

The Impact of College Students' Psychological Resilience On The Test Anxiety

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ABSTRACT: The study explore the overall situation of university students' resilience and examination anxiety through questionnaire surveys, and further discusses the impact of resilience on examination anxiety in order to provide psychological support for improving university students' resilience and reducing examination anxiety. Therefore, this study surveyed 529 college students using the Adolescent Psychological Resilience Scale and the Examination Anxiety Scale to understand the current state of their resilience and exam anxiety. The following conclusions were drawn : college students have moderate to high levels of resilience and low to moderate levels of exam anxiety; there are significant gender differences in family support and interpersonal help; there are significant grade differences in university students' exam anxiety; resilience and exam anxiety are significantly negatively correlated, and resilience can negatively predict exam anxiety, with emotional control and interpersonal help significantly negatively predicting university students' exam anxiety. Therefore, improving college student is important to reduce their test anxiety.

Keywords - psychological resilience, test anxiety, college student

I. INTRODUCTION

Psychological resilience is a research direction in positive psychology, it has been found that there are great differences in people's responses to social adversities. Even after experiencing the most terrifying situations, it is often found that a large number of people escape serious aftermaths, so people are becoming increasingly concerned with this phenomenon and hope to enhance everyone's resistance to stress and adversity through it [1]. The study of psychological resilience has gained more and more attention and has experienced explosive growth. In just 20 years, the search rate for psychological resilience has increased 200 times [2]. Although the concept of psychological resilience can be generally defined as a person's ability to maintain or restore their mental health in adverse circumstances, and the higher the psychological resilience of a person, the greater their ability to withstand hardships [3-5], the actual definition of psychological resilience is broad. It can roughly be divided into four categories. The first focuses on positive outcomes, the second emphasizes the impact of various positive experiences, the third emphasizes the individual's process of coping with stress and adversity, and the fourth focuses on differences in people's reactions to strong stress and serious adversity[6]. There are also some well-developed experimental studies, such as the Hawaiian study [7], which lasted for 20 years and explored factors from the child's own, family, and social aspects and studied the interaction between these variables. Another example is the Christchurch study [8], which by selecting a group of adolescents who developed multiple problems, identified that childhood experience, family background, and parent characteristics and psychological resilience are related to the increasing risk of various behavioral and mental health problems.

Exam anxiety is a long-standing area of research [9]. The earliest article found on exam anxiety research is located in a study of emotional glycosuria [10], but this is not the beginning of exam anxiety research in the traditional sense. Nowadays, the study of exam anxiety is generally considered to begin with the research by Mandler and Sarason in 1952, where they not only discussed the relationship between drive states and exam anxiety, but also developed a questionnaire on exam anxiety[11], followed by a six-year study that led to the publication of the Test Anxiety Scale for Children (TASC) questionnaire[12]. Although their research had some

limitations due to the dispersed personnel and the limited research background at the time, the appearance of these two questionnaires still illuminated the path of research on exam anxiety, like a lighthouse in a new world. The early research on exam anxiety had some limitations, as later researchers often raised questions about two factors. Spielberger and Liebert's teams both explained this, with Spielberger initially dividing the two factors into brief emotional states and stable personality traits, and Liebert later dividing them into worry and emotionalization [13]. This research propelled the construction of the exam anxiety model, and Spielberger later wrote the TAI scale used in this study based on the mode [14]. At that time, exam anxiety research entered a golden age, and according to statistics, over 1000 articles related to it were published from the first article published by Sarason to the 1980s [9]. Despite a decrease in the publication of literature on exam anxiety after the "golden era", research in this area continues to evolve [15]. Research has shown that exam anxiety is associated with many maladaptive factors and has a positive correlation with the state-trait anxiety inventory, and it is believed that exam anxiety has intricate connections with the environment and anxiety. According to Zeidner's definition in the book, it is generally believed that exam anxiety refers to a range of psychological, physiological, and behavioral responses that accompany concerns about negative consequences or failures in exams or similar assessments [16]. The research on exam anxiety is far from over. Currently, there are studies on exam anxiety and individual achievement goals, self-efficacy, learning skills and test-taking strategies, individual cognition, and parents, among others. There is still a vast space for future research in this direction. The relationship between the two has been studied by previous researchers and it has generally been found that psychological resilience can negatively predict exam anxiety [17] and resilience has a protective effect on anxiety and depression in adolescents [18]. Domestic scholars have also studied the impact of exam anxiety in high school students and psychological resilience and found a negative correlation between the two [19], and Zhou's research found a negative relationship between the two and found differences in resilience based on gender and place of origin. The research by Xiang (2013) also explored the difference between psychological resilience and examination anxiety in both exemplary and non-exemplary high schools, finding that exam anxiety was higher in non-exemplary high schools than the exemplary high schools [20], both were measured using the TAS scale. Zou (2010) used the TAI scale to study examination anxiety among university students and found that it was highly correlated with sleep quality [21].

