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The Impact of College Students' Emotional Intelligence and Achievement Motivation on Test Anxiety: A Case of 3 Colleges at Chongqing

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Authors' contributions

This work was carried out in collaboration between both authors. Author QZ designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors XG managed the analyses of the study. Both authors read and approved the final manuscript.

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ABSTRACT

Test anxiety is a special psychological reaction characterized by worry and tension under the excitation of test situations. In the environment of China's test-oriented education, there is a common phenomenon of test anxiety among students. Test anxiety is particularly acute in the context of the current coronavirus pandemic. It not only affects students' learning, but also has an important impact on their mental health, so the problem of test anxiety cannot be ignored. This

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study starts from the factors that affect test anxiety, explores the relationship between emotional intelligence, achievement motivation, and test anxiety of college students under the current background of the new coronavirus epidemic, and on this basis, discusses the influence of emotional intelligence and achievement motivation on test anxiety.
In this study, the Emotional Intelligence Scale (EIS), Test Anxiety Scale (TAS) and Achievement Motivation Scale (AMS) were used to survey college students in 3 Chongqing universities through questionnaires, and descriptive statistics, variance analysis, correlation analysis, regression Analysis and other methods were used to explore the relationship and influence of college students' emotional intelligence and achievement motivation on test anxiety, and to analyze the influence mechanism of college students' emotional intelligence and achievement motivation on test anxiety.

Keywords: Test anxiety; emotional intelligence; achievement motivation.

1. INTRODUCTION

The 21st century is an era of innovation. Since June 2015, in order to smoothly transform and upgrade China's economic structure, the Chinese government has promoted the implementation of innovation and entrepreneurship on a large scale, which is an inevitable requirement for China to seek innovation-driven development. In this context, innovative talents will be an important human resource to promote social progress. Therefore, the cultivation of innovative talents has attracted more extensive attention from all sectors of society, and the training strategy of innovative talents has become one of the important national strategies. However, the cultivation of innovative talents cannot be achieved overnight, but should start from small childhood. On September 24, 2017, the CPC Central Committee issued the Opinions on Deepening the Reform of Education System and Mechanism, proposing that innovation ability is one of the core abilities that students should have in the new era; Therefore, schools and teachers should "cultivate innovation ability, stimulate students' curiosity, imagination and innovative thinking, develop innovative personality, encourage students to explore, bold attempt, innovation and create".

The education and teaching reform not only come from the development of industry and society, but also from the innovation of the internal theory of pedagogy such as constructivist theory, Dewey's "learning by doing" educational concept, and "student development-centered" educational concepts which are constantly infiltrating, and the traditional teacher-centered infusion teaching is gradually transforming into problem-oriented enlightenment. The purpose of seminar-style teaching is that students can closely combine theoretical study with production practice and scientific research. In the related research on cooperative learning, the researchers found various problems in the process of students' cooperation, including the different levels of participation within the group, the lack of cooperation awareness and lack of initiative of some members; the team level will also appear difficulty in the division of labor, unclear rights and responsibilities of members, or unreasonable collocation of abilities and responsibilities.

At present, the main place for innovative talents cultivation is schools. High-quality school education can lay a solid foundation for the cultivation of excellent innovative talents. Among them, the teachers as the main leader of school education in the process of teaching for students' innovation actively guide, adopt system science teaching methods and education methods. The reasonable planning and design of various campus activities will help to stimulate students' innovation consciousness, cultivate its innovative thinking, exercise its innovative practice ability, and the innovation quality is the key to cultivate innovative talents. Therefore, the premise of doing a good job in innovative education is to improve and stimulate teachers' teaching innovation behavior and improve the overall level of teachers.

Therefore, the construction of teachers has also attracted more and more attention from the government. In early 2018, the CPC Central Committee issued a project on the new era construction of teachers' programmatic document - *On comprehensively deepening new era of teachers' team construction opinions*. It was clear about the key tasks of construction of teachers, one of which is required by 2035, teachers' comprehensive quality, professional level and innovation ability. At the National Education Conference held on Teacher's 2018 Teachers' Day, General Secretary Xi once again proposed to adhere to the construction of comprehensively

deepening reform in the new era of teachers, and create a new situation of teacher team construction. Under the background of building a modern socialist country, the construction of high-quality teachers is an inevitable requirement given by The Times, and promoting teacher teaching innovation is one of the keys to strengthen the level of teachers.

