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The Effect of Parental Expectations on High School Students' Test Anxiety: The Mediating Role of Academic Self-efficacy

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Abstract: Test anxiety among high school students and its influencing factors have been widely concerned by researchers from all walks of life and various fields. While parental expectations are a remarkable family environment element affecting text anxiety of high school students, academic self-efficacy, as an individual factor, has a more direct impact on test anxiety. The research explores the correlation model between parents' expectations and text anxiety using parental expectations as a family environment factor and academic self-efficacy as an individual factor, to reveal the mechanism of parental expectations and academic self-efficacy affecting test anxiety of high school students. In the research, select 420 students from high school as subjects using a cluster sampling way. The Parental Expectations Scale, Test Anxiety Scale, and Academic Self-Efficacy Scale were used to conduct questionnaire surveys and structural equation model analysis was used for data analysis. The results showed: (1) High school students' parental expectations can indirectly influence test anxiety via the mediation of academic self-efficacy; (2) Academic self-efficacy mediates the association between parental expectations and text anxiety; (3) Parental expectations and test anxiety, academic self-efficacy, self-efficacy of academic competence, and efficacy of academic conduct were significantly and positively correlated; (4) test anxiety, academic self-efficacy and academic competence efficacy were significantly negatively correlated.

Keywords: Parental expectations, Test anxiety, Academic self-efficacy, Mediating effect

1. Introduction

The college entrance examination is a significant crossroads on the road to the future for high school students, which directly affects the future direction of high school students. Test anxiety is a vital issue that plagues numerous high school students. These high school students are unable to give play

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to their normal level due to test anxiety, which affects their physical and mental health as well as their future development.

Parental expectations, as one of the crucial family environment factors, influence high school students' test performance and anxiety. However, parental expectations have received little attention from domestic researchers in this area, and Ming illustrated that academic self-efficacy played a mediating role in parental expectations and academic emotions [1]. It can be seen that academic self-efficacy can impact individuals' emotional changes. Could individual parental expectations also indirectly affect test anxiety in an exam situation through the mediation of academic self-efficacy? There is no definitive conclusion on this issue at present, and this study will explore the factors that influence test anxiety from the viewpoint of the combined effects of human and environmental. Thus, it is of great theoretical value and practical guidance implications to lay the theoretical foundation for further helping high school students to alleviate their test anxiety problems.

1.1. Parental Expectations

There is currently no uniform definition of the concept of parental expectations. Some scholars' opinions on this concept are based on parents' own knowledge and experience. Another part of scholars defines the concept with more emphasis on the content of expectations, that is, the expectation that future children will achieve good development. For instance, Hou focuses on the future educational level and achievements of children [2], while Song et al. similarly focus on the future educational level of children and their assumptions and expectations in terms of their abilities and careers [3]. As can be seen through the above, parental expectations are a subjective variable, which is formed in the family environment, reflecting the value orientations in the parental role, and has a direct relationship with the purpose and direction of family education. And parental expectations have an impact on children's behavioral motivations. Combining the above views, parental expectations are parents' requirements and wonderful wishes for the future development of their children, which are mainly based on their parents' subjective inclinations.

1.2. Test Anxiety

Anxiety is a relatively common emotional state, which refers to an adaptive or defensive response of an individual in a certain situation. In contrast, there is no uniform definition of test anxiety. Generally, scholars believe that test anxiety is an anxious emotional experience that arises in the test situation. Test anxiety contains multiple dimensions, and the physiological, cognitive, environmental, and other aspects are closely related to the generation of test anxiety. The definitions of test anxiety by domestic and international scholars also focus on these aspects.

1.3. Academic Self-efficacy

The concept of academic self-efficacy is an entity's subjective judgment of one's own ability to learn. There is a consensus among domestic and international scholars on this concept. Wilhite, a foreign scholar, proposes that academic self-efficacy is a kind of ability judgment of students about themselves, and it is the performance result of judging whether they can control their learning. Academic self-efficacy is the prediction of students' capacity to accomplish studying assignments and put into practice particular studying campaigns in learning activities [4]. Chinese scholars also have resemblant views. Liang defines this concept as an individual's confidence and judgment of one's own capacity to accomplish academic assignments [5]. As for our research, academic self-efficacy was defined by Liang [5].