Although there are not few studies on psychological resilience and examination anxiety, this paper still has unique features. First, the TAS scale uses two points scoring, compared to the four points scoring of the TAI scale. The TAI can accurately understand the psychological condition of the subject, but most of the domestic studies on examination anxiety use the TAS scale. Secondly, most domestic studies focus on examining examination anxiety in primary and high school students, but fewer studies have been conducted on university students. Finally, although previous domestic studies have studied both factors, they mostly examine demographic differences and simply discuss their relationship from a macro perspective. This paper not only studies demographic differences between the two, but also conducts a comprehensive analysis of both factors, not only examining their correlation but also the relationship between their sub-dimensions.

Therefore, in our study, we examined the relationship between resilience and exam anxiety as well as demographic differences between the two through a cross-sectional survey. Specifically, we propose the following hypotheses:

H1: There are demographic differences in the presence of resilience and exam anxiety among college students.

H2: There is a significant correlation between resilience and its sub-dimensions and exam anxiety among college students.

H3: Psychological resilience has a negative predictive effect on exam anxiety among university students.

II. METHOD

2.1. Participants and Procedure

In this study, the subjects were college students from major universities in Jiangxi Province (mainly in Nanchang). The questionnaires were distributed after obtaining the consent of the students and explaining that they would be used for research purposes and that no personal data would be leaked. Among the valid questionnaires received 175 men 239 women, 150 freshmen, 108 sophomores, 129 juniors, 27 seniors, including 228 humanities and social science majors, 186 natural science majors, 166 from urban and 248 from rural areas.

2.2. Measures

2.2.1. Resilience Scale for Chinese Adolescents

The scale [22] used in this study has a total of 27 items. The scale is divided into five factors. The five factors are named according to their meanings, and the internal consistency coefficient of each factor is calculated. F1 - determination, which refers to sticking to the goal, making a plan, and focusing on the problem in a difficult situation, $\alpha = 0.81$; F2 - interpersonal assistance, which means that individuals can get help or express their emotions through meaningful interpersonal relationships, $\alpha = 0.73$; F3 - family support, which

refers to Family's tolerance, respect and supportive attitude, $\alpha = 0.81$, F4 - emotional control, refers to the control and adjustment of emotional fluctuations and pessimism in difficult situations, $\alpha = 0.74$; F5 - positive cognition, refers to the adversity Dialectical view and optimistic attitude, $\alpha=0.71$. The five dimensions reflect the effectiveness of adolescents' cognition, emotion, behavior, and environment in helping them resist adversity and obtain good adaptation in adversity situations. . The scoring method of the scale adopts a 5-point scoring method. The higher the score, the higher the flexibility. The scale has been used in many papers, and the reliability and validity of the scale are good. The Cronbach's alpha for the scale was $\alpha=0.85$, and the internal consistency reliability was 0.83.

