

Understanding the Impact of Social Support on Academic Engagement: The Mediating Role of Academic Self-Efficacy

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Abstract: Currently, most undergraduates face insufficient learning motivation and inadequate academic engagement, two conditions that are jointly affected by external environmental elements as well as personal psychological factors. The present research examines the shaping effect of perceived social support on students' academic engagement, and investigates the mediating pathway of academic self-efficacy within this correlational link. The main findings are as follows: First, the three constructs—perceived social support, academic self-efficacy, and academic engagement—exhibited significant positive pairwise correlations. Academic self-efficacy served as a partial mediator in the relationship between perceived social support and academic engagement. Perceived social support exerted a direct positive predictive effect on both academic engagement and academic self-efficacy, and indirectly and positively influenced academic engagement via academic self-efficacy. Secondly, significant differences were observed across the variables depending on whether students held student leadership positions; those in such roles scored significantly higher than their peers in terms of perceived social support, academic self-efficacy and level of academic engagement.

Keywords: Perceived Social Support; Academic Self-efficacy; Academic Engagement; University Students.

1. Introduction

1.1. Research Background

Against the backdrop of high-quality development in higher education, increasing attention is being paid to the academic performance and quality of university students; Whether college students devote themselves fully to their studies directly shows their academic performance. Numerous factors affect how much effort students put into learning. The care and help students sense from people around them is an important external factor that pushes them to learn actively. At the same time, students' belief in their own learning capacity acts as an internal driving force linking external support and learning state. Earlier research reveals that both factors can make students more willing to concentrate on their schoolwork, and academic self-belief serves as a partial mediator between supportive resources and learning engagement. Even so, most existing studies target primary and secondary students or undergraduates majoring in special education; few systematic studies have centered on ordinary college students. Accordingly, examining how perceived social support shapes academic engagement within the sample of regular undergraduates and confirming the mediating mechanism possessed by academic self-efficacy bears great theoretical and practical significance for boosting undergraduates' academic performance.

1.2. Significance of the Study

1.2.1. Theoretical Significance

By taking general university students as the research subjects, this study fills the gap left by existing research, which has largely concentrated on primary and secondary school pupils and university students specialising in special education. Additionally, this study expands the research boundary of the interactive connections among the three

variables, and delivers solid empirical evidence for follow-up related academic research.

1.2.2. Practical Significance

Through a questionnaire survey of general university students, this study examines and analyses the mediating role of perceived social support, academic self-efficacy and academic engagement. These results can help colleges adjust work to match students' psychological traits, whilst also guiding students to proactively seek social support and, by combining this with their own academic self-efficacy, effectively enhance their level of academic engagement and improve academic performance.

2. Conceptual Definitions and Literature Review

2.1. Definition of Core Concepts

2.1.1. Perceived Social Support

Social support is generally categorised into two types based on its nature. The first is actual social support, which refers to the concrete acts of assistance received by an individual from others in the external environment and belongs to the objective level. The second category is perceived social support. It means people's thoughts and expectations of social support at a subjective cognitive level.

Xiao Shuiyuan classified social support into two distinct categories: objective tangible assistance existing in reality, and emotional comfort experienced subjectively by individuals [1]. The subjective form of support refers to the inner psychological experience of being respected, cared for and understood within interpersonal connections. Such connotation is highly consistent with perceived social support, as both concepts focus on individuals' subjective inner feelings.

Ye Junjie sorted out the conceptual distinction between

perceived social support and actually obtained social support in his research targeting college students[2].He explained perceived social support has two parts: people's judgments on available outside help and their personal beliefs about whether they can receive supportive resources.

By organizing prior academic studies about the conceptual connotations of perceived social support and taking the present research's participants into consideration, perceived social support as defined in this article describes undergraduates' inner feelings of being respected, supported and understood in daily social connections, together with their anticipation of obtainable external support resources.

2.1.2. Academic Self-Efficacy

The distinguished psychologist Bandura from the United States originally put forward the concept of self-efficacy, which illustrates people's personal subjective evaluation of their capacity to carry out a specific achievement-directed behavior successfully. Regarded as a derived concept of self-efficacy, academic self-efficacy mainly concentrates on learning environments; it represents the self-evaluation formed by students when they encounter learning tasks.

Liang Yusong claims that academic self-efficacy comprises two separate subdimensions: self-efficacy for learning ability and self-efficacy for learning behaviour[3].He further gave respective interpretations of the two dimensions.

