

RESEARCH ARTICLE

The impact of social support on anxiety among college students majoring in preschool education: The mediating role of psychological resilience

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ABSTRACT

Since the end of the COVID-19 pandemic, many studies have shown that the anxiety level of college students has increased, but there are few studies on the sample of students majoring in preschool education, and the results show that the anxiety level is higher than that of college students in other majors. The basic position of preschool education in the national education system and the integrated training system of preschool teachers make us pay attention to the students of preschool education. The purpose of this study is to study the anxiety status and relieving mechanism of pre-school students. This study is a cross-sectional study design, using an online questionnaire survey method. SPSS 21.0 and its plug-in PROCESS were used to process the data of anxiety, social support and psychological resilience of 971 subjects. The results show that anxiety is negatively correlated with social support and mental toughness, while social support and mental toughness are positively correlated; psychological resilience plays a completely mediating role between social support and anxiety. This study has enriched the research on the mental health level of students majoring in preschool education, and provided guidance for the psychological counseling of students in the school mental health center, which has theoretical significance.

Keywords: social support; anxiety; psychological resilience; college students majoring in preschool education

1. Introduction

Preschool education plays a crucial role in the national education system^[1]. The development of high-quality preschool teachers is essential for the advancement of preschool education^[2]. Establishing an integrated pre- and post-service training system for preschool teachers has been highlighted by the Ministry of Education^[3]. It is imperative to focus on students majoring in preschool education. Recent studies have indicated that the prevalence of anxiety among preschool education students is over 50% since the onset of the COVID-19 pandemic^[4], compared to 20% to 30% among general college students^[5-7]. While moderate anxiety can enhance work and study performance, prolonged and excessive anxiety can lead to various psychological challenges and have serious implications on an individual's physiology and behavior^[8].

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Addressing how to alleviate anxiety levels among preschool education students is a topic that warrants further research.

2. Literature review

Social support is a crucial factor in mitigating emotional issues and serves as a significant indicator for various mental health conditions^[9-11]. It is instrumental in anxiety prevention^[12], and enhancing individual social support can positively impact mental well-being^[11,13].

Studies have shown a negative association between social support and anxiety, with individuals lacking adequate social support being 5 to 6 times more likely to develop anxiety symptoms compared to those with strong social networks^[14].

Psychological Resilience is the ability to adapt successfully to challenging life experiences through mental, emotional, and behavioral flexibility in response to internal and external demands^[15]. Psychological resilience is closely linked to positive mental health outcomes^[16-18], and is considered a reliable predictor of mental health status^[17,19]. Numerous studies have found a negative relationship between the anxiety levels of college students and their psychological resilience, indicating that higher levels of psychological resilience are associated with lower anxiety levels^[20,21].

Previous studies have found a significant relationship between social support and psychological resilience, with social support positively predicting psychological resilience. Perceiving higher levels of social support can enhance an individual's ability to cope with adversity, whereas lower levels of social support can increase an individual's vulnerability to psychological distress^[22-24].

The social support theory of anxiety holds that social support is a buffer for negative emotions, preferring good individual mental health conditions with effective support from others and the society^[25]. Kumpfer The theoretical model points out that the four frameworks of psychological resilience include the external environment, among which the social support and protection factors^[26]. Based on the above two theories, psychological resilience was included as a mediating variable when exploring the influence of social support on anxiety.

In summary, this study takes college students majoring in preschool education as the research subjects to understand the anxiety status of college students after the epidemic, introduce psychological resilience, and deeply explore the impact mechanism of social support on anxiety to effectively alleviate college students' stress anxiety and related intervention research.

3. Methodology

3.1. Sampling process

This study used a convenience sampling method to sample students majoring in preschool education at a university in Weifang, China. First of all, the questionnaire questions were input into the questionnaire star platform, and the answer QR code was generated. Secondly, to communicate with the head teacher about the time of collective measurement, the students who volunteered to participate in the questionnaire survey should fill in the informed consent form, and then go to the classroom to fill in the questionnaire. Finally, two trained teachers of psychology, as the main test, gave unified instructions and answered the questions. The questionnaire survey will last for two weeks (November 20 to December 3, 2023).