As a practitioner and guide of teaching, teachers' teaching innovation behavior can not only stimulate students' interest in learning, improve the quality of classroom teaching, but also lead students to pay attention to innovative practice. Therefore, it is very necessary to promote teachers' teaching innovation behavior. However, there are many factors that affect teachers' teaching innovation behavior. As individual behaviors, individual subjective factors and external environmental factors will have an interactive effect on teachers' teaching innovation behavior.

At this stage, most of the professional basic courses and professional compulsory or selective courses for undergraduates have course links of cooperative learning, and even some project tasks are a course in themselves. Students have more or less various learning tasks of teamwork nature every semester. If the students' cooperation is not good, it is not conducive to the cultivation of students' teamwork ability, practical ability and professional knowledge.

Test anxiety is affected by many factors, such as family, school, society, individual personality characteristics, cognitive level, emotion, achievement motivation and other personal factors, all of which restrict test anxiety. Paying attention to the test anxiety of college students and exploring the factors that affect test anxiety of college students can promote the better development of college students in their study and life. This study manages to explore the impact of two factors, emotional intelligence and achievement motivation, on college students' test anxiety and the complex relationship between them, and provides suggestions on how to deal with and reduce college students' test anxiety.

1.1 Research Objective

This study has three research objectives as the following.

(1) To study the relationship between college students' test anxiety, emotional intelligence, and achievement motivation on demographic variables.

(2) To study the relationship between college students' emotional intelligence and test anxiety.

(3) To study the relationship between college students' achievement motivation and test anxiety.

1.3 Significance of the Study

At present, there are numerous studies on test anxiety, among which the research on emotional intelligence and test anxiety, achievement motivation and test anxiety are also emerging, but there are few studies on the relationship between the three. At the same time, the impact of emotional intelligence and achievement motivation on test anxiety whether it still holds true among college students remains to be confirmed. This study deeply analyzes the relationship between the three and explores the impact mechanism of emotional intelligence and achievement motivation on college students' test anxiety. Test anxiety provides theoretical guidance and has theoretical significance.

Based on the results of research on the relationship between college students' emotional intelligence, achievement motivation and test anxiety, it will help us consider how to reduce college students' test anxiety from a new perspective, so as to help college students deal with test anxiety in a targeted manner; at the same time, we can further understand students' test anxiety, emotional intelligence, and achievement motivation are important to their physical and mental development. parents, schools, and society should pay more attention to this aspect. Therefore, this study also has important practical significance. It can provide more psychological suggestions on how to deal with students' test anxiety, provide a reference for educators and parents in reducing test anxiety of junior high school students, and help college students clearly understand and deal with your own test anxiety.

2. LITERATURE REVIEW

(1) Definition of test anxiety

Test anxiety is a special psychological reaction to the test. Regarding the concept of test anxiety, foreign scholars Albert and Haber defined test

anxiety as an emotional reaction that can affect test performance in a specific test scenario. Excessively high or low test anxiety will have a negative effect on test scores and have the effect of reducing; moderate test anxiety will have a positive effect on test scores and have the effect of improving. Sarason [1] proposed that test anxiety is a nervous emotional state caused by a high degree of attention to the individual's own evaluation. Individuals with high test anxiety focus on the evaluation of the individual themselves. In the test situation, they think that their abilities are limited, lack confidence, and worry about failure and arouse excessive anxiety; while individuals with low test anxiety focus on the task itself, and do not Will try my best to complete the task through various methods (Zhang Lei, 2016).

Chinese scholar Zheng Richang (1990) pointed out that test anxiety is an individual's feeling of worry and apprehension, defensiveness or avoidance in a specific test-taking situation, impacted by self-evaluation, personality traits and mental state.

Based on the above different points of view, the test anxiety understood in this study is a negative and complex emotional response to the test, which is related to individual cognitive ability or self-evaluation.

(2) Measurement of test anxiety

The most commonly used measures of test anxiety are the Test Anxiety Scale (TAS) compiled by Sarason (1978) and the Test Anxiety Inventory (TAI) compiled by Spielberger (1980). Chinese scholars have translated and revised TAS and TAI, and conducted reliability and validity tests, so that it is suitable for Chinese researches.

The Chinese version of the TAS scale was translated and revised by Wang Caikang (2001). There are 37 items in the scale, and the answers are "yes" and "no". "Yes" gets 1 point, and "no" gets 0 point. Questions 3, 15, 26, 27, 29, and 33 are scored in reverse, and the sum of the scores is the total score of test anxiety. The higher the score, the higher the test anxiety level. This scale has been tested and found to have good reliability and validity and is widely used in China.