In the research finished by Zajacova and other scholars , they note that academic self-efficacy means learners' inner belief that they are capable of finishing various school assignments[4].

Drawing on prior conceptual definitions and the research participants of the present study, the current investigation characterizes academic self-efficacy as undergraduates' subjective judgment and confidence in their capability to finish diverse academic assignments smoothly within daily learning scenarios.

2.1.3. Learning Engagement

Fredricks argues that learning engagement is a multidimensional construct, comprising primarily behavioural, affective and cognitive engagement[5].

While developing the measurement scale for undergraduates' learning engagement, Liao Youguo put forward that learning engagement serves as a core factor determining students' academic outcomes and proposed a three-dimensional classification[6]. The behavioral dimension centers on undergraduates' real participation in in-class learning and after-school study activities. The affective dimension focuses on positive inner feelings generated during learning, and the cognitive dimension reflects learners' flexible use of diverse cognitive study methods.

Based on massive student surveys across 311 undergraduate colleges nationwide, Guo Jianpeng and other researchers also verified that learning engagement can effectively predict students' academic performance[7]. Differing from the three-factor structure, this research integrated indicators and only separated learning engagement into two categories: affective engagement and behavioral engagement.

When taking the undergraduate participants of the current survey as the research basis, learning involvement refers to three types of manifestations shown throughout learning processes: students' observable study conduct, the deployment of various cognitive methods, and their inner subjective feelings. This indicator is further categorized into three major dimensions including behavioral engagement,

emotional experience and cognitive input.

2.2. Current State of Research Previous research

2.2.1. Perceived Social Support and Academic Self-Efficacy

Su Jinxing's research shows perceived social support can boost students' academic self-efficacy, and perceived employability works as an intermediary factor[8]. When college students gain plenty of help from parents, teachers and classmates, they are more confident in their study skills.

He Ailin's team also did research on undergraduates and proved these two factors are closely and positively related. Students who feel lots of surrounding support will have higher learning confidence.

2.2.2. Perceived Social Support and Learning Engagement

Research conducted by Yang Ze's team revealed that perceived social support can affect students' learning engagement in two separate ways. It has a direct positive impact, and it also works indirectly by improving people's ability to delay instant satisfaction.

A series of meta-analysis data reported by Wu Jiahui's research group proved that students who feel richer social support will invest more energy into schoolwork, and these two variables show obvious positive correlations with each other.

2.2.3. Academic Self-Efficacy and Academic Engagement

Zhang Yeren's team handed out questionnaires to college students . Their results suggested most students scored a little over average in learning engagement and academic self-efficacy, and the two factors had a clear positive link.

Zhang Mingkai's group looked into students' learning confidence and study efforts[9]. They split academic self-efficacy into two simple sections. Both sections can well predict how much energy students put into learning.

2.2.4. The Relationship between Perceived Social Support, Academic Self-Efficacy and Learning Engagement

Taking special education majors as research subjects, there are two ways for perceived social support to affect students' learning engagement according to Zhang Haoran's research; academic self-efficacy serves as the medium to produce its indirect influence [10].

3. Research Design

3.1. Research Participants

College students served as the research participants. We distributed 301 questionnaires and retained 215 valid copies after filtering out unqualified questionnaires, yielding a valid response rate of 71.43%. All participants joined the survey voluntarily. The collected data are true and reliable, which can be adopted for follow-up statistical analysis.

3.2. Research Instruments

'Perceived Social Support Scale'

The perceived social support measuring instrument utilized in this investigation was modified by Yan Biaobin and Zheng Xue, whose revision work was built on the initial scale developed by Jiang Qianjin [11]. The original scale's three classification labels—supervisors, kinfolk and workmates—were replaced with teachers, classmates and family relatives

in the updated edition. This measuring tool has been widely applied within undergraduate samples. Twelve test entries make up the whole questionnaire, which falls into three subscales measuring family-based support, peer companionship support and other external supportive resources separately. All items adopt a five-level Likert scoring framework, with one point standing for total disagreement and five points referring to full agreement. The Cronbach's α value calculated from collected questionnaire data reached 0.856, which proves the scale possesses favorable internal consistency reliability.

Academic Self-Efficacy Scale

We adopted the Academic Self-Efficacy Scale compiled by Liang Yusong in this research[3]. This questionnaire contains 22 questions split into two parts, namely confidence in academic ability and confidence in study conduct, with eleven questions for each section. Respondents answered on a five-level Likert scale, where higher points stand for greater belief in one's school abilities. The scale's Cronbach's α value reached 0.859 within the present research, which proves its stable internal consistency.

