299	0.120	2.244	0.025	Accepted
H-DIR <sup>2</sup>	LER $\rightarrow$ SE	0.096	0.087	0.172	0.558	0.577	Rejected
H-DIR3	SS $\rightarrow$ AEA	0.378	0.379	0.124	3.053	0.002	Accepted
H-DIR4	SS $\rightarrow$ SE	0.173	0.177	0.177	0.979	0.328	Rejected
H-DIR5	AEA $\rightarrow$ SE	0.056	0.074	0.169	0.328	0.743	Rejected
H-DIR6	AEA $\rightarrow$ CCA	0.451	0.449	0.106	4.526	0.000	Accepted
H-DIR7	SE $\rightarrow$ CCA	0.414	0.420	0.109	3.799	0.000	Accepted

### The Role of Mediation of Academic Enrichment and Self-efficacy Activities on the Influence of Learning Environment Resources and Social Support on Co-curricular Achievement

Based on the results of the indirect effects test, it was found that in the H-IND4 hypothesis, the indirect influence between Learning Environment Resources (X1) on Co-curricular Achievement (Y) through the mediation of Academic Enrichment Activities (Z1) was significant. This is shown by the value of the  $\beta$  coefficient of 0.251, the T-statistical value of 2.505 ( $>1.96$ ), and the P-value of 0.013 ( $<0.05$ ). This means that H-IND4 is accepted, which means that Academic Enrichment Activities play a significant role in mediating the relationship between Learning Environment Resources and Co-curricular Achievement. These results suggest that the existence of adequate resources will be more effective in improving students' co-curricular achievement if mediated by active involvement in academic enrichment activities.

Meanwhile, the test results on the H-IND2 hypothesis, which tested the indirect influence of Social Support (X2) on Co-curricular Achievement (Y) through Self-efficacy (Z2), were not significant. The value of the  $\beta$  coefficient was 0.021, with a T-statistic of 3.308 ( $<1.96$ ) and a P-value of 0.758 ( $>0.05$ ). Thus, the H-IND2 hypothesis is rejected. These findings indicate that although social support is important, without high self-confidence in students, social support is not able to significantly encourage improvement in co-curricular achievement. Therefore, an approach is needed that can directly strengthen students' self-efficacy so that the social support received can contribute optimally to the results of co-curricular achievement.

**Table 7.** Path Coefficient Result: Inderect Effect

Hypothesis	Path Analysis	$\beta$ -value (+/-)	Sample Mean	SDV	T-Statistic ( $>1.90$ )	$\rho$ -Values ( $<0.05$ )	Decision
H-IND1	LER→CCA	0.168	0.186	0.093	1.796	0.073	Rejected
H-IND2	SS→SE	0.021	0.023	0.068	0.308	0.758	Rejected
H-IND3	LER→SE	0.015	0.030	0.058	0.257	0.797	Rejected
H-IND4	SS→CCA	0.251	0.260	0.100	2.505	0.013	Accepted
H-IND5	AEA→CCA	0.023	0.026	0.071	0.325	0.745	Rejected

## DISCUSSION

The results of the study show that learning environment resources have a positive but not significant effect on students' co-curricular achievement. Conceptually, learning facilities should play an important role because activity space, equipment completeness, and ease of access can increase student motivation and participation in extracurricular activities. However, the hypothesis suggests that the influence is not yet statistically strong. This is influenced by indicators such as the availability of activity space, the use of facilities, and the condition of facilities that are not optimally used by students. These findings differ from some previous studies that emphasized that adequate facilities can increase student activity, thus suggesting a contextual mismatch (Azmi et al., 2024; Syahril, 2018). This condition indicates that the quality of facilities does not automatically improve performance if it is not supported by effective management and utilization. In the context of research schools, variations in facility use, learning culture, and student participation levels are factors that affect these differences in outcomes.

Social support has been proven to have a positive and significant effect on students' co-curricular achievements, which shows the urgency of the role of teachers, parents, and peers in shaping student success (Safitri et al., 2025). The hypothesis of this study confirms that social support is one of the dominant factors that drive student achievement in the co-

curricular field. Based on research indicators, teacher support, peer support, and emotional support are strong influencing factors in building students' motivation and courage to participate in school activities. These findings are in line with research that states that students with high social support are more active and confident in competitions and extracurricular activities (Puspitasari et al., 2021; Wijaya et al., 2020). However, the school context shows that the intensity of parental support is more varied, resulting in differences in achievement levels between students. The main implication is that schools need to strengthen a collaborative culture and communication between teachers, students, and parents to improve the quality of social support.