3.2. Subjects

All questions were required to be answered before submission, ensuring complete data without missing values. The author then performed data cleaning on the 1, 177 original responses, excluding questionnaires with response times beyond two times the standard deviation, those with over 80% identical answers in a row, and three outliers based on total score. This process aimed to maintain high data quality for empirical analysis. Following data cleaning, 971 valid questionnaires were considered for analysis, with 45 from male participants and 926 from female participants. Specific information can be found in **Table 1**.

Table 1. Basic information distribution table of subjects.

Variable		Educational qualifications			Total (person)
		Junior college	Undergraduate	Junior college to bachelor's degree	
Gender	Boy	15	7	23	45
	Girl	379	218	329	926
Place of birth	Town	81	62	104	247
	Rural area	313	163	248	724
Only child	Yes	54	32	66	152
	No	340	193	286	819
Take academic exams	Yes	112	19	96	227
	No	282	206	256	744
Intern experience	Yes	107	74	278	459
	No	287	151	74	512
Household income	Poor	27	20	26	73
	Generally	311	182	303	796
	Good	56	23	23	102
	Start a business	24	2	5	31
Employment type	Examination	68	100	194	362
	Further education	199	74	95	368
	Employment	88	38	46	172
	Other	15	11	12	38

3.3. Research tools

3.3.1. Social support rating scale

Xiao developed a scale consisting of ten items categorized into three Dimensions ^[27]: objective support, subjective support, and utilization of social support. Participants were asked to choose one of the four options (1-4 points) for each item, with the exception of Article 5 which had options A, B, C, and D. Scores ranged from 1 to 4, with 'none' being 1 point, 'rarely' 2 points, 'generally' 3 points, and 'fully supports' 4 points. Items 6 and 7 were scored 0 points for 'no source' and multiple points for 'the following sources'. The total social support score was calculated by summing the scores of all ten items, with higher scores indicating better social support. The Cronbach's α coefficient for this scale in the current study was reported as 0.70.

3.3.2. Psychological resilience scale

The scale used in this study was revised by Yu and Zhang and consists of 25 items categorized into three dimensions ^[28]: tenacity, strength, and optimism. Participants rated each item on a 5-point Likert scale, with 1=never, 2=rarely, 3=sometimes, 4=often, and 5=always. Higher scores indicate higher levels of psychological resilience. The Cronbach's α coefficient for this scale in our study was 0.93.

3.3.3. Self-rating anxiety scale

The scale used in this study was developed by Zung^[29] and consists of 20 items, with questions 5, 9, 13, 17, and 19 being reverse-scored. Participants rated the frequency of their symptoms over the past seven days using a 4-point Likert scale. A standard score of 50 points was set as the cutoff, with higher scores indicating higher levels of anxiety. The Cronbach's α coefficient for this scale in our study was found to be 0.82.

3.4. Data processing

SPSS 21.0 was employed to handle the data by addressing reverse integration items, missing and extreme values, and conducting standard method deviation tests. Descriptive statistics, variance analysis, and correlation analysis were carried out on the data according to the research objectives. The mediation effect was examined using the PROCESS Macro program developed by Hayes, and the significance of the mediation model was evaluated using the Bootstrap method.

4. Results

4.1. Common method bias test

The data in this study were obtained from self-reports of the subjects, which may introduce common method bias issues. To address this, the Harman univariate test was conducted for common method bias assessment. The unrotated factors analysis revealed that the first common factor explained 21.53% of the variance, which is below the critical threshold of 40%^[30]. Additionally, there were 12 factors with eigenvalues greater than 1, indicating that common method bias was not a significant concern in this study.

