Mediating Effects of Academic Self-Efficacy in a Relationship Between Teacher Support and Student Engagement at University Level

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Abstract

This study investigated teachers' perceived support and student engagement, mediated by academic self-efficacy. Students' motivation related to academics, confidence, and their engagement in learning are affected by the support they receive from teachers. This study investigated whether academic self-efficacy mediates the relationship between students' feeling their teachers provide more support and their engagement in academic activities. Using a correlational survey method, the study used a quantitative research design. Student engagement, academic self-efficacy, and teacher support were assessed using standardized questionnaire. A descriptive analysis, correlation analysis, regression analysis, and mediation analysis were conducted using SPSS. Findings indicated that perceived teacher support was significantly correlated with student engagement. There was a positive correlation between student engagement and perceived teacher support. In addition, academic self-efficacy significantly mediated perceived teacher support and student engagement. Findings also showed that positive relationships between teachers and students enhance students' confidence and motivation. To improve academic performance, teachers, policymakers, and schools can use supportive teaching practices.

Keywords: *Teacher Support, Student Engagement, Academic Self-Efficacy, Higher Education, Mediation*

1. Introduction

Teacher support, including emotional and instructional dimensions, positively influences student engagement and academic achievement. According to Wang et al. (2024), students who perceive social support learn better. Guo et al. (2025) reported that teacher emotional support strongly correlated with student engagement. The academic process is more engaged when a supportive environment exists (Wei, 2024a). It is believed that teacher support influences student academic self-efficacy (Gong & Xu, 2024). Involvement in learning process is significantly influenced by teacher support (Zhou & Wu, 2023, p.

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595). Positive pedagogy fosters engagement both directly and indirectly by building students' confidence in their academic strengths (Pan, 2022; Wei, 2024). Students' intrinsic motivation is boosted by the learning environment that teachers provide (Guo et al., 2025, p. 4). Students develop positive attitudes towards learning and take on difficult tasks with the help of this pedagogical model based on safety and self-efficacy. Students' learning engagement is strongly related to teacher support (Yang et al., 2022). Students without parental support can benefit from teachers' academic advice and positive teacher-student relationships (Liu, 2024). Teachers who consistently deliver clear instructions, timely feedback, and interactive classroom activities are significant predictors of social support, which also contributes to students' feelings of recognition. A positive academic self-concept leads to intrinsic motivation, academic engagement, and overall well-being for students (Zhang, 2024, p. 10).

According to Pan and Yao (2023), teachers significantly influence students' cognitive, affective, and social learning behaviors. Students' motivation, belonging, and engagement have been empirically associated with the emotional support they receive from teachers who are concerned with their personality (Yang et al., 2024, p. 7). Perceptions of the learning environment, emotional experiences, and teacher competence strongly influence students' mental health and mastery pursuits (Jia & Cheng, 2022; Federici et al., 2013). Students' academic feelings and motivations are influenced by the choice, relevance, and respect of teachers (autonomy support), as well as clear expectations (structure) and real care (involvement). Students are engaged when educators show sincere concern, respect them, and foster a mastery orientation (Hernandez et al., 2023). Furthermore, teachers' complex assistance increases self-worth, resulting in increased resilience and academic engagement (Jia & Cheng, 2022). Despite academic challenges, students can internalize self-regulation strategies through this supportive educational scaffolding. Offering care and constructive feedback is crucial to helping students overcome academic difficulties (Ulmanen et al., 2023).

The subjective well-being and mental health of students may also benefit from holistic support (Kalkan & Cemaloğu, 2023; Wang, 2023). Students' academic wellbeing is enhanced by teachers' involvement and care (Ahmed et al., 2018, p. 41; Zhou, 2023, p. 2). Providing socio emotional support to students (Opdenakker, 2021) is the key to assisting them in approaching, engaging, and completing academic tasks. Long-term emotional and instructional scaffolding improves students' short-term academic achievement and builds long-term positive attitudes towards learning and school (Rubach et al., p. 578; Xie & Derakhshan, p. 3). Supporting autonomy in students, i.e., listening and taking

their opinions into consideration, is crucial to enhancing their satisfaction, determination, and resilience (Ma, 2021). When teachers establish caring relationships with students, they provide both emotional and instrumental support (Lavy et al., 2020).

