

# The Relationship Between Academic Self-Efficacy and Perfectionism in College Students: The Mediating Effect of Self-Esteem

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## Abstract:

Perfectionism, as a personality trait and way of thinking, is the result of long-term interaction between college students and the external environment, and is a relatively stable feature of individuals in different situations. This study investigated the relationship between perfectionism, self-esteem, and academic self-efficacy among 359 college students. Specifically, structural equation modeling was used to examine the relationship between perfectionism and academic self-efficacy and the mediating role of self-esteem. The result of the study shows that: (1) self-esteem has a partially mediating effect on the influence of self-efficacy of learning ability on positive and negative perfectionisms; (2) self-esteem also has a partially mediating effect on the influence of self-efficacy of learning behavior on positive and negative perfectionisms. The results of this study have certain theoretical significance for broadening the local empirical research of perfectionism and academic self-efficacy, and play an important role in improving college students' academic self-efficacy.

**Keywords:** Chinese college students, Perfectionism, Self-esteem, Academic self-efficacy, Mediating effect.

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## I. INTRODUCTION

College students are in the early stage of youth, and are gradually transitioning to the mature stage, which is the key stage of individual psychological development. Compared with middle school, college students face more challenges in their study and life. Perfectionism is the way of thinking and personality that individuals pursue perfection in everything. It is a relatively complex psychological tendency and structure<sup>0</sup>. In current research on perfectionism, it is often defined as a way of thinking or a personality trait of pursuing perfection, and as a multidimensional psychological construction.

However, the definition of perfectionism varies from time to time. The earliest one-dimensional view of perfectionism was mainly a negative view, tending to associate perfectionism with psychosis or neuropathy<sup>0</sup>. Research on two-dimensional perfectionism began to focus on the positive aspects of the trait<sup>0</sup>, that is, positive perfectionism. Slaney, Rice and Mobley<sup>0</sup> think that perfectionism is a kind of personality trait with two opposite dimensions, which can be divided into positive and negative aspects. Individuals set high standards for their behavior and performance, and the tendency of individuals to pay attention to neatness and order in doing things is the essential embodiment of the positive aspects of perfectionism. Individuals are aware that there is a gap between their actual performance and the expected goals, and then negative experiences are generated, which is the essential embodiment of the negative aspects of perfectionism. At present, most researchers also tend to divide perfectionism into two opposite aspects: positive perfectionism and negative perfectionism. Among them, individuals with higher level of positive perfectionism have stronger planning and complete organization in their lives, put forward stricter and more reasonable requirements for themselves, become more active and active in the face of challenging tasks, and at the same time be able to put them into more organized behaviors<sup>0</sup>. However, individuals with high level of negative perfectionism are more afraid of failure and prone to self-denial belief when performing tasks, and often hold negative self-cognition level in life<sup>0</sup>.

Self-efficacy is the core of many theories in the field of social cognitive psychology, which was originally proposed by Bandura. According to Bandura<sup>0</sup>, self-efficacy is an individual's self-conscious evaluation and belief on whether he has the ability to carry out certain actions and achieve success. Academic self-efficacy is an individual's subjective evaluation of self-learning ability and behavioral efficacy. Academic self-efficacy has a significant impact on students' academic performance<sup>0</sup>, and also has a significant positive impact on students' goal setting, effort level, and persistence<sup>0</sup>. Academic self-efficacy refers to the confidence and judgment of learners regarding whether they are capable of taking measures to complete learning tasks<sup>0</sup>. Academic self-efficacy is a good predictor of academic performance<sup>0</sup>. Numerous studies have also shown that academic self-efficacy affects learning motivation, learning behavior, and academic achievement<sup>0</sup>. Miao et al<sup>0</sup>. found that there was a significant positive correlation between the positive perfectionism tendency of college students and their academic self-efficacy. At present, perfectionism and academic self-efficacy are divided into different dimensions. Therefore, one of the purposes of this study is to explore the relationship between perfectionism and academic self-efficacy, especially the relationship between their different dimensions.

Self-esteem is one of the important components in the personality structure, and it is an individual's inner experience and perception of self-worth, which is mainly reflected in the individual's self-evaluation<sup>0</sup>. Early experience has an important influence on the formation of individual self-esteem, which will stabilize at a certain level after formation, which is a kind of personality traits. According to the emotional model theory of self-esteem development<sup>0</sup>, self-esteem began to develop in the early stage of individual life and gradually formed. Self-esteem plays a “filter” function in the process of individual

cognition, allowing people to look at their own qualities and experiences through it in their later life and study, so those who feel good about themselves tend to give themselves positive evaluation0.