TAI is a self-assessment scale with 20 items in total, divided into two dimensions: worry and emotion. The Chinese version of TAI was first tried by Song Weizhen and Zhang Yao in college students in 1987. Ye Renmin (1988) revised the Chinese version of TAI. In 2003, Wang Caikang conducted a research on the reliability and validity of TAI with college students. TAI is also an effective tool for testing test anxiety.

In addition to the two scales translated above, Chinese scholars Li Yan, Zhang Shitong, and Wang Jisheng (2003) compiled a scale of factors affecting test anxiety for middle school students, with a total of 30 items, including five types of factors, namely, unfavorable examination room environment, Disturbances caused by emergencies, individual feelings of inferiority, worries about academic achievement, and concerns about consequences.

(3) Related studies of test anxiety

Test anxiety research has covered a variety of fields, such as the symptoms, causes and interventions of test anxiety, and the most common is the research on the influencing factors of test anxiety, which is divided into personal internal factors, family and social external factors. Research on personal factors and test anxiety: Niu Dandan, Wang Jianguo, Zhu Lei and Cen Guofen (2015) found that self-awareness was negatively correlated with test anxiety, and the lower the level of self-awareness, the more serious the degree of test anxiety. Aybuke, S. S., Gunal, B., & Ekrem, C. (2017) found that gender had an effect on test anxiety, with test anxiety being higher in girls than boys; self-esteem was negatively related to test anxiety, and students with high self-esteem had lower test anxiety. Research by Ouyang Yi (2017) shows that high school self-esteem and resilience of high school students can affect test anxiety, both of which are significantly negatively related to test anxiety, and self-esteem can also affect test anxiety through resilience. Research on family and social factors and test anxiety: Liu Yalin, Cheng Lecheng, Wang Ru and Gao Min (2016) found that parenting style can affect test anxiety, in which the mother excessively interferes and protects their children, the more test anxiety; parents give children more emotional warmth and understanding, the less the test anxiety, so only the correct and positive parenting style can reduce test anxiety. The study of Xu, Lou, Wang, & Pang (2017) found that parents 'psychological control was positively related to test anxiety, which had a negative impact on test anxiety. Students' academic self-efficacy to some extent adjusted the influence of parents' psychological control on test anxiety.

The Clara,Z.etal. (2018) study found that there is a negative correlation between social identity and test anxiety.

2.1 Theoretical Framework

(1) Achievement motivation theory

Achievement motivation is the motivation that people hope to engage in activities that are important to them, difficult, and challenging, to achieve perfect and excellent results and achievements in the activities, and to surpass others. David C. McClelland, a professor at Harvard University in the United States, put forward the theory of achievement motivation in a series of articles in the 1950s through research on people's needs and motivations. McClelland summed up the high-level needs of people as the needs for achievement, power, and affinity. He conducted in-depth research on these three needs, especially the achievement needs. American psychologist John William Atkinson (John William Atkinson) further deepened McClelland's achievement motivation theory in 1963, and proposed an achievement motivation model with wide impact.

Regarding the theory of achievement motivation, McClelland summed up the high-level needs of people as the needs for achievement, power and affinity. Secondly, since people with different needs need different incentive methods, understanding the needs and motivations of employees is conducive to establishing a reasonable incentive mechanism.

Achievement motivation is that an individual pursues the maximization of individual value, or achieves the most perfect state through methods when pursuing self-worth. It is a manifestation of an internal driving force, and it can also directly affect people's behaviors and ways of thinking, and it is a long-term state.

(2) Maslow's hierarchy of needs

Maslow's Hierarchy of Needs is a theory of motivation in psychology that includes a five-level model of human needs, often depicted as levels within a pyramid (1970). From the bottom of the hierarchy upwards, the needs are: physiological (food and clothing), safety (job security), social needs (friendship), esteem, and self-actualization. This five-stage model can be divided into deficiency needs and growth needs. The first four levels to referred as defect requirements (D requirements), while the highest level is known as growth requirements (B requirements). In 1943, Maslow pointed out that people need motivation to fulfill certain needs, and some needs take precedence over others.