2.3. Test Anxiety Inventory

There are 20 questions in the table[14]. The scale uses a 4-point scoring method. The scale factors are divided into Emotionality and Worry. The first factor is relevant to cognition. Candidates are mostly worried about the results of the test. The second factor is emotionality, which is a response enhanced by the autonomic nervous system under stressful situations. It also tests the psychological feelings from the beginning of the test, during the test, and after the test. The undergraduate population of this study. It was first translated and used by Chinese scholars Song and Zhang in the late 1980s and proved that its test-retest reliability was $r=0.70$, and the overall reliability was good with Cronbach's alpha= 0.90 . Later, in the early 20th century, Wang Caikang re-measured its reliability and validity: the Cronbach's alpha of the two subscales of TAI (worry, emotionality) and the total scale were 0.80, 0.84 and 0, respectively 0.90. The TAI scale also had a high positive correlation with TAS and FTA[23].

2.4. Data Analysis

We used SPSS 26.0 for statistical analysis of the data. The first step was to perform descriptive statistics such as mean and standard deviation for each variable. The next step was to test the variables for differences on demographic variables such as urban-rural differences, grade differences, gender differences, and major differences. Thereafter Pearson correlation analysis was conducted to determine the relationship between college students' test anxiety and resilience and its sub-dimensions. The relationship among the sub-dimensions of resilience and test anxiety among college students was examined. Finally, the linear regression relationship between each sub-dimension of resilience and the sub-dimension of test anxiety among college students was analyzed.

III. RESULTS

3.1. Descriptive Results

The collated data were counted for their scores on the main and sub-dimensions, and the descriptive statistics of their mean, standard deviation, maximum and minimum values were also written in Table 1.

Table 1. Descriptive statistics of each variable (N=414)			
	<i>min</i>	<i>max</i>	<i>M±SD</i>
R	41	135	91.07±13.08
D	6	25	17.56±2.88
EC	6	30	18.34±4.26
PC	8	20	14.94±2.37
FS	9	30	20.96±4.02
IA	6	30	19.27±4.49
TA	20	80	40.47±10.07
W	8	32	15.44±4.55
E	8	32	16.40±4.23

* $p < 0.05$, ** $p < 0.01$; *** $p < 0.001$. Note. R = resilience D = determination EC = emotional control IA=interpersonal assistance PC=positive cognition FS=family support TA=Test Anxiety W=Worry E=Emotionality.

The total score of resilience (91.07±13.082), with a minimum value of 41 and a maximum value of 135, shows that in general, the resilience of college students is at an upper-middle level. Regarding the sub-dimensions, it can be seen that the scores of each dimension are in the medium to high-level, with the highest mean value of positive cognition. The score of test anxiety is (40.47±10.068), the minimum value of which is 20 and the maximum value is 80, which indicates that the individual differences in test anxiety among college students are evident. The mean values of all three were slightly lower and were at the lower-middle level,

indicating that college students had low test anxiety 95% range values of test anxiety were 20 to 60.606 (unilateral) after normal distribution analysis, and seven of them had excessive test anxiety.

3.2. Differences examination in different demographic characteristics

After analyzing the data for demographic differences in several dimensions of gender, place of origin, major, and grade, the results are shown in Tables 2-5.

	gender	n	M±SD	t	P
R	male	175	90.01±14.472	-0.928	0.355
	female	239	91.85±11.979		
D	male	175	17.74±3.078	0.696	0.486
	female	239	17.43±2.733		
EC	male	175	18.39±4.576	0.135	0.893
	female	239	18.31±4.034		
PC	male	175	15.33±2.402	1.874	0.063
	female	239	14.66±2.318		
FS	male	175	20.2±4.05	-2.187	0.03*
	female	239	21.51±3.922		
IA	male	175	18.36±4.709	-2.358	0.019*
	female	239	19.93±4.22		
TA	male	175	41.08±11.325	0.699	0.487
	female	239	40.02±9.071		
W	male	175	15.8±4.988	0.902	0.368
	female	239	15.18±4.215		
E	male	175	16.53±4.729	0.342	0.733
	female	239	16.31±3.839		

*p<0.05,** p < 0.01; *** p < 0.001.Note.R = resilience D = determination EC = emotional control IA=interpersonal assistance PC=positive cognition FS=family support TA=Test Anxiety W=Worry E=Emotionality .