Perfectionism, a kind of personality traits, has the characteristics of stability, and can have different degrees of direct or indirect influence on individual self-evaluation. Perfectionism and self-esteem are both self-evaluations based on one's own experience and others' evaluations, which have a high correlation0. Individuals with higher levels of perfectionism are mainly characterized by high expectations for their own behaviors, clear and organized behaviors to achieve their goals, and generally have a statistically positive correlation with positive and positive psychological indicators such as self-affirmation, active pursuit of success and high level of self-esteem, while individuals with higher levels of negative perfectionism are generally concerned about mistakes, can't take positive actions in the face of the proposed goals, and generally have a strong correlation with negative psychological states such as lack of self-esteem0. In addition, Self-esteem, as an emotional self-regulating variable related to self-rating, is bound to affect academic self-efficacy. Therefore, it is worth further exploring whether self-esteem plays a role in the relationship between perfectionism and academic self-efficacy.

To sum up, although existing studies have explored the relationship between perfectionism, academic self-efficacy, and self-esteem, relatively few research objects have been college students. College students shoulder the high expectations of their parents and that of society, and tend to pursue perfection and pay more attention to their own performance in various aspects. Based on this, this study explores the relationship between different dimensions of perfectionism and that of academic self-efficacy, and verifies the mediating effect of self-esteem on perfectionism and academic self-efficacy.

## **II. METHOD RESULTS AND DISCUSSION**

### **2.1 Participants and Procedure**

A total of 359 students from a university in Dongguan participated in this study, of which 185 were boys and 174 were girls, and the average age was 20.5 years. Participants complete the questionnaire online, click on the link, and submit it, stating that if they agree. All student responses were anonymous. Participants will receive a small amount of payment after completing the questionnaire.

### **2.2 Measures**

#### **2.2.1 Frost multidimensional perfectionism scale (FMPS)**

The Frost multidimensional perfectionism scale was adapted by Zi and Zhou, which can measure the typical cognitive, emotional, and behavioral manifestations of perfectionism. The questionnaire included

27 items. All measurements from strongly disagree (1) to strongly agree (5) use the 5-point Likert scale. In the previous investigation, all measures have been used and verified. This scale has two dimensions: positive perfectionism (organization) and negative perfectionism (concern over mistake, parental expectation, parental criticism, personal standards, and doubts about actions).

### 2.2.2 Academic self-efficacy scale

In this study, the scale of academic self-efficacy based on Pintrich and De Groot<sup>0</sup> and compiled by Liang<sup>0</sup> was used, with a total of 22 items, including self-efficacy of learning ability and self-efficacy of learning behavior, with 11 items in each dimension. Self-efficacy of learning ability refers to the degree of self-confidence that individuals can use their own learning skills to complete their studies and achieve good results. Self-efficacy of learning behavior refers to the individual's confidence that he can achieve the expected learning goals. All measurements from strongly disagree (1) to strongly agree (5) use the 5-point Likert scale. The higher the score of the scale, the higher the sense of academic self-efficacy.

### 2.2.3 Self-esteem scale (SES)

Rosenberg<sup>0</sup> developed the Self-Esteem Scale (SES). It was first applied to evaluate the overall degree of self-worth and self-acceptance of teenagers. At present, it is the most widely used self-esteem measurement tool in the field of psychology in China. There are 10 items in this scale: 5 items with positive score and 5 with negative score. With the convenience of measurement fully taken into account in the design, the subjects directly indicated whether these descriptions corresponded to themselves.

## 2.3 Results

### 2.3.1 Test of common method bias

In order to avoid the common method bias, Harman's one-factor test is adopted to test the common method bias of the data in this study<sup>0</sup>. The results show that there are seven factors with eigenvalues values > 1, and the variance explanation rate of the first principal component factor is 35.642% (<40%)<sup>0</sup>.

### 2.3.2 An analysis of descriptive and correlation

All scales have good reliability, and all variables show a significant correlation, indicating that positive perfectionism, negative perfectionism, self-esteem, self-efficacy of learning ability and self-efficacy of learning behavior are closely related (as shown in table I).

