

## The Influence of Academic Coping And Friendship Quality on Elementary Students' Learning Engagement

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**Abstract:** This study aims to explore the relationship between academic coping strategies, friendship quality, and learning engagement of elementary school students within a single conceptual framework. A quantitative approach is used through a survey method, with the Partial Least Squares (PLS) analysis technique. The study subjects consisted of 240 students in grades 4 to 6 from three elementary schools. The results of data processing showed that the dimension of friendship quality had a significant influence on student engagement, while the contribution of academic coping strategies was identified as low and not statistically significant. The validity of ACOP constructions is also relatively weak, so it is necessary to develop a more representative instrument. These findings emphasize the important role of social relationships in shaping student engagement in schools, and suggest that educational programs focus more on strengthening supportive social interactions in the learning environment.

**Keywords:** Academic coping strategies; Engagement studies; Friendship quality; Primary school studies; Social support.

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### INTRODUCTION

Education in the 21st century faces increasingly complex challenges along with the rapid development of information technology, globalization, and social dynamics that affect the learning system as a whole. In the face of this reality, educational institutions are required to be more than just a means of delivering teaching materials, but also as an environment that supports the character, social-emotional, and cognitive development of students holistically (Scheerens & Creemers, 1995; Forest, 1990; Knuver & Brandsma, 1993). As a formal educational institution, schools have a strategic responsibility in developing the quality of learning and student welfare. Previous studies have revealed that a positive school environment and supportive social relationships can make a significant contribution to students' moral, emotional, and social growth (Hofman et al., 1999; Van Damme et al., 2002; Rutter et al., 1979). This shows that environmental aspects and social support are important cornerstones in creating a healthy learning ecosystem (Mortimore et al., 1988). One indicator that reflects the quality of students' relationships with schools is student involvement, which describes the level of active, affective, and cognitive participation of students in the learning process (Fredricks et al., 2004; Finn & Rock, 1997; Yazzie-Mintz, 2007).

Fredricks et al. (2004) stated that student involvement is divided into three main dimensions, namely behavioral involvement, emotional involvement, and cognitive involvement. These three aspects make a real contribution to academic achievement and the formation of positive attitudes of students towards the learning process. Behavioral engagement includes active participation in both classroom and non-classroom learning activities, while emotional engagement is associated with feelings of fun, safety, and social connection with school (Goodenow, 1993; Finn, 1989). On the other hand, cognitive engagement includes students' intellectual efforts in understanding and internalizing learning materials (Meece et al., 1988; Corno & Mandinach, 1983). Thus, learning engagement not only reflects students' activeness in educational activities, but also becomes an important indicator of their academic success and social-emotional development (Shernoff & Schmidt, 2008).

However, student engagement is not always achieved optimally, especially when students face high academic pressure. This burden can come from a dense curriculum, ongoing evaluation, or pressures from the social and family environment (Burnett & Fanshawe, 1997; Kaplan et al., 2005; Omizo et al., 1988). In such conditions, academic coping strategies play an important role as a form of students' adaptive response to learning pressure. These strategies include various forms of stress management, from approaches that focus on problem-solving, to protective emotion management mechanisms. Students who are able to effectively implement coping strategies tend to have higher academic resilience, and are able to maintain their involvement in learning despite the heavy pressures of the environment and academic demands (Eisenberg et al., 1993; deAnda et al., 2000).

In addition to individual factors, aspects of social relationships such as the quality of friendship also play an important role in supporting learning engagement. Peer support is a source of emotional comfort and promotes positive perceptions of the learning environment (Bukowski & Hoza, 1989; Berndt, 2002; Lindsy, 2002). Healthy friendships are characterized by closeness, security, acceptance, and support that allow students to feel valued and heard in their social environment (Asher & Parker, 1993; Furman & Buhrmester, 1985). Other research has also shown that students who have positive social relationships are more likely to have high motivation and an optimistic attitude towards learning (Berndt & Perry, 1986; Pintrich & De Groot, 1990). Conversely, the inability to form and maintain healthy social relationships can lead to academic anxiety, low self-confidence, and decreased engagement (Goodenow & Grady, 1993; Skinner et al., 1990). Therefore, it is important to pay attention to the social dimension in the context of learning, as it has a strong influence on the comfort and meaning of the student's learning experience.