4.2. Analysis of the current situation of social support, psychological resilience, and anxiety

4.2.1. Analysis of the current situation of social support

The total score on the social support scale is 38.66, surpassing the theoretical median of 36.5. Lin suggested that scores between 30 to 40 points indicate a relatively satisfactory level of social support³¹, particularly noting that students majoring in preschool education tend to receive higher social support. However, there is uneven development across different dimensions. The total score of 9.03 for objective support falls below the theoretical median of 11.5, while the total score of 21.37 for subjective support exceeds the theoretical median of 17.5. The total score for utilization of social support is 8.25, slightly lower than the theoretical median of 17.5 but still higher than the theoretical value of 7.5. This indicates that college students exhibit well-developed subjective support but weaker objective support. The scores for each dimension of the social support rating scale and their total scores are detailed in **Table 2**.

Table 2. Social support and overall description of each dimension.

Scale name	Number of items	M	SD
Subjective support	4	21.37	3.43
Objective support	3	9.03	2.36
Support utilization	3	8.25	1.68
Social support	25	38.66	5.38

4.2.2. Analysis of the current situation of psychological resilience

The average score of each item on the psychological elasticity scale is calculated to be 3.49, with 3 being the theoretical number used to divide the level of psychological elasticity. As 3.49 is higher than 3, it indicates that the overall psychological elasticity of preschool education students is better than the average

level. The psychological flexibility dimensions are ranked by score from highest to lowest as follows: strength, resilience, and optimism.

Table 3. Psychological flexibility and overall description of each dimension.

Scale name	Number of items	M	SD
Tenacity	13	3.42	0.50
Strength	8	3.65	0.54
Optimism	4	3.39	0.53
Psychological resilience	25	3.49	0.47

4.2.3. Analysis of the current situation of anxiety

The distribution of anxiety levels among students was analyzed based on the SAS standard score. The cutoff values for anxiety levels were defined as less than 50, no anxiety; 50-59, mild anxiety; 60-69, moderate to significant anxiety; greater than 70, severe anxiety ^[32,33]. The results indicated that a higher number of students experienced mild anxiety, followed by fewer students with moderate anxiety, and very few with severe anxiety. The overall trend showed a significant decrease in anxiety levels, reflecting the psychological development of college students. The overall detection rate of anxiety was calculated to be 34.50%.

Table 4. SAS positive detection results.

Education level	Number of people	No anxiety	Mild anxiety	Moderate anxiety	Severe anxiety	The detection rate%
Junior college	394	238	134	22	0	39.59
Undergraduate	225	149	69	6	1	33.78
Junior college to bachelor's degree	352	249	89	14	0	29.26
Total	971	636	292	42	1	34.50

4.3. Analysis of demographic differences in social support, psychological resilience, and anxiety

Independent sample t-tests and one-way ANOVA were conducted to assess the variations in social support, psychological resilience, and anxiety across demographic factors. The results of the independent sample t-test analysis reveal the following: ① A significant difference in social support was found between only children [$t(969)=-3.71$, $p<0.05$], with classmates who are not only children demonstrating significantly higher levels of social support than only children; ② A significant difference in psychological resilience [$t(969)=3.43$, $p<0.05$] was observed between individuals who participated in academic examinations, with the psychological resilience of students who took the academic examination being significantly higher than those who did not register for it; ③ There was a significant difference in anxiety levels related to internship experience [$t(969)=-3.10$, $p<0.05$], indicating that the anxiety levels of students who did not participate in internships were significantly higher than those who did participate in internships.