**TABLE I. Descriptive analysis and correlation analysis**

	PP	NP	SELA	SELB	SE
PP	—				
NP	-.746**	—			
SELA	.639**	-.564**	—		
SELB	.536**	-.570**	.758**	—	
SE	.533**	-.660**	.654**	.548**	—
Mean	23.62	82.85	43.56	43.48	31.48
S.D	5.85	19.56	10.36	10.53	6.75
Reliability	0.92	0.97	0.95	0.96	0.94

Annotation: PP (positive perfectionism), NP (negative perfectionism), SELA (self-efficacy of learning ability), SELB (self-efficacy of learning behavior), SE (self-esteem)\*\*  $p < 0.01$

### 2.3.3 An analysis of the mediating effect of self-esteem on self-efficacy of learning ability and perfectionism

In this study, the maximum likelihood method was used for confirmatory factor analysis. Amos 22.0 was used to conduct confirmatory factor analysis on variables; the model is as shown in Figure 1 and Figure 2.

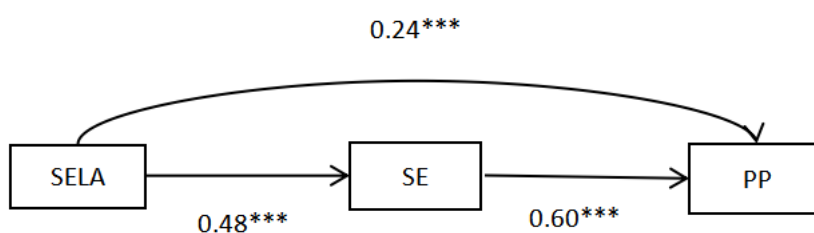


Fig 1: mediating model of sela and college students' pp

Annotation: PP (positive perfectionism), NP (negative perfectionism), SELA (self-efficacy of learning ability), SE (self-esteem)\*\*\*  $p < 0.001$

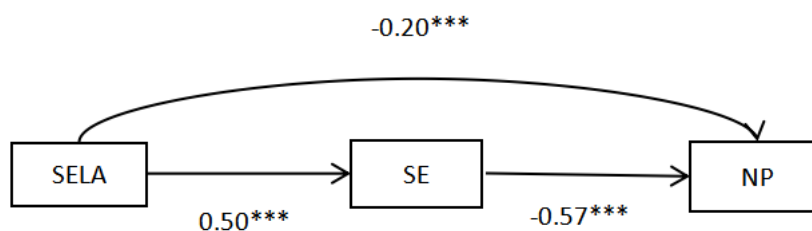


Fig 2: mediating model of SELA and college students' NP

Annotation: PP (positive perfectionism), NP (negative perfectionism), SELA (self-efficacy of learning ability), SE (self-esteem)\*\*\*  $p < 0.001$

Self-efficacy of learning ability has a significant positive predictive effect on the positive perfectionism of college students ( $\beta=0.24$ ,  $P<0.001$ ), and 95% CI[0.19, 0.26]. From Figure 1, we can find that the intermediary path of self-efficacy of learning ability→self-esteem→positive perfectionism is significant. The total mediating effect value (size) is 0.29 (54.72%).

Self-efficacy of learning ability has a significant negative predictive effect on negative perfectionism of college students ( $\beta=-0.20$ ,  $P<0.001$ ), with 95% CI [-0.19,-0.06]. From Figure 2, we can find that the mediating path of self-efficacy of learning ability→self-esteem→negative perfectionism is also significant. The total mediating effect value (size) is -0.29(59.18%).

#### 2.3.4 An analysis of the mediating effect of self-esteem on self-efficacy of learning behavior and perfectionism

In this study, the maximum likelihood method was used for confirmatory factor analysis. Amos 22.0 was used to conduct confirmatory factor analysis on variables; the model is as shown in Figure 3 and Figure 4.

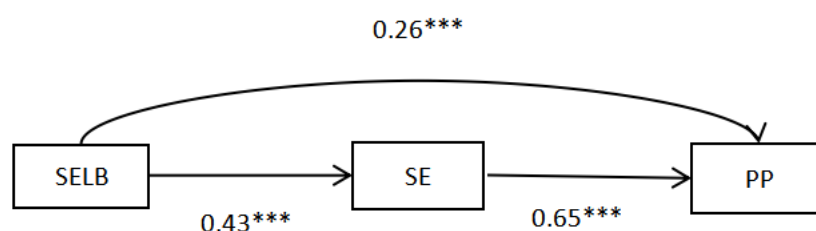


Fig 3: mediating model of SELB and college students'PP

Annotation: PP (positive perfectionism), NP (negative perfectionism), SELB (self-efficacy of learning behavior), SE (self-esteem) \*\*\*  $p < 0.001$