Academic enrichment activities have a positive and significant influence on students' co-curricular achievements (Sopidi et al., 2024). The urgency can be seen from how active participation, leadership development, and creativity in completing tasks improve students' abilities in competitions, collaboration, and other school activities. The hypothesis of this study confirms that enrichment activities not only improve academic ability, but also strengthen co-curricular achievement. These findings reinforce research that academic enrichment activities can improve soft skills such as communication, leadership, and problem-solving skills (Juniarti & Irfan, 2023; Rizki & Ratnasari, 2025). In the context of a research school, students who actively participate in enrichment programs show higher enthusiasm than other students. As a result, enrichment activities can be an effective bridge to develop students' potential as a whole, so it needs to be expanded in scope.

The results showed that academic enrichment and self-efficacy activities mediated the relationship between learning environment resources and co-curricular achievement significantly. Conceptually, learning facilities will not have a direct impact without student activities and confidence formed through these activities. Although learning facilities have no direct effect, the mediation hypothesis supports that facilities become more effective when utilized in enrichment programs and promote student self-efficacy. Indicators such as participation in activities and student beliefs play an important role in this mediation pathway. The findings of this study support the mediation theory of Kusumastuti et al., but it is different from Husnun's research which emphasizes the power of the direct influence of facilities (Husnun, 2023; Kusumastuti et al., 2020). Variations in the context of the use of facilities in research schools show that physical facilities only provide benefits when they are associated with systematic pedagogical activities. By implication, schools must ensure facilities are not only available, but actually used in programs that improve students' self-efficacy.

Social support has a significant indirect influence on co-curricular achievement through academic enrichment and self-efficacy activities. Theoretically, social support builds a sense of security, confidence, and motivation that ultimately increases student participation in enrichment activities. The mediation hypothesis is proven that social support strengthens co-curricular achievement through increased self-efficacy and the intensity of student involvement in academic enrichment. These findings are consistent with research by Mahsunah & Musbikhin and Amseke which shows that emotional support can improve students' adaptability and achievement (Amseke, 2024; Mahsunah & Musbikhin, 2023). However, the data show that there are contextual variations in differences in support between peers and parents, which affect the power of mediation. The practical implication is that schools need to strengthen teacher-parent collaboration and expand enrichment activities in order to be able to channel students' potential optimally.

## CONCLUSION

This study shows that learning environment resources and social support have a positive influence on students' co-curricular achievements, both directly and through academic enrichment and self-efficacy activities. These results confirm that adequate learning facilities as well as strong social support form the conditions that support students' success in extracurricular activities. Self-efficacy has proven to be an important mediator in bridging the relationship between environmental factors and student achievement. Thus, the physical, social, and psychological environment work simultaneously in influencing co-curricular achievement.

The findings of the study imply that schools need to optimize the use of learning facilities and strengthen social support through the collaboration of teachers, peers, and parents. Structured academic enrichment programs need to be developed to improve students' competencies both cognitively and non-cognitively. Strengthening self-efficacy must be part of the coaching strategy so that students have adequate confidence in participating in extracurricular activities. This holistic approach is needed so that student development does not only rely on academic aspects but also social skills and character.

This study has limitations in location coverage and a relatively small number of samples, so generalization of results needs to be done carefully. The quantitative method used has not been able to capture students' subjective experiences in depth. Therefore, further research is recommended to use a mixed approach to enrich understanding of the process of internalizing values and forming self-efficacy. Subsequent research may also include moderation variables such as learning motivation, student leadership, or family roles to produce a more comprehensive picture.

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### Declarations

#### Author Contribution Statement

Betha Wijayanti : contributed to the formulation of the research idea and design, instrument development, data collection, data processing and analysis using PLS-SEM, interpretation of the research results, and preparation of the initial draft of the manuscript.

Willis Werdiningsih : contributed to academic supervision, validation of the research methodology, critical review of the scientific substance, and revision of the manuscript to improve the academic quality of the article.

Mohd Syaubari Othman : contributed to the conceptual and methodological review, strengthened the analysis and discussion of the research results, and provided final approval of the manuscript for publication.

All authors have read and approved the final version of the manuscript.

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### Data Availability Statement

The data generated and analyzed in this study will not be published publicly due to respondent confidentiality and the policies of the institution where the research was conducted. However, data

can be obtained from the corresponding author upon reasonable request for academic purposes and further research, while adhering to ethical research principles.

#### **Declaration of Conflict of Interests Statement**

The authors declare that they have no conflicts of interest, either financial or non-financial, that may have influenced the research design, data analysis, interpretation of the results, or preparation of this manuscript.

#### **AI Use Statement**

The author declares that the entire writing, data processing, analysis, and preparation of the manuscript were carried out independently. The entire contents of this article are the result of the author's thoughts, analysis, and interpretation based on the research data obtained, and have been compiled in accordance with the rules and ethics of scientific writing.

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