The five needs are the most basic, innate, constitute different grades or levels, and become the power to motivate and guide individual behavior. Maslow believed that the lower the level of needs, the greater the strength and the greater the potential. As the level of needs rises, the power of needs decreases accordingly. (Wang, 2019) Lower-order needs must be satisfied before higher-order needs can arise. Low-level needs are directly related to the survival of individuals, also called deficiency needs. When this need is not met, life is directly endangered; high-level needs are not necessary to maintain individual survival, but satisfying this need makes people healthy, longevity, and vigorous energy are called growth needs. High-level needs are more complex than low-level needs, and to meet high-level needs must have good external conditions: social conditions, economic conditions, political conditions, etc.

(3) Anxiety theory

The theory of anxiety is a theory that explains the nature, types, generation mechanisms, and coping methods of anxiety. Anxiety theories fall into two categories because of their differences in psychological perspective. One is the anxiety theory of psychoanalytic psychologists. Represented by Freud's anxiety theory and Horney's anxiety theory. The second is the anxiety theory of mainstream psychology, based on the anxiety learned response theory of behaviorist psychologists and the anxiety theory based on factor analysis proposed by functionalism.

Freud believes that anxiety originates from the conflict between the superego and the ego. Anxiety is a signal of danger in the subconscious. In response to this signal, the ego will use a series of defense mechanisms to prevent those who are not acceptable, then urges and desires enter the conscious level. If the anxiety signaled fails to stimulate the ego's defenses or fails, a persistent state of anxiety or other neurotic symptoms occurs. Anxiety, therefore, is both a product of conflict and an ego effort to resolve it. After Freud, representatives of the psychoanalytic school Horney and Sullivan also put forward their own anxiety theory. Honey believes that she believes that the formation of

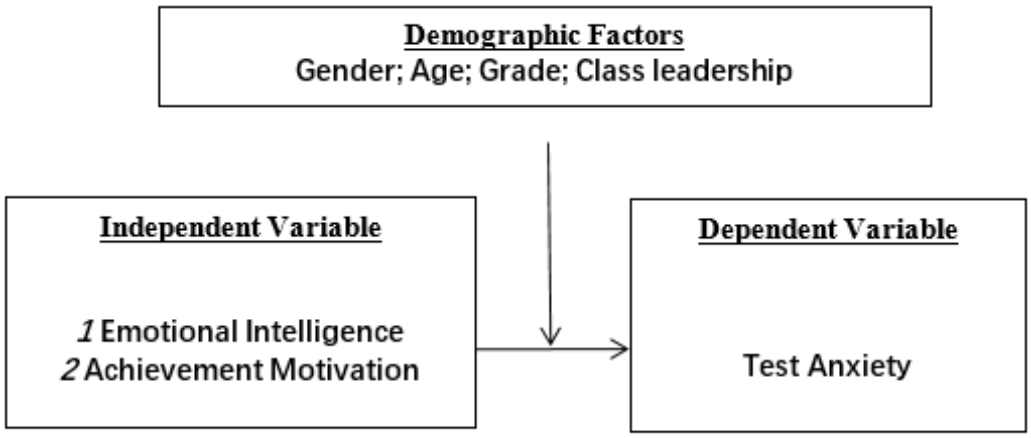

Fig. 1. The hypotheses and conceptual framework in this study

anxiety is divided into three types: (1) primitive anxiety-caused by the separation of children from their parents; (2) panic anxiety-caused by sudden accidents, unfamiliar environments, and scary movies. (3) Anticipation Anxiety - is the anticipation of stressful situations. She believes that anxiety is a feeling of loneliness and helplessness experienced by a person in a hostile world. In Horney's view, the disorder of individual interpersonal relationships, especially the disorder of parent-child relationship, is the basic anxiety. According to Sullivan, "anxiety in the infant is caused when the caregiver exhibits anxious tension". Both Horney and Sullivan believed that anxiety was a fundamental element of neuroses.

2.2 Research Hypothesis

This study proposes the following research hypotheses.

H1: There are significant differences in the demographic variables of college students' test anxiety, emotional intelligence, and achievement motivation.

H2: There is a significant relationship between college students' emotional intelligence and test anxiety.

H3: There is a significant relationship between college students' achievement motivation and test anxiety.

3. METHODOLOGY

Based on previous studies and related theories, this study selects emotional intelligence, achievement motivation, and test anxiety as measurement indicators, and selects the mature questionnaires of previous studies as scales to provide a basis for the formation of this questionnaire and improve the quality of the questionnaire. Scientific, answerable, and clear. Afterward, the questionnaire survey was adopted on the Internet, and the questionnaire was verified according to the reliability and validity test results of the pre-investigation, to determine the indicators and items of the questionnaire.