1.1 Objectives of the Study

Objectives of the study included to;

1. examine the impact of teacher support on student engagement at the university level.
2. assess the impact of teacher support on students' self-efficacy at university level.
3. Identify the impact of academic self-efficacy on student engagement at university level.
4. analyze the role of academic self-efficacy in the relationship between teacher support and student engagement at university level.

1.2 Hypotheses of the Study

H_1: Teacher Support has significant relationship with Student Engagement of university teachers.

H_2**:** Teacher Support has positive and significant relationship with Academic Self-Efficacy of university teachers.

H_3**:** Academic Self-Efficacy has positive and significant relationship with Student Engagement of university teachers.

H_4**:** Academic Self-Efficacy mediates the relationship between Teacher Support and Student Engagement university teachers.

1.3 Significance of the Study

In this study, academic self-efficacy is examined as a mediator between teacher support and student engagement at the university level. In higher education, student engagement is key to success, retention, and development. Study results can be used to improve students' active involvement in learning activities by understanding how supportive teachers' behaviors influence their confidence in their academic abilities.

The perception of teacher support is important for academic self-efficacy. Students gain confidence in their abilities when teachers offer guidance, encouragement, and feedback. Students who participate actively in class discussions, do their homework on time, work with others, and stay dedicated to learning. Thus, the study contributes to the understanding of teacher support mechanisms.

University teachers can benefit from this research by implementing supportive teaching practices that help students gain academic confidence and

motivation. By using the results, teachers can engage students, communicate with them, and provide feedback that will help them learn.

Additionally, curriculum developers and policy makers will benefit from the study. Schools can use the results to create professional development initiatives to help teachers develop effective relationships with students. Moreover, policies can be developed that promote student-centered teaching and learning in universities based on the findings.

Last but not least, the study is valuable to the students because it pinpoints the factors that enhance their academic confidence. Teachers' self-efficacy and support can help students be more motivated, persevering, and successful in university.

2. Literature Review

Several factors contribute to student engagement in learning, including emotional connection, academic guidance, and social support. Cognitive and behavioral engagement improved directly with the level of emotional and academic support offered. The motivation and interest in learning increase when students have a positive academic self-concept (Liu, 2022). Students are motivated and engaged by education (Zhou & Wu, 2023). Besides teaching, a teacher facilitates a supportive learning environment, promoting positive behavior through supportive interpersonal interactions (Guo et al., 2025).

When students are encouraged to undertake on challenging assignments, they are more likely to persist (Hughes, 2011, p. 41). Research consistently indicates that students perceive more teacher support as supportive of their academic goals (Pan, 2022, p. 6; Wei, 2024b, p. 465). As a result of teachers' encouragement, attention, and concern, students gain self-confidence and confidence in their academic abilities. A number of researchers have suggested that teachers are facilitators of the first order, demonstrating patience and availability, which ultimately enables students to participate in active learning and acquire self-efficacy through participating in active learning processes (Hungnes et al., 2022). There has been some evidence that the effectiveness of teacher-student social support, expressed through clear instructions and timely feedback during classroom activities, can significantly improve students' mastery goals and intrinsic motivation, resulting in a greater participation in educational activities by the students.

By trusting students, they can make plans and implement measures to achieve certain academic outcomes (Fatimah et al., 2023). Students' efforts enrich academic activities, while their self-regulation skills and approaches to learning are enhanced (Casanova et al., 2024, p. 50). Having academic self-efficacy increases students' chances of achieving academic success and engaging

in learning by setting goals and participating in learning activities (Pang & Veloo, 2024). Self-efficacy predicts students' academic performance (Noreen et al., 2018). A competency-based intrinsic motivation enhances academic engagement by enabling the application of effective and complex learning strategies. As a reflection of optimal cognitive functioning, emotions can be linked to high self-efficacy, motivating students to participate more in their learning environment (Moesarofah et al., 2023, p. 539).