'Learning Engagement Scale'

This study utilised the University Students' Learning Engagement Questionnaire developed by Liao Youguo [6]. Three main parts form this questionnaire, covering behavioral, cognitive and emotional involvement—and consists of 20 items in total. All items were rated with five Likert options; larger total values reflect stronger study devotion. This scale obtained a Cronbach's alpha value of 0.923 in our research, proving satisfactory internal reliability.

3.3. Data Processing Methods

A total of 301 original questionnaires were recovered. After data filtering, 215 valid samples were retained. SPSS 25.0 was used to conduct a series of analyses, including reliability and validity testing, descriptive statistics, correlation analysis, regression analysis and mediation effect testing.

4. Analysis of Research Results

4.1. Reliability and Validity Tests of the Scales

A reliability assessment was conducted on three

measurement instruments: the Perceived Social Support Scale, the Academic Self-Efficacy Scale, and the Learning Engagement Scale. We examined their overall reliability and the internal reliability of each dimension one by one.

The Perceived Social Support Scale yielded a Cronbach's α of 0.856. Its three subscales (family support, peer support, other support) had reliability values of 0.827, 0.806 and 0.734.

Regarding the Academic Self-Efficacy Scale, the overall α coefficient reached 0.859. For its sub-dimensions, the learning ability component obtained a value of 0.875, while the learning behaviour component scored 0.657. The latter, though slightly below the commonly cited 0.7 benchmark, remained within tolerable limits.

The Learning Engagement Scale had an overall Cronbach's α of 0.923. Its three parts, behavioural engagement, cognitive engagement and affective engagement, got reliability scores of 0.807, 0.850 and 0.848 separately.

In summary, all scales and their respective dimensions in this study demonstrate good internal consistency reliability, and the measurement results are reliable.

All three measurement scales pass KMO and Bartlett's sphericity tests, with KMO values above 0.8 and significant test results, which meets the prerequisites of factor analysis.

4.2. Descriptive Statistical Analysis

Basic characteristics of university students' perceived social support, academic self-efficacy and learning engagement in this study.

Table 1 records the average scores achieved by undergraduate participants on three core research constructs: perceived social support, academic self-efficacy and learning engagement, which were 45.72, 76.93 and 67.15 respectively. All scores fell within the upper-middle range, indicating that the participating students performed well overall across these three dimensions. From the perspective of individual differences, there was little variation in perceived social support, whilst individual differences in learning engagement were more pronounced. The data for each dimension follow an approximately normal distribution, making them suitable for subsequent analysis.

Table 1. Descriptive Statistics for Each Variable

	N	Minimum	Maximum	Mean	Standard deviation
Perception of social support	215	20.00	58.00	45.7209	6.04549
Academic self-efficacy	215	46.00	97.00	76.9395	9.66790
Learning engagement	215	31.00	93.00	67.1488	11.80275

4.3. Analysis of Demographic Differences

A total of 301 questionnaires were distributed in this research. After screening, invalid questionnaires featuring overly short response duration, careless filling and internally contradictory replies were eliminated, yielding 215 valid samples, with the basic demographic information of research subjects shown in Table 2.

Regarding student leadership roles, 99 participants held such positions, while 116 did not. The sample distributions across groups differed significantly in terms of gender, year of study and academic discipline; future research may optimise sample selection accordingly. However, the distribution between student leaders and non-leaders was relatively balanced. Consequently, this study conducted an independent samples t-test on the variable 'whether a student

leader', with the results shown in Table 3.

Table 2. Basic Profiles of Research Subjects (N=215)

	Category	Count	Percentage
Gender	Male	28	13.0
	Female	187	87.0
Grade	Freshman	16	7.4
	Sophomore	29	13.5
	Junior	58	27.0
	Senior	112	52.1
Academic Discipline	Humanities	94	43.7
	Science	59	27.4
	Engineering	35	16.3
	Art	9	4.2
	Other majors	18	8.4

Table 3. Test of differences in whether students hold student leadership positions

	Yes (N=99)	No (N=116)	t
Perception of Social Support	46.77 ± 6.09	44.83±5.89	2.371*
Academic self-efficacy	78.92±9.32	75.25±9.67	2.818**
Learning engagement	69.57±11.34	65.09±11.84	2.818**

As reflected by the preceding table, undergraduates who served as student cadres obtained higher scores in the three variables: perceived social support, academic self-efficacy and learning engagement, compared with non-cadre students. Significant group divergence was observed in perceived social support ($p < 0.05$), whereas the gaps in academic self-efficacy and learning engagement reached an extremely significant level ($p < 0.01$).