The data in Table 2 show significant differences at the gender level in the sub-dimensions of family support and interpersonal assistance, which are subordinate to resilience, family support (p=0.03<0.05) and interpersonal assistance (p=0.016<0.05), with male college students having lower family support (mean score of 20.2) than females (mean score of 21.51) and in interpersonal assistance females (The mean score was 19.93) was slightly higher than that of males (mean score 18.36).

	birthplace	n	M±SD	t	p
R	urban	166	91.44±11.73	0.311	0.756
	rural	248	90.82±13.958		
D	urban	166	17.51±2.648	-0.179	0.858
	rural	248	17.59±3.036		
EC	urban	166	18.49±4.056	0.364	0.717
	rural	248	18.25±4.405		
PC	urban	166	14.76±2.481	-0.834	0.405
	rural	248	15.06±2.297		
FS	urban	166	21±3.76	0.121	0.904

	rural	248	20.93±4.198		
IA	urban	166	19.68±4.873	1.01	0.314
	rural	248	18.99±4.215		
TA	urban	166	39.76±9.853	-0.764	0.446
	rural	248	40.94±10.228		
W	urban	166	15±4.528	0.902	0.286
	rural	248	15.74±4.568		
E	urban	166	16.19±4.185	-0.532	0.596
	rural	248	16.31±4.226		

*p<0.05,** p < .01; *** p < .001.Note.R = resilience D = determination EC = emotional control IA=interpersonal assistance PC=positive cognition FS=family support TA=Test Anxiety W=Worry E=Emotionality .

The analysis of demographic differences in the data led to the following conclusions: There were no significant differences in resilience and test anxiety among college students at the birthplace in table 3.

Table 4. Difference examination in profession (M±SD)

	profession	n	M±SD	t	p
R	social science	228	91.48±13.433	0.467	0.641
	natural science	186	90.57±12.705		
D	social science	228	17.58±2.918	0.075	0.94
	natural science	186	17.54±2.851		
EC	social science	228	18.22±4.418	-0.425	0.672
	natural science	186	18.49±4.078		
PC	social science	228	14.87±2.406	-0.473	0.637
	natural science	186	15.04±2.337		
FS	social science	228	21.01±4.166	0.201	0.841
	natural science	186	20.89±3.854		
IA	social science	228	19.81±4.533	1.8	0.074
	natural science	186	18.6±4.372		
TA	social science	228	40.13±9.444	-0.493	0.623
	natural science	186	40.88±10.827		
W	social science	228	15.35±4.301	-0.295	0.768
	natural science	186	15.56±4.871		
E	social science	228	16.26±3.924	-0.481	0.631
	natural science	mjp	16.57±4.588		

*p<0.05,** p < .01; *** p < .001.Note.R = resilience D = determination EC = emotional control IA=interpersonal assistance PC=positive cognition FS=family support TA=Test Anxiety W=Worry E=Emotionality .

The data in Table 4 show that there is no significant difference between resilience and test anxiety among college students in different professional types.

Table 5. Difference examination in grade (M±SD)

	Freshman	Sophomore	Junior	senior	F	LSD
R	89.46±13.753	90.57±11.137	92.34±12.744	95.83±17.445	1.057	
D	17.26±3.119	17.91±2.62	17.36±2.511	18.75±3.911	1.252	

EC	17.98±4.037	18±4.238	18.68±4.298	20.08±5.265	1.04	
PC	14.63±2.247	15.3±2.255	14.96±2.434	15.17±3.157	0.761	
FS	20.52±4.047	20.85±4.054	21.41±3.86	21.58±4.641	0.595	
IA	19.06±4.717	18.51±4.005	19.93±4.655	20.25±4.137	1.089	
TA	42.98±4.655	40.13±9.848	38.18±9.007	38.83±13.265	2.504*	1>3
W	16.57±4.559	15.4±4.475	14.23±3.995	15.17±6.162	2.738*	1>3
E	17.42±4.205	16.04±4.17	15.71±3.911	15.5±5.351	2.072	

* $p < 0.05$, ** $p < .01$; *** $p < .001$. Note. R = resilience D = determination EC = emotional control IA=interpersonal assistance PC=positive cognition FS=family support TA=Test Anxiety W=Worry E=Emotionality.