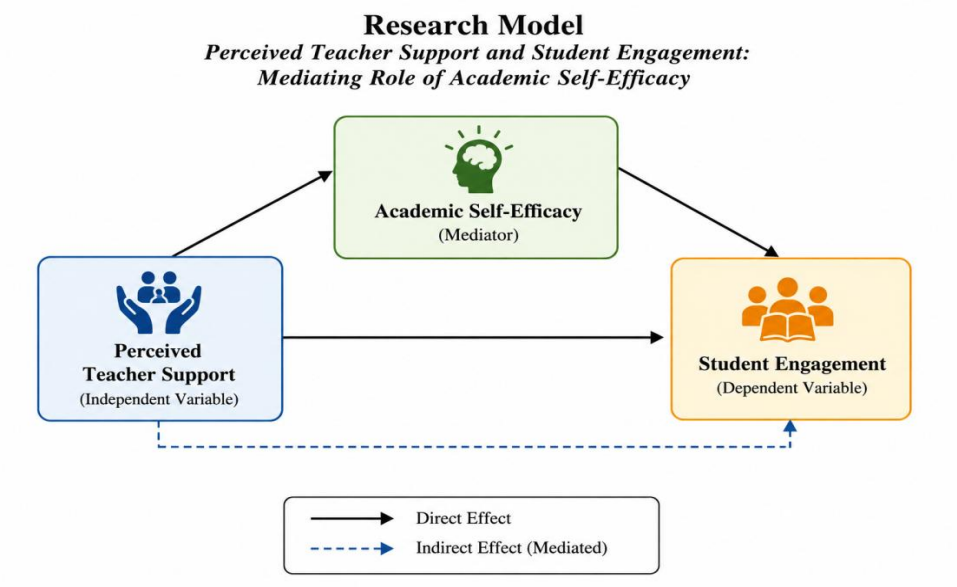
While teacher support plays an important role, it can only be enhanced if students are also highly self-aware. When their teachers encourage, listen, and care about their students, their self-confidence in learning success increases. Providing support from teachers helps students perceive challenges as learning opportunities, prompt adaptive coping, and encourage them to make extra efforts to overcome learning barriers (Guo et al., 2025). Creating student agencies and self-regulation depend on fostering a positive teacher-student relationship. Pedagogical practices that are proactive in building students' senses of success are necessary to create a positive academic performance loop.

The role of supportive, caring and encouraging teachers is very significant in improving students' learning experiences by providing a positive learning environment (Ma et al., 2023). Teachers' guidance, encouragement and constructive feedback foster students' confidence in their abilities and increase their active involvement in academic activities (Wentzel, 2010). Positive teacher-student interactions foster student motivation, confidence and academic commitment.

Academic self-efficacy is students' confidence in their ability to complete academic tasks and meet educational objectives. Bandura (1997) stated that self-efficacy is a factor that has a significant effect on the motivation, effort and perseverance of students in learning. High levels of teacher support are associated with increased academic self-efficacy, which in turn positively impacts academic achievement and learning habits (Lin & Zhu, 2024).

Student engagement, as measured in this study, is defined as students' involvement in academic activities, emotional involvement, attention, and commitment. Engaged students are more behaviorally, emotionally, and cognitively involved in learning tasks (Fredricks et al., 2004). Studies indicate that teacher support has a direct and indirect effect on student engagement, with the indirect effect being through the strengthening of academic self-efficacy (Ahmed et al., 2018). Based on this, the researcher proposed that teacher support (independent variable) has a positive effect on student engagement (dependent variable) with academic self-efficacy as a mediating variable.

Figure 1
Research Model for Study



3. Research Methodology

3.1 Research Design

This study used quantitative correlational-predictive research design with mediation analysis to explore the relationships between perceived teacher support, academic self-efficacy and student engagement. A correlational design was deemed suitable for this study because the study was designed to examine naturally occurring relationships between variables rather than manipulate or experiment on them (Schweigert, 2021). Furthermore, mediation analysis was employed to test the mediation role of academic self-efficacy between perceived teacher support and student engagement. This design was theoretically related to the study's goal of understanding both direct and indirect relationships among the variables at the university level.