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1.4. Relationship Between the Three Variables

For the relationship between parents' expectations and test anxiety. In Abelard's research, the parents of the subjects not only emphasized the significance of academic performance like most parents, but also believed that the purpose of obtaining high scores is not merely to make their children outperform others, especially when there is a risk that their children will become anxious, and they will not ask their children to pursue high grades blindly. Therefore, these children not only achieve better grades but also do not show anxious behavior. On the other hand, some parents only pay attention to their children's grades and demand that their children pursue high grades without caring about how interested they are in learning or how good their ability to learn is. Test anxiety occurs when individuals want to meet unrealistic expectations from the environment or themselves [6].

For the correlation between academic self-efficacy and test anxiety. Many scholars in the field believe that academic self-efficacy is one of the significant elements affecting test anxiety. Individuals with lower levels of test anxiety because of higher learning ability self-efficacy and learning behavior self-efficacy [7]. Yang found that the academic self-efficacy of high school students can have a strong predictive effect on test anxiety [8].

As for triadic relation, Jiao showed that parental expectations, academic self-efficacy, and academic text anxiety were significantly related among high school students; academic self-efficacy can sign academic test anxiety, and parental expectations influenced academic test anxiety by affecting academic self-efficacy; and the impact of parents' expectations on academic anxiety was moderated by academic self-efficacy [1]. Hence, academic self-efficacy plays a fully mediating role in parental expectations and text anxiety.

1.5. The Current Study

This study has two objectives: (1) Exploring the impact of high school students' parental expectations on test anxiety. (2) Exploring the mediating effect of academic self-efficacy on parental expectations and examination worry. The following hypotheses are put forward: (1) Parental expectations are correlated with high school students' test anxiety. (2) Academic self-efficacy mediates the connection between parental expectations and test anxiety.

2. Method

2.1. Participants and Procedure

A total of 420 students from grade one to grade three were selected for the study. In the light of gender, there were 158 males and 257 women. The average age was 17. Our study adopted the method of an online questionnaire. We take the high school students as the test object, issue a questionnaire to them on the Internet, fill in the questionnaire and submit it directly on the Internet.

2.2. Measures

2.2.1. Parental Expectation

Developed the Parental Expectations Assessment Questionnaire which is about parents' expectations of their children's academic performance and future education [9, 10]. There are 20 questions on this scale, each question has four choices (from 1 to 4). According to their situation to choose the most suitable for their own, all the questions add up to the total score on the scale. Parents' high expectations for their children lead to students' high scores on the scale. Cronbach's alpha coefficient of the parental Expectation scale is 0.850. It showed good reliability of the scale.

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2.2.2. Academic Self-efficacy

The questionnaire was used by Liang who come from Central China Normal University and Produced the Academic self-efficacy Scale [5]. This scale is referred to some of the dimensions from the academic self-efficacy questionnaire developed by Pinirich and DeGroot. Self-efficacy of learning ability and self-efficacy of learning behavior are two independent dimensions of self-efficacy of learning [11]. Self-efficacy of learning ability deals with the speculations and judgments made by individuals on whether they are capable of completing learning tasks to achieve good results. Self-efficacy of learning behavior refers to the speculations and judgments made by individuals on their ability to achieve learning goals. There are 11 questions for each dimension and 22 questions in total. The Cronbach's alpha coefficient of academic self-efficacy is 0.953, the Cronbach's alpha coefficient of learning ability efficacy is 0.939, and the Cronbach's alpha coefficient of learning behavior efficacy is 0.897. It showed good reliability of the scale. The scale uses a five-point scale of "1" to "5" from "very inconsistent" to "very consistent." The scale total score is the total of the scores for all subscale items. The score corresponds to the level of academic self-efficacy. The level of individual academic self-efficacy will increase with the increase in score.

2.2.3. Test Anxiety

Test anxiety, compiled by American psychologist Sarason Irwin in 1978, is one of the most widely used test anxiety scales in the world [12]. The Chinese version translated by Wang Caikang is used in this study. TAS consists of 37 topics, including worry, emotionality, physical arousal, and tension. All questions are graded from 1 to 0. For each question, students answer yes or no according to their real situation. One point for "yes" and zero for "no". Sections 3, 15, 26, 27, and 33 are scored in reverse, so "yes" gets 0 points, "no" gets 1 point. TAS only figures the absolute score table, and the total score is calculated by adding up the scores of the 37 items. Newman proposes that TAS scores below 12 have low test anxiety, a score of 12 to 20 is considered moderate, while a score of 20 or more is considered high. A score of 15 or above indicates that the student has experienced a considerable degree of discomfort associated with taking the test. The Cronbach's alpha coefficient of TAS is 0.900. It showed good reliability of the scale.