On the test anxiety at the grade level, the test anxiety scores of juniors ($M= 38.83$) were significantly lower than those of freshmen ($M=42.98$). The apprehensiveness score of juniors ($M=14.23$) was also smaller than that of freshmen ($M=17.42$). Furthermore, there were no significant differences between men and women in other dimensions in table 5.

3.3. Correlation analysis

In order to investigate the relationship between resilience and test anxiety among college students, a correlation analysis was conducted between resilience and test anxiety and its sub-dimensions, and the results are shown in Table 6.

Table 6. Correlation between resilience and test anxiety

	R	D	EC	PC	FS	IA	TA	W	E
R	1								
D	.706**	1							
EC	.728**	.452**	1						
PC	.623**	.581**	.294**	1					
FS	.762**	.385**	.352**	.413**	1				
IA	.761**	.336**	.411**	.266**	.526**	1			
TA	-.469**	-.284**	-.396**	-.217**	-.345**	-.386**	1		
W	-.426**	-.248**	-.360**	-.213**	-.322**	-.340**	.954**	1	
E	-.456**	-.285**	-.391**	-.205**	-.311**	-.388**	.954**	.846**	1

* $p < 0.05$, ** $p < .01$; *** $p < .001$. Note. R = resilience D = determination EC = emotional control IA=interpersonal assistance PC=positive cognition FS=family support TA=Test Anxiety W=Worry E=Emotionality .

It was concluded that resilience and its sub-dimensions were negatively correlated with test anxiety and its sub-dimensions. The correlation between resilience and test anxiety and its sub-dimensions is high with $r > 0.5$.

while the correlation between resilience and test anxiety is moderate with $0.3 < r < 0.5$ in table 6.

3.4. Regression analysis

The univariate linear regression model was used to explore the relationship between college students' resilience and test anxiety. The final results showed that the regression equation was valid ($F=50.237$ $p < 0.001$). The regression equation of resilience to test anxiety was well fitted, which could negatively predict test anxiety ($B=-0.361$, $t=-7.088$, $p < 0.001$), and explained 21.6% of the variation in table 7.

Table 7. Regression Analysis of Resilience on Test Anxiety

Dependent Variable	Predictors	<i>B</i>	β	<i>T</i>	<i>R</i> ² Change	<i>F</i>
TA	resilience	-0.361	-0.469	-7.088***	0.216	50.237**

Note* $p < 0.05$, ** $p < .01$; *** $p < .001$.

To explore the predictive effect of resilience sub-dimensions on test anxiety among college students, stepwise regression analysis was conducted with resilience dimensions as predictor variables and test anxiety as dependent variable. Because the probability of determination, family support, and positive cognition corresponding to several variables is $F > 0.100$, so they won't enter the equation. Other sub-dimensions F Probability ≤ 0.050 enters the regression equation, and when they enter the regression equation, Adjust R^2 is the largest, and the equation has a significant value, so emotion control and interpersonal assistance enter the regression equation in Table 8. There is no collinear relationship between the two (Tolerance = 0.831 and the $VIF=1.204$), the independent variable residuals are independent (Durbin-Watson=1.840) and the regression equation is valid ($F = 24.486$ $p < 0.001$). Emotional control negatively predicts test anxiety ($B=-0.673$, $t=-3.902$, $p < 0.001$), and interpersonal assistance negatively predicts test anxiety ($B=-0.604$, $t=-3.69$, $p < 0.001$), and both explain 20.8% variance.

Table 8. Stepwise regression analysis of Resilience on Test Anxiety

Dependent Variable	Predictors	<i>B</i>	β	<i>T</i>	<i>R</i> ² Change	<i>F</i>
TA	EC	-0.673	-0.285	-3.902***	0.208	24.486***
	IA	-0.604	-0.269	-3.69***		

* $p < 0.05$, ** $p < .01$; *** $p < .001$. Note. EC = emotional control IA=interpersonal assistance TA=Test Anxiety.