3.2 Population and Sample

The populations of this study were the undergraduate students of three universities. These students were chosen because they were often seen interacting with teachers and participating in classroom learning activities. The participants were selected by convenience sampling technique which was based on accessibility, availability and willingness to participate. Convenience sampling

was deemed appropriate because of time and resource constraints. A total of 216 undergraduate students from three universities with various academic programs and departments were included in the final sample. The inclusion of students from several universities increased the sample diversity and increased the generalizability of the findings.

Table 1

Population and Sample Distribution of Undergraduate Students

Faculty/Department	Population (N)	Sample (n)
Education	95	49
Social Sciences	110	66
Arts and Humanities	70	36
Science	80	41
Management Sciences	45	24
Total	400	216

3.3 Instrumentation

A structured questionnaire was used as the data collection tool for the study. The instrument was divided into four major parts. The first part gathered demographic data such as gender, age, academic year, and department. The second section assessed perceived teacher support. Academic self-efficacy was evaluated in the third section. The fourth part assessed student engagement.

All items were rated on a Likert scale with participants marking their agreement with each item. This scaling method was used to systematically quantify participants' perceptions and experiences. The instruments used to measure the constructs in this study were developed by well-known researchers in the field of educational psychology. The instrument and scale properties are described in Table 2.

Table 2

Measurement Scales Used for Research Variables

Variable	Instrument/Scale	Source
Perceived Teacher Support	Teacher Support Scale	Tschannen-Moran & Hoy (2001)
Academic Self-Efficacy	Academic Self-Efficacy Scale	Zimmerman (2000)
Student Engagement	Student Engagement Scale	Fredricks, Blumenfeld & Paris (2004)

The perception of teacher support is a measure of students' views about teachers' support. The Academic Self-Efficacy Scale measures students' confidence in their academic abilities. Students' engagement in academic pursuits was measured with the Student Engagement Scale.

For the validity, reliability and credibility of the study, standardized and validated scales were used which were adapted from previous studies in the field of educational psychology. The justifications for the use of established instruments were based on the fact that the instruments have been used in previous studies and has acceptable psychometric properties, and are appropriate for measuring the constructs being studied. Instrument reliability was determined by Cronbach Alpha coefficient.

Table 3

Reliability Analysis of the Research Instrument

Variables	No. of Items	Cronbach's Alpha
Perceived Teacher Support	10	.84
Academic Self-Efficacy	8	.81
Student Engagement	12	.87
Overall Instrument	30	.85

From Table 3, it is evident that all constructs have a reliability rating of acceptable to high. With Cronbach Alpha values above 0.70, the instrument can be recommended as reliable for collecting data. An expert evaluation was conducted to determine the content validity of the instrument, as well as a pilot study to clarify ambiguous items. The research findings were enhanced with the use of standardized instruments as well as reliability tests to ensure their accuracy, validity, and overall quality.

3.4 Data Collection

A systematic approach to data collection was employed to enhance the accuracy and reliability of the findings. It was assured to respondents that the information gathered would remain confidential and that it would not be used in any other way except for academic research purposes. As part of the data collection process, the researcher provided clear instructions on how to fill out the questionnaire and was also available to answer any question or concern that the participants may have during the process of collecting the information. After the questionnaires were filled out, the responses were thoroughly scrutinized to make sure they were complete and accurate so that it could proceed with the next step.

4. Data Analysis and Interpretation

The data collected were screened for accuracy and suitability for statistical analysis before the main analysis. Data screening included the examination of missing data, outliers, and statistical assumptions. This is a preliminary step in quantitative research as it enhances the quality of data and the validity of further analysis.

The missing values were checked for incompleteness and cases with large amounts of missing data were excluded from analysis. Standardized scores

and boxplots were used to determine the outliers, which may affect the results. Prior to conducting correlation, regression and mediation analyses, assumptions of normality, linearity, homoscedasticity, and multicollinearity were tested. Normality was checked using skewness and kurtosis values, linearity was checked using scatterplots, homoscedasticity was checked using residual plots and multicollinearity was checked using tolerance and Variance Inflation Factor (VIF) values. The results showed that all the assumptions were well satisfied.