Data on emotional intelligence, achievement motivation and test anxiety were collected through questionnaires, and the relationships among emotional intelligence, achievement motivation and test anxiety were explored on the basis of literature review and theoretical application. SPSS 23.0 statistical analysis software, frequency analysis, Pearson correlation analysis, linear regression analysis and variance analysis and other analysis methods are analyzed to better study the relationship between the three variables.

This chapter will comprehensively discuss the research methods from the aspects of questionnaire design, sample and sampling, data collection, data analysis and reliability and validity analysis.

In this study, to study these hypotheses, this study made a sampling questionnaire survey at the universities and colleges in Chongqing City, China. The questionnaire was designed with 3 factors with the items of 5-level Likert scale questions and 4 demographic questions. The questionnaire survey was conducted online questionnaire survey because of the Covid-19 Pandemic at the sampling colleges.

The questionnaire data were analyzed by IBM SPSS 23.0 with descriptive analysis, frequency analysis, validity, and reliability analysis. In addition, linear regression and logical regression will study the relationship among the factors base on the research hypotheses.

This chapter included the introduction of population, research design, sampling and data analysis methods, and it firstly made the validity and reliability analysis of the questionnaire data for the further study of correlationship and linear regression of the research variables.

3.1 Samples

(1) The limitation of large-sample research

The sample distribution of this study cannot cover the all situation of the target universities. The survey was conducted among college students majoring in preschool education in three colleges in Chongqing. Due to the limitation of resources and conditions, they all adopted the method of online questionnaire. Within the time frame of filling questionnaires, only 380 valid research samples were obtained. Although the analysis of the data shows that the questionnaire has good reliability and validity, it is difficult to understand the extent to which these samples represent the whole.

(2) Sampling techniques and data extraction limitations

Sampling error using cluster sampling tends to be greater than that of simple random sampling due to greater variation among different majors and classes. The sample distribution is not wide, and the representatives of the sample to the population is relatively poor.

(3) Response errors and non-response errors in the questionnaire

When conducting the questionnaire survey, since the researcher himself is at a sample university, and the research object is my college students majoring in preschool education. The researcher has a lot of teaching contact with the questionnaire object. It is also the master of teaching resources, so it may cause the authenticity problems of the answers to some questions, which may also limit the effectiveness of the questionnaire to a certain extent.

3.2 Sample Size

Using a probability-based sampling method, the sample size can be determined by the overall collection process. The sample size used in the study was determined using the Taro Yamane sample size formula (1973) and sample size determined using 95% confidence level and allowable values. The total sample (n) was 720 individuals. When n= the number of samples used in the study. N= population size, and the error for e= random samples was set at 0.05. The sample size and the calculation formula are given as follows.

$$n = \frac{\mathbf{N}}{\mathbf{1 + Ne^2}}$$

$$n = \frac{\mathbf{720}}{\mathbf{1 + 720 * 0.05^2}}$$

n=257

In order to improve the accuracy and generalizability of the research results, the study was conducted in three universities, all preschool education classes. A total of 380 valid questionnaires were collected from this questionnaire survey.

3.3 Data Collection

720 college students majoring in preschool education in 3 colleges and universities in Chongqing were taken as the population. The online questionnaire was used to form a QR code through the Chinese online questionnaire website - wjx.com, and the questionnaire was distributed to all 720 students, and a total of 510 questionnaires were returned. Through SPSS 23.0 data analysis of variance and data screening, 380 valid questionnaires were obtained.

This questionnaire consists of four parts, personal trait variables, emotional intelligence, achievement motivation and test anxiety. SPSS 23.0 was used to conduct variance analysis on the impact of personal trait classification variables on emotional intelligence, achievement motivation and test anxiety; correlation analysis was carried out on the variable data of emotional intelligence, achievement motivation and test anxiety. Based on the correlation analysis results of emotional intelligence, achievement motivation and text anxiety, linear regression analysis was

carried out with the hypotheses - the dependent variable test anxiety to determine the statistic.

3.4 Construct Measurement

According to the design of this study, the quantitative analysis software SPSS 20.0

(1) Reliability

1) Reliability Analysis

In this study, the internal consistency coefficient (Cronbach alpha coefficient) was chosen as the reliability index. Rong Taisheng (2017) proposed to test the reliability of the three dimensions in the exploratory factor analysis results, and use SPSS 23.0 to calculate the Cronbach a (Alpha) test reliability. When Cronbach a≥0.70, it means high reliability of the questionnaire survey; when 0.35≤Cronbach a<0.70, it means acceptable; Cronbach a<0.35 means low reliability.