2.3. Common Method Bias

In the research, Haman's single element measurement is used to test corporate method bias. This analysis showed that factor all the original questions together, seventeen factors with characteristic roots greater than 1 were extracted, the first factor explained 16.771% of the variation, below The critical value of 40%. It indicates that there is no serious common method bias in the data.

3. Results

3.1. Descriptive statistics and Correlation Analysis

Pearson correlation analyses were conducted on parental expectations, test anxiety, academic self-efficacy, academic competence efficacy, and academic behavioral efficacy and concluded, as shown in Table 1, that parental expectations and test anxiety, academic self-efficacy, academic competence efficacy, and academic behavioral efficacy were significant positive correlation. In addition, test anxiety was significantly and negatively correlated with academic self-efficacy and academic competence efficacy.

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Table 1: Descriptive statistics and interrelations among all observed variables.

	M	SD	1.	2.	3.	4.	5.
1. Parental expectations	60.67	7.67	-				
2. Text anxiety	21.36	8.57	0.18**	-			
3. Academic self-efficacy	77.54	14.11	0.29**	-0.16**	-		
4. Sense of academic competence efficacy	39.44	7.83	0.25**	-0.22**	0.96**	-	
5. Academic behavioral efficacy	38.10	7.01	0.31**	-0.06	0.95**	0.81**	-

3.2. Analysis of Mediating Effects

In testing the intermediary role of academic self-efficacy, a stratified regression was used, placing the independent variable parental expectations in the first stratum and, finally, academic self-efficacy in the second stratum. The results are shown in Table 2 and Figure 1.

Table 2: Regression analysis results of parental expectations and academic self-efficacy on test anxiety.

steps	The regression equation		β	t	R^2	F
	Y	X				
1	Test anxiety	parental expectations	-	-	-	-
2	Academic self-efficacy	parental expectations	0.29	6.20**	0.01	38.38**
3	Test anxiety	parental expectations	0.24	4.87**	0.08	17.22**
		Academic self-efficacy	-0.23	-4.56**		

The consequence in the table above indicates that parental expectations as the independent variable had a significant positive predictive effect on the dependent variable test anxiety. After controlling for the effect of the independent variable on the dependent variable, the mediating variable academic self-efficacy had a significant effect on the dependent variable, meaning that after controlling for parental expectations, academic self-efficacy significantly and negatively affected test anxiety. On the side, the results of the regression test of parental expectations on academic self-efficacy indicated that parental expectations had a significant positive predictive effect on academic self-efficacy. In summary, academic self-efficacy half mediated the prediction of parental expectations on text anxiety.

In addition, the 95% confidence interval for the mediation effect was estimated using the PROCESS plug-in from a sample of 5000 Bootstrap samples, and the mediation model derived above was tested. The mediating effect was tested for significance based on whether the 95% confidence interval contained 0. If the confidence interval did not contain 0, the mediating effect was significant, and if it did contain 0, the mediating effect was not significant [13]. The results of the Bootstrap test in this study did not include 0 in the upper and lower confidence intervals for the indirect effect of academic self-efficacy (-0.109, -0.033), thus indicating that the mediating effect was significant, meaning that academic self-efficacy partially mediated the prediction of test anxiety by parental expectations.

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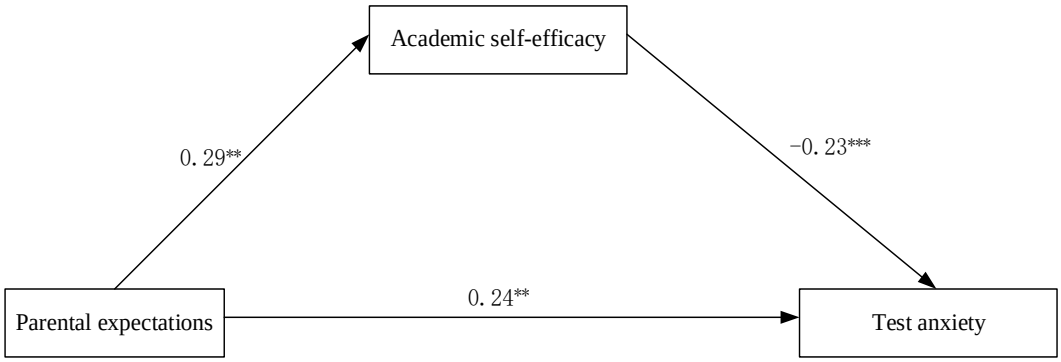

Figure 1: Sequential mediating models.