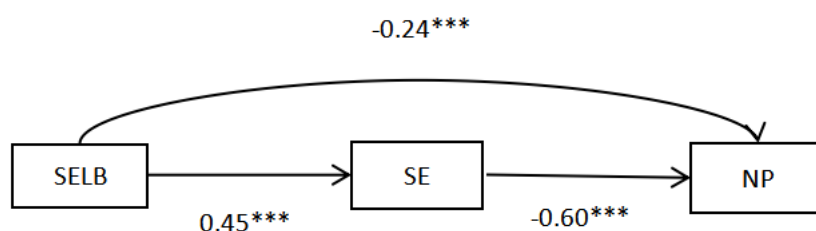


Fig 4: Mediating model of SELB and college students' NP

Annotation: PP (positive perfectionism), NP (negative perfectionism), SELB (self-efficacy of learning behavior), SE (self-esteem)\*\*\*  $p < 0.001$

Self-efficacy of learning behavior has a significant positive predictive effect on positive perfectionism of college students ( $\beta=0.26$ ,  $P<0.001$ ), and 95% CI [0.17, 0.28]. From Figure 3, we can find that the intermediary path of Self-efficacy of learning behavior→self-esteem→positive perfectionism is significant. The total mediating effect value (size) is 0.28(51.85%).

Self-efficacy of learning behavior has a significant negative predictive effect on negative perfectionism of college students ( $\beta=-0.24$ ,  $P<0.001$ ), with 95% CI [-0.21, -0.11]. From Figure 4, we can find that the mediating path of Self-efficacy of learning behavior→self-esteem→negative perfectionism is also significant. The total mediating effect value (size) is -0.27 (52.94%).

In conclusion, self-esteem has a partially mediating effect on the influence of self-efficacy of learning ability and self-efficacy of learning behavior on positive perfectionism. Self-esteem also has a partially mediating effect in the influence of self-efficacy of learning ability and self-efficacy of learning behavior on negative perfectionism.

## 2.4 Discussion

This study found that both positive perfectionism and negative perfectionism were correlated with self-esteem, suggesting that both closely correlated with college students' self-esteem. This shows that both positive and negative evaluations of college students can have an impact on their sense of academic self-efficacy. In general, college students with higher self-esteem will maintain a higher sense of academic self-efficacy in order to have a high sense of self-worth and gain respect from others. They will also have stronger learning stimulation and motivation, and have more confidence and better judgment in completing learning tasks. This is consistent with the results of this study.

The establishment of structural equation model and the results of path analysis verify the mediating effect of self-esteem. First, self-esteem plays a partially mediating role in the two dimensions of academic self-efficacy (self-efficacy of learning ability and self-efficacy of learning behavior) and positive perfectionism. This shows that individuals with higher learning self-efficacy in college have good organization. Individuals with high academic self-efficacy will actively learn in an orderly way through various adjustment strategies to win the respect of others and set up their own positive and reasonable goals. Second, self-esteem also plays a part in mediating the two dimensions of academic self-efficacy (self-efficacy of learning ability and self-efficacy of learning behavior) and negative perfectionism. Therefore, when college students have a low sense of academic self-efficacy, they think



that they will be unable to deal with problems encountered in learning, resulting in a negative state and lower self-esteem. When college students have a high sense of academic self-efficacy, they do not hesitate to actively face problems and focus their attention and efforts on the process of solving them, which can enhance their self-esteem. The mediating role of college students' self-esteem inspires us in that we can not only cultivate their higher sense of academic self-efficacy by establishing the image of positive perfectionism for positive self-reinforcement but also cultivate and improve their sense of self-esteem.

### **III. CONCLUSION**

This study found that all dimensions of academic self-efficacy can influence positive perfectionism and negative perfectionism through the mediation of self-esteem. Frost's perfectionism focuses more on the causes of perfectionism than on its nature. Therefore, future research may choose to use the three-dimensional perfectionism defined by Suddarth and Slaney, which focuses on the nature of perfectionism. Although this study found that self-esteem is a unified continuum, related studies also found that self-esteem actually contains two independent dimensions of self-affirmation and self-depreciation, and the functions of the two dimensions are different in different dimensions of perfectionism and academic self-efficacy. Therefore, different dimensions of self-esteem can be brought into the structural equation model in future studies to further explore the relationship between different dimensions of self-esteem, perfectionism, and academic self-efficacy. The structural equation model established by AMOS is a model based only on sample data. This study did not verify the external validity of the model. Therefore, in future research, we can randomly divide the sample into two parts, one for the construction and modification of the model, and the other for the verification of the model.

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