The social science data analysis software SPSS 23.0 was used to test the reliability of the three parts of the questionnaire, and the test results are shown in Table 1. It can be seen that the Cronbach a coefficient value of test anxiety is 0.838, the Cronbach a coefficient value of emotional intelligence is 0.766, and the Cronbach a coefficient value of achievement motivation is 0.717. They all higher than 0.7, which indicate that the reliability of the questionnaire is relatively high.

2) Validity

Validity research is used to analyze whether the research questions of the questionnaire are reasonable and meaningful. Validity analysis uses factor analysis to conduct comprehensive analysis to verify the validity level of data through indicators such as KMO value, common degree, variance interpretation rate value, and factor loading coefficient value **(citation?)**. The KMO value is used to judge the suitability of information extraction, the common degree value is used to exclude unreasonable research items, the variance explanation rate value is used to describe the level of information extraction, and the factor loading coefficient is used to measure the corresponding relationship between factors (dimensions) and items (citation?).

In the validity analysis process, the first step requires the calculation and verification of KMO values. The data analysis results show (see Table 2), the KMO value is 0.833>0.6, which indicates that the observed variables are suitable for factor analysis. In the second step, the Chi-square given by the Bartlett's Test of Sphericity is 1282.941, the degree of freedom *df* is 10, P=0.000, and the statistical significance level is less than >0.05, thus rejecting the null hypothesis of the Bartlett's Test of Sphericity. Therefore, the data for this sampling are suitable for factor analysis and further linear regression analysis.

Through exploratory factor analysis, a total of 3 factors were obtained, as shown in the total variance explained rate. These 3 factors explained 17.7%, 17% and 12.7% of the variance of the 28 items respectively - a total of 81.8% of the variance of all items was explained, reflecting most of the original variables and meeting the statistical requirements.

3.5 Research Results

1) Demographic analysis

In this study, 720 college students of preschool education major in 3 universities in Chongqing were the research objects. The online questionnaire survey was used, and questionnaires were distributed to all 720 students. A total of 510 questionnaires were collected.380 validated questionnaires were obtained by SPSS 20.0 data analysis of variance and data screening.

2) T-test

Differences in Demographic Variables of College Students' Test Anxiety

a) Gender differences in college students ' test anxiety

Test and analysis results show that there is a significant gender difference in college students' test anxiety (t=-2.39, p<0.05), and the degree of test anxiety of girls is higher than that of boys.

Table 1. Data analysis result

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
TA	6.6774	1.327	.406	.838	.743
EI	6.7175	.991	.721	.766	
AM	6.8107	1.141	.605	.717	

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.833
Bartlett's Test of Sphericity	Approx. Chi-Square	1282.941
	df	10
	Sig.	.000

Table 3. Test anxiety among male and females

	Male	Female	t
Test anxiety	17.41±7.18	19.10±7.19	-2.39*

*Note: * p<0.05, **p<0.01, *** p<0.001*

3) Grade differences in college students ' test anxiety

One-way ANOVA in Table 3 show that there is no significant grade difference in test anxiety among college students.

	Freshman	Sophomore	Junior	Senior	f
Test anxiety	18.37±7.47	17.55±6.91	18.87±7.28	15.68 ± 5.2 7	1.21

*Note: * p<0.05, **p<0.01, *** p<0.001*

4) College students ' test anxiety and whether they are class cadre

	Class cadre	Non-class cadre	t
Test anxiety	17.09±7.15	19.15±7.18	-2.88**

*Note: * p<0.05, **p<0.01, *** p<0.001*

5) Gender differences in emotional intelligence of college students

	Male	Female	t
Emotional intelligence	3.85±0.42	3.87±0.40	-0.50

*Note: *p<0.05, **p<0.01, *** p<0.001*

6) Grade Differences in College Students ' Emotional Intelligence

	Freshman	sophomore	Junior	Senior	f
Emotional intelligence	3.83±0.41	3.85±0.42	3.88±0.39	3.88 ± 0.49	0.54

*Note: *p<0.05, **p<0.01, *** p<0.001*

7) Differences in Emotional Intelligence of College Students Whether They Are Class cadres or Not