4.4. Correlation Analysis of Variables

Table 4 reports the initial correlational screening of the three focal constructs. Bivariate Pearson coefficients were computed to map the pairwise linkages among perceived social support, academic self-efficacy, and learning engagement.

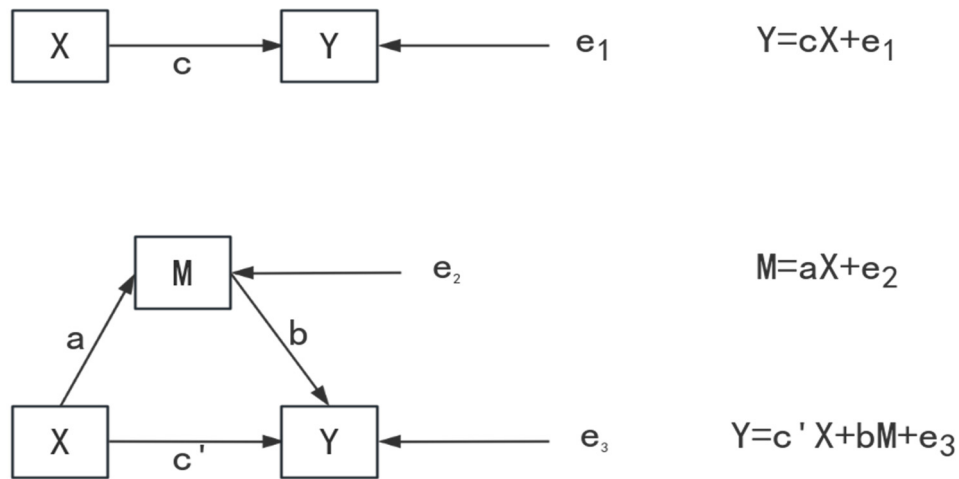
Table 4. Correlation Analysis Among the Variables

	Perceived Social Support	Academic Self-Efficacy	Learning Engagement
Perceived Social Support	1	0.444**	0.423**
Academic self-efficacy		1	0.755**
Learning engagement			1

Bivariate analyses demonstrated that each construct pair shared a significant positive correlation. Perceived social support was associated with academic self-efficacy ($r = 0.444$, $p < 0.01$) and learning engagement ($r = 0.423$, $p < 0.01$), while academic self-efficacy and learning engagement displayed a notably strong positive link ($r = 0.755$, $p < 0.01$). With all pairwise correlations reaching significance, the fundamental conditions for further regression and mediation analyses were met.

4.5. Regression and Mediation Analysis

To test for mediation, this study adopted the procedures outlined by Wen Zhonglin et al., which involve a sequence of three steps: verifying the $X \rightarrow Y$ path, verifying the $X \rightarrow M$ path, and then examining the $X \rightarrow M \rightarrow Y$ indirect pathway [12]. Figure 1 presents the schematic representation of the mediator variable framework.

**Figure 1.** Schematic diagram of the mediation effect test model

Following Wen Zhonglin's three-step mediation procedure, this study performed a series of regression analyses[12]. Step one treated perceived social support as the predictor and learning engagement as the outcome. Step two positioned perceived social support as the predictor with academic self-efficacy serving as the criterion variable. Step three tested the mediation pathway by entering perceived social support and

academic self-efficacy simultaneously as predictors, with learning engagement as the dependent measure.

4.5.1. Regression Analysis of the Relationship between Perceived Social Support and Learning Engagement

Table 5. Regression Analysis of Perceived Social Support and Academic Engagement

Dependent Variable	Independent Variables	R ²	Adjusted R ²	B	F	β	t
Learning effort	Perceived social support	0.179	0.175	0.826	46.450***	0.423	6.815***

Results displayed in Table 5 confirmed a significant positive prediction from perceived social support to academic

engagement ($\beta = 0.423$, $p < 0.001$). Put differently, the more social support students perceived, the higher their academic engagement tended to be.