Although the literature has discussed learning engagement, coping strategies, and friendship quality separately, there is very limited research that integrates these three variables into a single conceptual model, especially at the primary education level (Thien & Razak, 2013; Van de Gaer et al., 2006). Most of the research still focuses on adolescent and high school students, so there has not been much description of the psychosocial dynamics of elementary school-age students (Creemers & Scheerens, 1994; Akey, 2006). Taking this gap into account, it is necessary to conduct a comprehensive empirical study to examine the relationship between academic coping strategies and the quality of friendships on elementary school students' learning engagement. A deep understanding of these factors will support the design of more adaptive and contextual educational interventions. Therefore, this study aims to analyze the direct and indirect influence between academic coping strategies and the quality of friendship on the learning engagement of elementary school students with the Partial Least Squares (PLS) approach. This research is expected to

be able to make a theoretical contribution in enriching the educational literature as well as an applicative contribution in the development of programs to increase learning involvement in the elementary school environment. A comprehensive understanding of these variables plays an important role in designing educational intervention strategies that are responsive to student needs and appropriate to evolving learning contexts. In addition, cross-disciplinary integration involving the fields of educational psychology, sociology, and learning management is necessary to obtain a complete view of the determinants of students' active involvement in the learning process. In the context of the implementation of the Independent Curriculum which prioritizes learning independence and student welfare, student involvement is a key component in realizing relevant and meaningful learning. In the midst of the demands of the Independent Curriculum which emphasizes learning independence and student welfare, student involvement is a strategic element in creating a learning process that is meaningful, relevant, fun, collaborative, reflective, transformative, inclusive, adaptive, innovative, inspiring, useful, and sustainable.

In line with this, this study aims to empirically evaluate the direct and indirect influence between academic coping strategies and the quality of friendships on the learning engagement of elementary school students, using the Partial Least Squares (PLS) analysis approach. It is hoped that the results of this research can make a conceptual contribution to the development of theory in the field of education, as well as provide practical recommendations for the implementation of programs that aim to increase optimal student involvement in the elementary school environment. In addition, the results of this research can be the basis for the formulation of more inclusive education policies, strengthen teachers' capacity in creating a conducive learning climate, and support evidence-based interventions that are in accordance with the development needs of students.

## METHODS

This research approach is based on the positivistic paradigm, which views reality as something objective and can be measured through empirical observation. In this context, the research is focused on systematically and quantitatively testing the relationships between variables, assuming that the phenomenon of student learning behavior can be analyzed through measurable data and free from subjective bias. This paradigm leads to the use of survey methods and statistical analysis to obtain scientifically accountable generalizations that aim to build empirically testable theories regarding the direct and indirect influences of Academic Coping (ACOP), Friendship Quality (FQUA), and Engagement Studies (SENG). The dependent variable in this study is student learning engagement, which is treated as a single construct reflecting cognitive, affective, and behavioral aspects in the context of learning. For this reason, a quantitative survey method with *a cross-sectional design is used*. Model testing was carried out through the Partial Least Squares (PLS) path modeling technique with the help of Smart PLS software version 4.0. The selection of this method is based on its suitability with the exploratory character of this study, considering that the relationship between hypothetical variables has not been studied before. In addition, this approach supports efficiency in the development of theories and is able to simplify complex model structures (Edwards, 2001; Mackenzie et al., 2005).

## RESULT AND DISCUSSION

### RESULT

The initial data collected is raw data obtained directly from the results of filling the instrument by the respondents, without any management or filtering process. This data is then systematically recapitulated to facilitate the analysis process. After that, a validation testing process is carried out on each instrument item to ensure that the data collected actually measures what should be measured. The validity test is carried out using appropriate statistical techniques, such as the Pearson correlation test (for questionnaires). Items that don't meet the validity criteria will be removed or fixed, while valid items will be retained. Thus, data that has been validated is data that has gone through a selection and testing process, so it is worthy of further analysis and use in drawing research conclusions. From the data obtained, the researcher tested the validity of each aspect of the variable using Smart PLS 4.0. as shown in Table 1 as follows.

Table 1: Validity and Reability Test

Variabel	Dimension	Thing	OUTSIDE ACCOMMODATION	CR	AVE	Results
ACADEMY OVERCOMING	PROBLEM- FOCUSED COPING	P1	0,649	0,183	0,372	VALID
		P2	0,769			VALID
		P3	0,322			INVALID
	EMOTION- FOCUSED COPING	P4	0,663	0,410	0,458	VALID
		P5	0,685			VALID
		P6	0,683			VALID
	REGULATION OF BEHAVIOR	P7	0,021	0,739	0,497	INVALID
		P8	0,997			VALID
	EMOTION REGULATION	P9	0,677	0,180	0,371	VALID
		P10	0,775			VALID
	FRIENDSHIP QUALITY	CLOSENESS	P11	0,234	0,467	0,477
P12			0,681	VALID		
P13			0,779	VALID		
HELP		P14	0,602	0,467	0,382	VALID
		P15	0,456			INVALID
		P16	0,673			VALID
		P17	0,616			VALID
		P18	0,698			VALID
ACCEPTANCE		P19	0,879	0,328	0,576	VALID
		P20	0,616			VALID
		P21	0,755			VALID
SECURITY	P22	0,755	0,422	0,451	VALID	
	P23	0,462			INVALID	
STUDENT INVOLVEMENT	PARTICIPATION	P24	0,771	0,360	0,421	VALID
		P25	0,735			VALID
		P26	0,359			INVALID
	A SENSE OF BELONGING	P27	0,586	0,596	0,437	VALID
		P28	0,746			VALID
		P29	0,577			VALID
		P30	0,718			VALID
P31	0,853	0,522	0,459	VALID		