	Class cadre	Non-class cadre	t
Emotional intelligence	3.97±0.39	3.78±0.40	4.68***

*Note: *p<0.05, **p<0.01, ***p<0.001*

8) College Students' Achievement Motivation

	Male	Female	t
Achievement motivation	52.44±8.77	51.79±8.41	0.77

*Note: *p<0.05, **p<0.01, ***p<0.001*

9) Grade differences in achievement motivation of college students

	Freshman	Sophomore	Junior	Senior	f
Achievement motivation	52.37±8.32	52.44±8.16	51.62±9.11	52.63 ±9.12	0.42

*Note: *p<0.05, **p<0.01, ***p<0.001*

10) College students' achievement motivation and whether they are class cadre

	Class cadre	Non-class cadre	t
Achievement motivation	54.04±8.33	50.75±8.51	3.89***

*Note: *p<0.05, **p<0.01, ***p<0.001*

11) Pearson relationship analysis

	Emotional intelligence	Achievement motivation	Test anxiety
Emotional intelligence	1		-0.207**
Achievement motivation	0.613**	1	-0.264**
Test anxiety	-0.207**	-0.264**	1

*Note: * p <0.05, **p<0.01, *** p <0.001*

12) Regression analysis

A: The emotional intelligence has a negative impact on the test anxiety.
B: The achievement motivation has a negative impact on the test anxiety

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	0.937	.118		7.932	.000
	Achievement Motivation	-0.696	.034	.722	20.281	.000

a. Dependent Variable: Test anxiety

4. DISCUSSION

The most used measures of test anxiety are the Test Anxiety Scale (TAS) compiled by Sarason (1978) and the Test Anxiety Inventory (TAI) compiled by Spielberger (1980). Chinese scholars have translated and revised TAS and TAI, and conducted reliability and validity tests, so that it is suitable for Chinese research.

The Chinese version of the TAS scale translated and revised by Wang Caikang (2001). There are 37 items in the scale, and the answers are "yes" and "no". "Yes" gets 1 point, and "no" gets 0 point. Questions 3, 15, 26, 27, 29, and 33 are scored in reverse, and the sum of the scores is the total score of test anxiety. This scale has been tested and found to have good reliability and validity and is widely used in China.

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In addition to the two scales translated above, Chinese scholars Li Yan, Zhang Shitong, and Wang Jisheng (2003) compiled a scale of factors affecting test anxiety for middle school students, with a total of 30 items, including five types of factors, namely, unfavorable examination room environment, Disturbances caused by emergencies, individual feelings of inferiority,

worries about academic achievement, and concerns about consequences.

5. CONCLUSION

There are significant gender differences in college students' test anxiety, and the degree of test anxiety in girls is higher than that in boys. There is no significant grade difference in college students' test anxiety. There is a significant difference in the test anxiety of college students whether they are class cadre or not, and non-class cadre students have more test anxiety than class cadre students. There is no significant gender difference in college students' emotional intelligence and its dimensions. There is no significant difference in emotional intelligence and its dimensions among college students of different grades. Whether they are class cadres or not, there are significant differences in the emotional intelligence of college students, and the scores of class cadres are higher than those of non-class cadres. There is no significant gender difference in the achievement motivation of college students. There is no significant grade difference in college students' pursuit of achievement motivation. There are significant differences in whether college students are class cadres in pursuit of achievement motivation; the pursuit of achievement motivation of class cadres is higher than that of non-class cadres.

College students' test anxiety belongs to moderate test anxiety. The emotional intelligence of college students is well developed, and the overall level is at the upper-middle level. College students have a high level of motivation to pursue achievement.

There was a significant negative correlation with test anxiety. Achievement motivation was significantly negatively correlated with test anxiety. College students' emotional intelligence and achievement motivation affect their test anxiety.

6. RECOMMENDATIONS

Based on the results of this study, the following suggestions for reducing test anxiety are proposed:

1) Actively cope with the test and reduce test anxiety

First, students should have a correct cognition and evaluation of exams and learning. Exams and learning should be aimed at self-improvement rather than external evaluation. Secondly, when students have test anxiety, they should also actively communicate with parents, teachers, peers, etc., to find ways to relieve test anxiety, and to vent and regulate anxiety. At the same time, teachers and parents should also take a positive attitude to care about the test anxiety of college students, guide students to adopt effective learning strategies to improve learning effects, implement individualized teaching, and help students formulate their own learning plans and learning goals, so that they can better play their own level, experience a sense of accomplishment in their studies, and help them overcome the pressure brought about by study and exams instead of adding tangible or intangible pressure to them. Through the difference test, this study also found that the test anxiety of girls and non-class cadre students is higher. Therefore, more attention should be paid to students with high test anxiety, and psychological counseling should be actively used to help them get out of the test anxiety dilemma.