One-way Analysis of Variance revealed a significant difference in anxiety levels across academic levels ($F(2,968) = 4.46$, $p < 0.05$). Post- hoc analysis indicated that anxiety levels were significantly higher at the junior college level ($M = 37.35$, $SD = 6.50$) compared to individuals with bachelor's degrees ($M = 36.16$, $SD = 7.02$) and those with associate degree-to-bachelor degree ($M = 36.01$, $SD = 6.38$), with no significant difference observed between individuals with bachelor's degrees and those with associate degree-to-bachelor

degree. Furthermore, family income was found to be associated with social support ($F(2,968) = 11.73, p < 0.05$), psychological resilience ($F(2,968) = 6.40, p < 0.05$), and anxiety ($F(2,968) = 5.45, p < 0.05$). Post hoc tests revealed that families with good income had significantly higher levels of social support ($M = 40.19, SD = 5.29$) compared to families with average income ($M = 38.68, SD = 5.34$) and low-income families ($M = 36.25, SD = 5.15$). Similarly, individuals from families with good income exhibited significantly higher psychological resilience ($M = 91.16, SD = 12.75$) than those from families with average income ($M = 86.89, SD = 11.43$) and low-income families ($M = 86.22, SD = 12.47$). However, there was no significant difference in psychological resilience between individuals from families with average income and those from low-income families. Moreover, individuals from low-income families had significantly higher levels of anxiety ($M = 38.96, SD = 7.39$) compared to individuals from families with average income ($M = 36.46, SD = 6.53$) and those from families with good income ($M = 35.87, SD = 6.31$), with no significant difference observed between individual from families with average income and those from families with good income.

③ A notable disparity in psychological resilience is observed among different types of employment [$F(4,966)=3.15, p<0.05$]. Further analysis revealed that individuals undergoing examinations ($M=87.40, SD=11.17$) and those pursuing higher education ($M=88.51, SD=12.14$) exhibit significantly higher levels of psychological toughness compared to individuals in employment ($M=84.92, SD=11.75$). Nevertheless, no significant variance in psychological resilience is found between individuals taking exams and those entering higher education.

Table 5. Demographic difference test results of social support, psychological resilience, and anxiety ($M \pm SD$).

Variable		Social support	Psychologic al resilience	Anxiety
Gender	Boy	38.73 \pm 6.01	90.76 \pm 11.05	36.47 \pm 7.57
	Girl	38.65 \pm 5.35	87.12 \pm 11.73	36.59 \pm 6.56
Place of birth	Town	38.31 \pm 5.77	88.49 \pm 11.70	36.43 \pm 6.59
	Rural area	38.77 \pm 5.23	86.87 \pm 11.71	36.64 \pm 6.61
Whether an only child	Yes	37.09 \pm 6.15	87.47 \pm 11.13	36.01 \pm 6.28
	No	39.02 \pm 5.13	87.19 \pm 11.72	36.90 \pm 6.29
	t	-3.71 ***	0.18	-1.56
Take academic examination	Yes	39.12 \pm 5.69	89.78 \pm 12.87	36.70 \pm 6.61
	No	38.51 \pm 5.27	86.52 \pm 11.25	36.55 \pm 6.61
	t	1.49	3.43 **	0.31
Intern experience	Yes	38.66 \pm 5.45	87.91 \pm 11.73	35.90 \pm 6.56
	No	38.65 \pm 5.31	86.72 \pm 11.69	37.21 \pm 6.59
	t	0.03	1.58	-3.10 **
Education level	Junior college	38.69 \pm 5.36	86.58 \pm 12.27	37.35 \pm 6.50
	Undergraduate	38.71 \pm 5.38	88.13 \pm 11.18	36.16 \pm 7.02
	Junior college to			

Variable		Social support	Psychologic al resilience	Anxiety
Household income	bachelor's degree	38.59 ± 5.40	87.53 ± 11.41	36.01 ± 6.38
	F	0.05	1.37	4.46 *
	Poor	36.25 ± 5.15	86.22 ± 12.47	38.96 ± 7.39
	Generally	38.68 ± 5.34	86.89 ± 11.43	36.46 ± 6.53
	Good	40.19 ± 5.29	91.16 ± 12.75	35.87 ± 6.31
Employment type	F	11.73 ***	6.40 **	5.45 **
	Start a business	40.03 ± 5.59	87.35 ± 13.01	37.68 ± 6.47
	Examination	38.67 ± 5.08	87.40 ± 11.17	36.36 ± 6.46
	Further education	38.89 ± 5.58	88.51 ± 12.14	36.66 ± 6.60
	Employment	38.13 ± 5.24	84.92 ± 11.75	36.71 ± 7.12
	Other	37.50 ± 6.31	84.97 ± 10.00	36.58 ± 5.82
	F	1.53	3.15 *	0.35

Table 5. (continued)

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ The same below.