4.5.2. Regression Analysis of the Relationship between Perceived Social Support and Academic Self-Efficacy

Table 6. Regression analysis of perceived social support and academic self-efficacy

Dependent variable	Independent variables	R ²	Adjusted R ²	B	F	β	t
Academic self-efficacy	Perceived social support	0.198	0.194	0.711	52.440***	0.444	7.242***

Statistical results listed within Table 6 illustrate that perceived social support delivers notable positive predictive power over academic self-efficacy ($\beta = 0.444$, $p < 0.001$). Stated another way, participants possessing elevated levels of perceived social support tend to exhibit enhanced academic

self-efficacy.

4.5.3. Analysis of the Mediating Effects of Perceived Social Support, Academic Self-efficacy and Learning Engagement

Table 7. Analysis of Mediating Effects of Perceived Social Support, Academic Self-Efficacy and Study Engagement

Dependent variable	Independent Variables	R ²	Adjusted R ²	B	F	β	t
Learning engagement	Perceived social support	0.179	0.175	0.826	46.450***	0.423	6.815***
Academic self-efficacy	Perceived social support	0.198	0.194	0.711	52.440***	0.444	7.242***
	Perceived social support			0.212		0.109	2.191*
Academic engagement		0.580	0.576		146.528***		
	Academic self-efficacy			0.863		0.707	14.235***

Table 8. Mediation Effects Standardised Regression Equations

	Regression Equations	t
Step 1	$Y = 0.423X$	6.815***
Step 2	$M = 0.444X$	7.242***
Step 3	$Y = 0.707M + 0.109X$	2.191*
		14.235***

Tables 7 and 8 together demonstrate that undergraduates' academic engagement was positively predicted by perceived social support ($\beta = 0.423$, $p < 0.001$), which also positively

predicted academic self-efficacy ($\beta = 0.444$, $p < 0.001$). In the combined regression model, academic self-efficacy emerged as a robust predictor of academic engagement ($\beta = 0.707$, $p < 0.001$), whereas the coefficient for perceived social support shrank considerably from the prior step ($\beta = 0.109$, $p < 0.05$). This attenuation confirms that academic self-efficacy functions as a partial mediator between perceived social support and academic engagement. Figure 2 illustrates the complete mediating pathways and structural configuration of the research model.

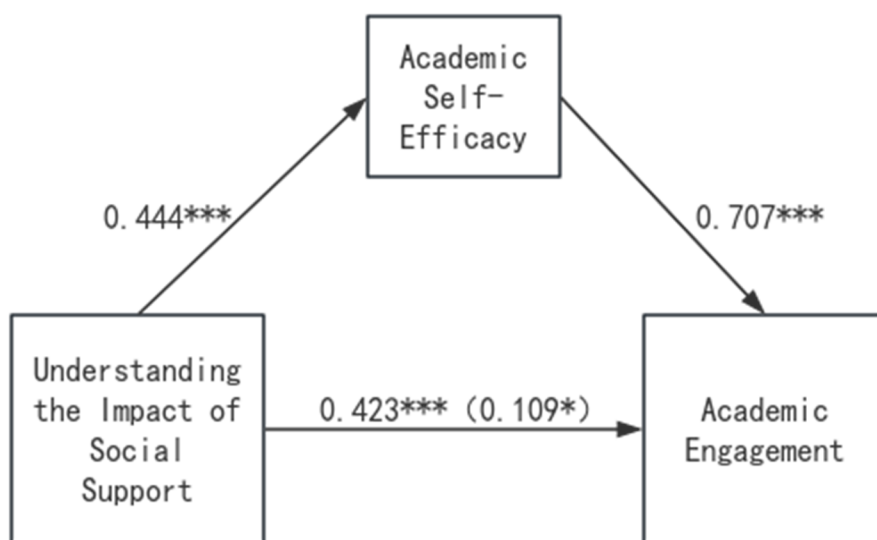


Figure 2. Mediation model of academic self-efficacy between perceived social support and academic engagement

5. Conclusion

A total of 215 college undergraduates took part in this research, and questionnaire measurement was adopted to analyze how perceived social support impacts academic engagement and explore the mediating role of academic self-efficacy. All measurement tools selected for this research showed sound reliability and validity. The statistical outcomes reveal that the overall scores of perceived social support, academic self-efficacy and every subdimension of academic engagement stayed at a medium-high level among the sampled undergraduates; students with cadre positions obtained higher scores in every dimension compared with ordinary students. There were prominent positive correlations between every pair of the three core variables, namely perceived social support, academic self-efficacy and academic engagement. In addition to producing direct effects on undergraduates' academic engagement, perceived social support can also generate indirect effects on academic engagement through academic self-efficacy, and this variable acts as a partial mediating factor connecting the two variables.

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