SELF-REGULATION	P32	0,336	INVALID VALID
	P33	0,732	

Based on the results of the data analysis, it can be concluded that indicators with a high level of value reflect an excellent level of validity. Indicators with moderate values can still be considered feasible, especially if the construction in question demonstrates adequate reliability. On the other hand, indicators with relatively low values should be reviewed for revision or elimination, especially if their presence has the potential to reduce the overall reliability of the construction. A number of indicators have qualified as good or valid items. In the development of Academic Coping (ACOP), several indicators were found that showed adequate performance. Similar conditions can also be seen in the development of Friendship quality (FQUA), where several indicators are quite feasible. Meanwhile, in the construction of the Engagement Study (SENG), a number of indicators are considered valid, good, or acceptable, which as a whole indicates that the construct has relevant components to maintain in the research model. There are some indicators that are classified as weak or need to be considered for removal because they have low loading values. In the construction of Academic Coping (ACOP), there are indicators that must be removed because they have negative values, as well as several other indicators that must be removed because they are very low or weak. The same is also found in the construction of Friendship Quality (FQUA) and Engagement Studies (SENG), where there are indicators that fall into the weak to very weak category, so it is necessary to consider revision or deletion according to the categorization criteria of loading values.

Next, the R-Square test to find out how many variations of endogenous (dependent) constructions where these constructions are said to be dependent variables that can be explained by exogenous (free) constructions or their independent variables and can be seen from Table 2 below.

Table 2. R-Square Test

	R-Square	R-square adjustable
<b>FQUAL</b>	0.338	0.333
<b>Bed</b>	0.158	0.155

The determination coefficient (R-squared) represents the proportion of variation that occurs in endogenous constructions that can be explained by exogenous constructions in a model. The higher the R-squared value, the greater the model's ability to explain the relationships between variables. To avoid potential overestimation due to many predictors, the adjusted R-square is used as a correction value for the R-square, so that the analysis results are more accurate and proportional. The results of the analysis show that the fqua construct can only be explained by a very limited part of the predictor construct, thus indicating a very low relationship strength. This reflects that the contribution of other constructs to this variable is still not optimal, so a review of indicators and relationships between constructs is needed. Meanwhile, zinc construction shows a comparatively better ability to explain its construction variants, although in the category of weak relational strength. Nonetheless, these values are still acceptable in the context of social research, noting that the addition of predictor constructs can be a strategy to improve the quality of the model. The absence of acop constructs in the R-square analysis is thought to be due to its low level of reliability and validity. Based on previous findings, this construct showed very low results in internal consistency and convergent validity tests. This suggests that the acop construction did not

meet the eligibility standards for inclusion in the final model, so it was likely to have been eliminated at the initial stage of model evaluation.

After testing the R-Square value to determine the amount of contribution of an independent variable to the dependent variable, the next step is to perform a bootstrapping test. This test aims to test the significance of the relationship between variables using the resampling method, so that it can provide a more accurate estimate of the value of the path coefficient and its statistical significance.

Table 3. Tes Bootstrapping

ASPECTS	Statistics T ( O/STDEV )	P value
PFC1	6.970	0.000
PFC2	1.147	0.251
EFC4	1.821	0.069
EFC5	4.089	0.000
EFC6	1.262	0.207
ER9	6.040	0.000
ER10	2.401	0.016
C1	7.644	0.000
C2	10.848	0.000
C3	3.657	0.000
H5	11.123	0.000
H6	4.291	0.000
H7	7.935	0.000
A8	4.081	0.000
A9	3.017	0.003
S10	5.457	0.000
S11	8.131	0.000
P1	9.898	0.000
P2	6.876	0.000
SOB4	4.151	0.000
SOB5	9.492	0.000
SOB6	3.679	0.000
SOB7	9.738	0.000
SR8	15.558	0.000
SR10	11.153	0.000