In order to explore the predictive effect of the resilience sub-dimension of college students on each dimension of test anxiety, a stepwise regression analysis was carried out with resilience as the predictor variable and each dimension of test anxiety as the dependent variable in Table 9. For the same reason, when worry was the dependent variable, solely emotion control entered the regression model ($B=-0.385$, $t=-5.142$, $p < 0.001$) and could explain 12.4% of the variance of anxiety. Beside when emotionality is the dependent variable, emotional control and interpersonal assistance enter the regression model, there is no multi-linear problem between the independent variables (Tolerance=0.831, $VIF=1.204$), and there is no correlation between the respective variables (Durbin - Watson=1.818) Emotional control negatively predicted emotionality ($B=-0.276$, $t=-3.812$, $p < 0.001$), and interpersonal assistance negatively predicted emotionality ($B=-0.258$, $t=-3.745$, $p < 0.001$), and the two together explained 20.6% of the variance in emotionality.

Table 9. Stepwise regression analysis of resilience sub-dimension to test anxiety sub-dimension

Dependent Variable	Predictors	<i>B</i>	β	<i>T</i>	<i>R</i> ² Change	<i>F</i>
W	EC	-0.385	-0.36	-5.142***	0.124	26.442***
E	EC	-0.276	-0.278	-3.812***	0.206	24.254***
	IA	-0.258	-0.274	-3.745***		

* $p < 0.05$ ** $p < 0.01$; *** $p < 0.001$. Note. EC = emotional control IA=interpersonal assistance W=Worry E=Emotionality.

IV. CONCLUSION

A conclusion section must be included and should indicate clearly the advantages, limitations, and possible applications of the paper. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

After processing the results, from the perspective of the overall scores of resilience and test anxiety, the overall state of college students' resilience is at the upper-middle level, and the test anxiety of college students is at the lower-middle level. Secondly, there are significant gender differences in family support, male college

students are higher than female college students. The interpersonal assistance of male college students is significantly lower than that of female college students. The freshman test anxiety of college students is larger than that of the junior college student, and the anxiety of the sub-dimension of test anxiety is also significantly greater than that of the junior college student. Finally, there is a significant negative correlation between the resilience of college students and the test anxiety of college students, and resilience plays a negative role in predicting test anxiety.

4.1. Descriptive statistics on resilience and test anxiety

In terms of resilience, it is generally at an upper-middle level. It can be seen that after years of study or life, college students have a strong level of resilience and a high degree of overcoming adversity. There are three sub-dimensions in the period. At the upper-middle level, they are focus, family support, and positive cognition. The mid-term positive cognition score is the highest, indicating that in the daily life of college students, they adhere to goals, make appropriate adjustments and make plans, and have sufficient understanding of the current situation. Positive cognition to deal with adverse environments, and finally to feel the support and help from the family.

For test anxiety, the scores of test anxiety and its sub-dimensions are slightly lower, indicating that college students have low test anxiety, but after analyzing test anxiety by the normal distribution analysis, 7 students have high test anxiety. The test anxiety score is generally low to mid-level. However, what is different from what the society expects is that although the pressure of postgraduate entrance examinations and national civil service examination in society is huge, what is different is that the test anxiety of college students has not increased but stabilized. It is worth noting that there are still some students who under high pressure and their scores are outside the normal range, indicating that some students need correct psychological counseling. Schools and teachers should pour attention to the psychological conditions of these students in time.

4.2. Differences in Demographic Variables of Resilience and Test Anxiety

In the sub-dimensions of resilience male college students have lower family support and interpersonal assistance than female college students, which is in line with studies with stress-buffering effects[25], which include social support, social integration and mastery and have a significant role in reducing mental depression. Especially in girls, social support and emotional investment are two in one. This, coupled with the stronger tendency of girls to communicate emotional secrets, reinforces the conclusions we have drawn. Target found that the sense of security brought by the father or mother increases the likelihood of parent-child secure attachment[25], while in the present society female college students tend to communicate more with their families, get closer to family members, and may be more likely to be helped by family members when they encounter situations such as crises and give more help in their ordinary lives, while according to cultural traditions for, male may be taught to be more independent in their families. According to the cultural tradition, male students may be taught to be more independent in their family life, so they may be more likely to be asked to be more and taught to solve problems independently, so when they encounter a difficult situation, male college students will give priority to solving it by themselves rather than asking for help from family or finding help, so their scores in these two dimensions are lower. Such a gap indicates that male college students receive less help and support from family and friends in today's society, so schools and educators should pay more attention to the mental health of male college students and help them solve their inner anxiety problems.