4. Discussion

4.1. The Relationship Between Parental Expectations and Test Anxiety

Text anxiety is a frequent psychological phenomenon of students in the process of schooling. Moderate pre-test tension helps to correct the attitude of examinations and improve learning efficiency; however, if over-anxious and too much worried, it may affect the normal performance of examinations, and even create doubts and negativity about the results of examinations, and then other problems such as avoidance of examinations and aversion to learning. It was found that in school exams, most students can feel the pressure of the exam, almost 50% of them feel moderate anxiety, and about 30% of them have very high anxiety [10].

This study found that parental expectations were positively associated with test anxiety through Pearson product-difference correlation analysis. This indicates that an increase in the level of parental expectations leads to an increase in the level of individual test anxiety. This result is not consistent with the hypothesis of this study. This study hypothesizes that parental expectation and test anxiety have a U-shaped relationship, i.e., when parental expectation reaches a suitable value, individuals have the lowest test anxiety; too high or too low parental expectation will lead to an increase in test anxiety.

The reasons for test anxiety are related to the existence of a "meritocracy" in outside society, which deliberately exaggerates the impact of tests on students' individual development. It is also closely related to the economic level, cultural environment, member relationships, and parental expectations in students' families. In particular, parental expectations play an important role in Chinese education, and "expecting a son to become a dragon" and "expecting a daughter to become a phoenix" are expressions of parents' good wishes for their children to become better people. However, parental expectations are generally higher than the child's self-expectations, and when the child's sense of academic competence is exceeded, the child may feel unsure or even anxious when he or she has not met the parents' expectations despite their efforts. In this study, it was found that parental expectations had a substantial positive predictive effect on the dependent variable test anxiety; when parental expectations were controlled for, academic self-efficacy significantly and negatively affected test anxiety. In addition, the results of the regression test of parental expectation on academic self-efficacy indicated that parental expectation had a significant positive predictive effect on academic self-efficacy [8].

4.2. Mediation of Academic Self-efficacy

After controlling for the effect of the independent variable on the dependent variable, the mediating variable academic self-efficacy had a significant effect on the dependent variable, meaning that

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academic self-efficacy significantly and negatively affected test anxiety after controlling for parental expectations.

Parents have the same expectations for their children on the test, regardless of whether the results meet the parents' or children's expectations, but there is a difference in the level of anxiety exhibited by the children. The reason for the difference may be related to the parent's attitude towards their children, whether they are only concerned with their children's achievement scores or whether they also take into account their children's psychological condition and level of academic ability. For children, having a high criterion of academic self-efficacy can have a mitigating effect on test anxiety. By reaching their parents' expectations well, they can study hard in pursuit of better academic performance, which will be more positive and confident in their future studies and will be more conducive for them to play comfortably and answer questions calmly in future exams, and produce less test anxiety. In this study, it was found that parental expectations and test anxiety, academic self-efficacy, academic ability efficacy, and academic behavior efficacy were significantly and positively correlated . In addition, test anxiety and academic self-efficacy, and academic competence efficacy were significantly and negatively correlated. This suggests that the mediating effect is significant, meaning that academic self-efficacy partially mediates the prediction of parental expectations on test anxiety [7].

In summary, academic self-efficacy partially mediates the prediction of parental expectations on test anxiety. The mediating effect was significant, meaning that academic self-efficacy mediated the prediction of parents' expectations of text anxiety. This message is that parents should lower their unrealistic expectations of their students, encourage their children to maintain a confident attitude towards learning, and help them to develop a good sense of academic competence, as well as pay attention to their children's learning status and mental health. Students should develop a positive attitude, face difficulties and setbacks in the learning process, and pursue their goals with courage. They should make the best possible use of their abilities in examinations, rather than worrying about the results of failure, and reduce unnecessary text anxiety.

5. Conclusion

High school students' parental expectations can indirectly influence test anxiety via the medium effect of academic self-efficacy. Parental expectations and test anxiety, academic self-efficacy, academic competence efficacy, and academic behavior efficacy are dramatically and emphatically correlated. text anxiety and academic self-efficacy and academic competence efficacy are significantly negatively correlated.

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