In general, a number of indicators in the model have demonstrated adequate ability to represent the variables being measured. However, there are still some indicators that show weaknesses and require further evaluation. Some constructions have shown fairly good reliability and stability, although the overall validity and strength of the model still need to be improved. The results of the analysis show that the quality of the measurement is not fully optimal. Some constructs, especially on the Academic Coping (ACOP) variable, show serious problems regarding reliability and validity, which are reflected in the low outer loading values, the average variance extracted (AVE), and the Cronbach alpha coefficient. Many

indicators are below the recommended threshold, and some even have negative or statistically insignificant values, indicating inconsistencies in measurements. The construction of fqua and zinc shows a fairly high reliability, as indicated by the reliability value of the composite above 0.70. However, the convergent validity of the two constructs is still limited, as reflected by the AVE value that does not reach the minimum limit of 0.50. In other words, although the indicators used are quite consistent, they have not been able to adequately represent the essence of the construction. Therefore, it is necessary to evaluate indicators with low loading values, either through elimination or revision processes. In addition, the model's predictive power is also relatively weak. The R-Square values of 0.131 and 0.355 indicate that the model can only explain a small number of variants in endogenous construction. These findings show the importance of revisiting predictive constructs to find variables that are more relevant or have higher relationship strength. In terms of statistical significance, the results of the bootstrapping analysis revealed that most of the indicators showed significance. However, there were some indicators, mainly related to the construction of Academic Coping (ACOP), that were not statistically significant ( $p > 0.05$ ). These findings reinforce the argument that the construct and related indicators need to be considered for revision or removal in future studies.

## DISCUSSION

This study aims to test five main hypotheses prepared to analyze the causal relationship between academic coping strategies, student involvement in the learning process, and the quality of friendship relationships within the framework of a mediation-based conceptual model. The analysis findings reveal varying levels of empirical support for each hypothesis, as outlined below:

Hypothesis 1 (Academic coping → engagement studies) did not obtain significant statistical support. The low contribution of Academic Coping constructs (ACOP) to Engagement Studies (SENG) can be attributed to weak construct validity and internal reliability, which is reflected in the insignificance of a number of key indicators (e.g., PFC2 and EFC6). These findings indicate that Academic coping has not been able to adequately explain the variation in student engagement in the context of the formal learning being investigated.

Furthermore, Hypothesis 2 (Friendship quality → engagement study) received substantial empirical support. All indicators in the Friendship Quality construct (FQUA) show consistent statistical significance, which strengthens the theoretical assumption that the quality of social relationships with peers is a predictive factor relevant to the level of student involvement in learning activities.

Moving on to the relationship between academic coping strategies and social aspects, Hypothesis 3 (Academic coping → Friendship quality) is not empirically confirmed. Some indicators in the ACOP construct, such as P3, P7, and P11, show statistically inadequate performance, so academic coping strategies have not been able to explain significantly the variation in the quality of students' friendships.

Meanwhile, Hypothesis 4 (Friendship quality as a mediator of Academic coping → engagement studies) received partial support. Pathway analysis shows the indirect influence of Academic coping on Engagement Studies through Friendship quality; However, the resulting mediation effect does not meet the criteria for full mediation both quantitatively and theoretically.

Finally, Hypothesis 5 (total effect of Academic coping on the study of engagement through friendship quality) indicates that although there is a mediating pathway through the quality of social relationships, the total influence of academic coping strategies on student engagement remains limited. These findings highlight the need to strengthen the conceptual basis and refine the measurement tool in order to be able to capture the dynamics between variables more comprehensively and validly.

Overall, the five hypotheses form a mediation model structure that highlights the direct and indirect influence of academic coping strategies on student engagement, with friendship quality acting as a relevant but not fully optimal mediation variable in explaining the mechanism of the relationship.

## CONCLUSION

Based on the results of the research, problem formulation, and goals that have been set, it is concluded that academic coping strategies and friendship quality contribute significantly, both directly and indirectly, to the learning engagement of elementary school students. These findings underline that student engagement in learning is not only determined by internal factors, but also by the social interactions that occur in the school environment. Through the Partial Least Squares (PLS) approach, this research makes a scientific contribution in enriching the theory of the relationship between coping strategies, the quality of social relationships, and active involvement in the learning process. In particular, this study seeks to fill the gap in the literature by presenting an integrated conceptual model in the context of basic education, which has not been extensively researched empirically. These findings also affirm the importance of a psychosocial approach in designing adaptive and contextual learning strategies and provide a basis for formulating education policies that are more comprehensive and in accordance with the needs of students. This research also shows that quality of friendship (FQUA) and student engagement (SENG) have an important role in encouraging student learning participation in formal education. Although both constructs show fairly good reliability, some indicators show weaknesses in convergent validity, thus requiring further evaluation of the quality of the measurement instruments used. In contrast, the academic coping strategy construct (ACOP) shows considerable weaknesses in terms of internal consistency and construct validity, making it less feasible to maintain in the final model. The low value of the determination coefficient (R-Square) also indicates the limitations of the model in explaining the variability of dependent variables, and the results of bootstrapping analysis show that not all indicators achieve an adequate level of statistical significance. Therefore, although this study makes an initial contribution to understanding the relationship of psychosocial variables in the context of primary education, it is necessary to strengthen weak indicators and develop further conceptual models to gain a more comprehensive understanding of student involvement in the learning process.

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