4.3. Exploring the relationship between college students' resilience and test anxiety

After further correlation analysis and regression, the results were obtained and according to the results of the study resilience had a negative correlation with test anxiety. According to the resilience challenge model[26], changes in stress are much less reflected in changes in adaptive quality when protective factors are present than when they are absent or weak. When college students feel anxious about exams, this Negative life events (NLE) resilience comes into play, which effectively reduces the likelihood of experiencing negative emotions and enhances their ability to recover quickly, even when negative emotions do occur[27]. Therefore, college students with higher resilience are more capable of relieving such anxiety and therefore feel less test anxiety when they encounter an exam.

In the sub-dimensions, according to the study, emotional control and interpersonal assistance explained 20.8% of the variance, with emotional control accounting for 15.2% of the variance, indicating that emotional control and interpersonal assistance of college students negatively and significantly predicted test anxiety, with emotional control being the main factor. Individuals with good emotional control can maintain calm thinking and can solve a series of crisis problems, and when in the situation of test anxiety, having a good amount of emotional control can better control and even alleviate their test anxiety. According to Bandura's self-efficacy theory, one will be more confident at this time, and at the same time, according to Yerkes-Dodson's law, one will have better motivation and the study efficiency so that one can study more intensively, schedule revision

breaks, and thus cope with the exam with ease [28].

The sub-dimension of resilience, at the same time, also played a negative predictive role for the sub-dimension of test anxiety. The sub-dimensions of test anxiety are worry and emotionality, and the sub-dimensions of resilience can negatively predict these two dimensions respectively, in which emotional control has 12.4% of variance for apprehensiveness, and emotional control and interpersonal assistance jointly explain 20.6% of variance for emotionality in which emotional control can predicted 14.8% of the variance. It can be seen that emotional control is the main predictor of test anxiety in terms of the sub-dimensions of test anxiety. According to Spielberger, who developed the questionnaire, test anxiety is considered to be caused by the test situation and is divided into two dimensions: emotionality and worry. The results show that college students feel test anxiety by controlling their emotions to adjust their mindset to relieve their physical and mental anxiety, and the college students with high resilience on the dimension of worry will use to regulate their emotions to make themselves in a good state of mind to deal with the test, while for the emotional dimension, college students may have bad physical and psychological reactions on this dimension, and the college students with high psychological students with a high degree of resilience can usually alleviate their anxiety during exams through emotional regulation or by confiding in friends[29]. It has been shown that worry plays a heavier role in test anxiety than emotionality[30].Therefore, we should pay attention to the alleviation of apprehensiveness and strengthen the positive cognition of college students as a way to mitigate the effects caused by examinations.

4.4. Contributions

Compared with previous studies, most of the domestic studies have focused on high school students, and most of the studies have considered resilience as a mediating factor of other factors. This study focused on the resilience and test anxiety of college students in general and directly related resilience to test anxiety, enriching the research on resilience and test anxiety. The results are consistent with the expectation that improving the resilience of college students can help alleviate their test anxiety, which provides theoretical support and beneficial insight for practitioners in colleges and universities.

4.5. Limitations and Future Research Directions

However, there are some shortcomings in this study, for example, the sample size is relatively small and the data sources are relatively centralized. In future research and studies on resilience and test anxiety, we can consider the cooperation of research and school institutions to expand the scope of research data for large-scale screening. Secondly, there is a large difference in some of the demographic variables of the subjects in the questionnaire, such as the grade level of the students collected, the sum of the number of freshmen and juniors collected in this study is larger than that of sophomores and seniors, and the proportion of the sample should be controlled as much as possible in future studies. Finally, this study is a longitudinal study of the two only for the current time cross-sectional study, and does not take into account whether the impact of psychological flexibility on the examination will change over time, so there are certain limitations, the future direction of research can be considered from this aspect of follow-up research.

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