A total of 216 full-time undergraduate university students were included in the final dataset. The responses to perceived teacher support, academic self-efficacy, and student engagement were summarized using descriptive statistics such as means and standard deviations. Internal consistency of each scale was also evaluated by reliability analysis using Cronbach's alpha. The Cronbach's alpha values of > .70 are considered to be acceptable reliability.

Pearson correlation analysis was performed to analyze the relationships between the study variables in inferential analysis. Multiple regression analysis was used to explore the predictive relationship between perceived teacher support and academic self-efficacy and student engagement. In addition, mediation analysis was conducted to explore the mediation effect of academic self-efficacy between perceived teacher support and student engagement.

SPSS was used to analyze the data, and the PROCESS macro for mediation testing was developed by (Hayes, 2015). SPSS was chosen because it offers reliable descriptive, correlational, and regression analyses, and PROCESS is popular for testing mediation and indirect effects in social science research. The significance level used was 0.05.

Table 4

Means, Standard Deviations, Reliabilities, and Intercorrelations for Study Variables

Variable	M	SD	α	1	2	3
Teacher support	4.75	0.59	0.87	—		
Academic self-efficacy	3.87	0.69	0.83	.74**	—	
Student engagement	4.02	0.61	0.78	.75**	.79**	—

Multi-item scales with reliability coefficients over 0.70 indicate strong internal consistency. All three main variables are correlated positively and significantly. Student engagement was strongly correlated with teacher support (r=0.74, p=0.001). Student engagement was also positively correlated with academic self-efficacy (r = .79, p = .01), supporting initial hypothesis 2.

Table 5
Linear regression between Teacher Support and Student Engagement

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Sig.
1	.360[a]	.183	.160	.97024	.000
Predictors: (Constant), Teacher Support					
		Unstandardized Coefficients	Standardized Coefficients	T	Sig.
		B	Standard error	Beta	
(Constant)		1.644	.271		7.668	.000
Teacher Support		.642	.068	.360	7.845	.000

Dependent Variable: Student Engagement

Student Engagement is linearly related to Teacher Support. ANOVA results indicate that the model fits well. Student Engagement and Teacher Support are significantly correlated (R-square = t). It is statistically significant that Teacher Support influence Student Engagement by 18.3% (R-square = .183). By increasing Teacher Support by one unit, Student Engagement will increase by .642 units. The Teacher Support of university teachers and their Student Engagement are significantly correlated. Therefore, H1 is accepted.

Table 6
Linear regression between Teacher Support and Academic Self-Efficacy

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Sig.
1	.367[a]	.168	.142	1.04974	.000
a. Predictors: (Constant), Teacher Support					
		Unstandardized Coefficients	Standardized Coefficients	T	Sig.
		B	Standard error	Beta	
(Constant)		2.008	.233		8.696	.000
Teacher Support		.664	.073	.378	7.685	.000

Dependent Variable: Academic Self-Efficacy

There is a positive correlation between Teacher Support and Academic Self-Efficacy in Table 6. ANOVA shows that the model is well fitted statistically. Academic Self-Efficacy is significantly affected by Teachers' Support by 16.8% (R-square =.168, B =.664, 0.001). For every unit increase in

teaching competency, Academic Self-Efficacy increases by 664 units. Teacher Support and Academic Self-Efficacy are positively correlated. In this case, H_2 is acceptable.

Table 7

Linear regression between Academic Self-Efficacy and Student Engagement

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Sig.
1	.869[a]	.197	.739	.49855	.000
a. Predictors: (Constant), Academic Self-Efficacy					

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Standard error	Beta		
(Constant)	.495	.098		5.545	.000
Academic Self-Efficacy	.479	.032	.895	32.378	.000

Dependent Variable: Student Engagement

Student Engagement and Academic Self-Efficacy are positively correlated among university teachers. A significant ANOVA indicates a well-fitted model in this study. The unstandardized coefficients for student engagement by soft skill are significant and positive (B =.479, 0.001) with a variance of 19.7%. Students Engagement will change by 0.479 units for every change in Academic Self-Efficacy. Student Engagement and Academic Self-Efficacy appear to be correlated, according to the study. Therefore, H_3 has been accepted.