2) Pay attention to the development of emotional intelligence of college students and strengthen the cultivation of emotional intelligence

From the results of this study, emotional intelligence is one of the factors that affect test anxiety, and improving emotional intelligence can help reduce test anxiety. Therefore, teachers, parents, and schools should pay attention to the development of students' emotional intelligence, observe more, communicate more, and guide more based on understanding the development of emotional intelligence of college students, and take corresponding measures to cultivate their emotional intelligence and promote the healthy development of emotional intelligence. The process of cultivating emotional intelligence should be combined with students' learning activities. The activities can be conducted in a unified way organized by the school and teachers, or spontaneously organized by students to improve students' emotional intelligence. For example, through traditional classroom education, students can understand the knowledge related to emotions and strengthen students' cognition of emotions; through experiential education, students can strengthen their ability to understand emotions and express emotions in various situations; Activities, let students relax physically and

mentally, achieve the effect of relieving students' academic pressure and regulating negative emotions, etc. In this study, the emotional intelligence of college students is weak in understanding, reasoning, and expressing emotions of others, which suggests that we should pay attention to the imbalance in the development of emotional intelligence, and achieve symptomatic. Only in this way can it be more effective to improve students' emotional intelligence in an all-round way.

3) Cultivate moderate achievement motivation and overcome fear of failure.

From the results of this study, achievement motivation is another factor that affects test anxiety, but whether it is excessive pursuit of success or avoiding failure, it may have a negative impact on students. Therefore, it is important to reduce college students' test anxiety and cultivate moderate achievement motivation. In the process of cultivating students' achievement motivation, teachers and parents should pay attention to cultivating students to establish a correct self-knowledge on the one hand, and encourage students to evaluate themselves objectively. They should not only see their "short boards", but also find their own "sparkling points", so as to enhance self-confidence and dare to pursue success, and reduce anxiety; on the other hand, guide students to have reasonable attributions to success and failure, and attribute success to other internal, stable, and predictable factors such as ability or hard work when facing success. When students achieve success, they can enhance their recognition of their abilities, improve their self-confidence, and they will not be so nervous when facing exams. When facing failures, they attribute failures to other external factors such as bad luck, unstable, and uncontrollable factors, it is less likely to expect failure in future exams; this study also found that the more inclined to avoid failure, the higher the test anxiety. Therefore, it is necessary to improve students' ability to deal with setbacks and encourage students not to be afraid of failure. Treat failure as experience and transform it into motivation to move forward, alleviate or even finally overcome the fear of failure, thereby reducing the level of motivation to avoid failure, and achieve the effect of reducing test anxiety.

FUTURE PROSPECTIVE

In addition, there are more perspectives to focus on in the prospects for follow-up research.

(1) It is necessary to expand the area and number of sampling, and increase the comparative analysis between different types of samples such as selecting more colleges and universities, and expanding the representativeness of the current situation survey. This study adopts the method of online questionnaires, which can ensure efficient collection of research data, ensure a certain number of samples, and avoid human errors caused by investigators. However, the disadvantage of online questionnaires is that teachers' answers are subjective. The measurement of variables may be biased. Although researchers can choose interviews to obtain a more comprehensive understanding, due to the limited material resources and time of researchers, they are still lacking in this aspect.
It is hoped that in future research, the variables can be observed in a more in-depth combination with school field research, such as observing teachers' teaching in the classroom, conducting practical research on the school climate of the subjects, and interviewing the students taught by the subjects. In the process of practical research, we constantly judge and measure learning outcomes, teachers' achievement motivation and teachers' teaching innovation behavior, to reduce research errors and obtain more accurate and comprehensive conclusions.

(2) It is necessary to investigate the variables and continuously demonstrate the scientific rationality of the study. Therefore, in future research, the research content can be subdivided, the multi-layer linear model can be used for data analysis, and whether different types of school climates have different influences on teachers' teaching innovation behavior, and which aspects of teachers' teaching innovation behavior have different impact, how much impact, etc., so as to put forward more targeted improvement suggestions and measures. For example, the learning outcomes that can be classified into more detailed subgroups.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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