Table 8

Mediation Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sign.
		B	Standard error	Beta		
1	(Constant)	1.478	.219		6.985	.000
	Teacher Support	.672	.068	.580	6.695	.000
	Dependent Variable: Student Engagement					
2	(Constant)	2.007	.231		6.638	.000
	Teacher Support	.545	.073	.577	7.623	.000
	Dependent Variable: Academic Self-Efficacy					
3	(Constant)	.098	.118		.892	.408
	Teacher Support	.076	.036	.061	2.959	.046
	Academic Self-Efficacy	.720	.024	.886	33.942	.000

Dependent Variable: Student Engagement

Academic Self-Efficacy mediates the relationship between Teacher Support and Student Engagement in Table 8. Model 1 is significant (0.001) with a positive standardized coefficient. Student Self-Efficacy is positively related to Teacher Support in Model 2 (beta = 0.577, 0.001). Teacher Support and Student Engagement are reduced by 0.061 (indirect effect) in Model 3. The relationship between Teacher Support and Student Engagement is ideal through Academic Self-Efficacy. 0.325 (0.367 x 0.886) mediates the effect. Academic Self-Efficacy mediates Student Engagement and Teacher Support. H_4 is therefore accepted.

5. Discussion and Conclusion

Previous theoretical and empirical work in educational psychology is consistent with hypothesized relationships. The findings of this study support Hypothesis 1, demonstrating a positive correlation between teacher support and student engagement. Positive school conditions encourage students to participate in school activities. Motivation, commitment, and engagement at work are strongly influenced by perceived organizational and collegial support (Skaalvik & Skaalvik, 2014). The Job Demands-Resources model relies on social and institutional support to prevent burnout and motivate employees.

Academic self-efficacy and teacher support correlated significantly. Self-efficacy beliefs are increased by verbal persuasion, social support, and mastery experiences as stated in Social Cognitive Theory. Institutional and collegial support enhances teachers' confidence in their academic and instructional competencies. Tschannen-Moran and Hoy (2001) study also found that supportive environments increase self-efficacy beliefs. A high correlation exists between Academic Self-Efficacy and Student Engagement. The hypothesis 3 was correct. Therefore, teachers' self-efficacy is strongly related to their involvement in their jobs. Research has shown that self-efficacy leads to perseverance, effort, and emotional engagement in teaching and learning (Bandura, 1997; Xu et al., 2023). Moreover, it has been found to be an important psychological variable for motivation and involvement.

In this study, hypothesis 4 provides the most significant contribution, showing that Academic Self-Efficacy mediates Teacher Support and Student Engagement. Student Engagement is affected directly by Teacher Support, but also indirectly by Academic Self-Efficacy improvement. Based on Social Cognitive Theory, this observation aligns with self-efficacy beliefs, which are cognitive processes that influence behavior (Bandura, 1997). According to empirical studies (Skaalvik & Skaalvik, 2014), self-efficacy mediates the relationship between contextual support and work-related engagement. A key component of Student Engagement and Academic Self-Efficacy improvement is

Teacher Support, with Academic Self-Efficacy being a fundamental psychological pathway. To increase students' confidence and interest in HEIs, it is important to create conducive learning environment.

6. Recommendations

Following recommendations are being anticipated on the basis of findings of the study:

1. Universities may motivate instructors to establish positive and supportive classroom conditions that promote the emotional and academic well-being of students. Positive teacher behavior enhances students' confidence and increases their active participation in the learning process.
2. Teachers may require training programs and professional development workshops to strengthen their communication skills, mentoring abilities, and supportive teaching practices.
3. Educational policymakers and universities may need to establish student-centered teaching methods that encourage active learning, cooperation, and participation in classroom activities.

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