4.4. Correlation analysis of social support, psychological resilience, and anxiety

The study found a significant positive correlation between social support and psychological resilience among college students majoring in preschool education. Conversely, anxiety was found to have a significant negative correlation with both social support and psychological resilience. Detailed correlation analysis results can be found in **Table 6**.

Table 6. Correlation analysis of social support, psychological resilience, and anxiety.

Variable	Social Support	Psychological Resilience	Anxiety
Social Support	1		
Psychological Resilience	0.37 **	1	
Anxiety	-0.19 **	-0.38 **	1

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ The same below.

4.5. The mediating role of psychological resilience between social support and anxiety

According to the mediation test method of Wen and Ye ^[34], the stepwise regression technique was used to verify the mediating role of psychological resilience between social support and anxiety. Control variables include gender, age, education, family income, only child, examination registration, internship, and employment type. In equation 1, social support can negatively predict anxiety ($\beta = -0.228$, $p < 0.01$); in equation 2, social support can positively predict psychological resilience ($\beta = 0.804$, $p < 0.01$). In equation 3, the predictive effect of social support on anxiety is not significant ($\beta = -0.066$, $p > 0.05$), and psychological resilience can significantly and positively predict anxiety ($\beta = -0.201$, $p < 0.01$), see **Figure 1**. The above results indicate that psychological resilience plays a complete mediating role in the impact of social support on anxiety.

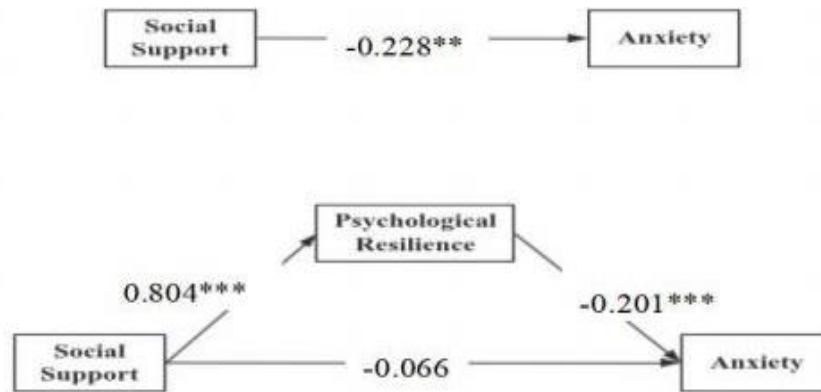


Figure 1. The Mediating path between social support and anxiety.

To examine the influence of psychological resilience on social support and anxiety in college students majoring in preschool education, a Bootstrap method with 5000 random samples was employed to determine the mediation effect. The 95% confidence interval for the direct effect ranged from -0.14 to 0.01, while the 95% confidence interval for the indirect effect was between -0.20 and -0.13. These results indicate that psychological resilience serves as a full mediator between social support and anxiety.

Table 7. Decomposition table of mediating effects.

Effect classification	Effect size	95%CI	Standard error	Relative effect size
Total effect	-0.228	(-0.304, -0. 152)	0.039	-
Direct effect	-0.066	(-0.143, 0.011)	0.039	28.95%
Mediating effect	-0.162	(-0.200, -0. 127)	0.018	71.05%

5. Discussions

5.1. Analysis of the current situation of social support, psychological resilience, and anxiety among college students majoring in preschool education

Among the 971 subjects recruited in this study, 45 were boys and 926 were girls, with large differences. This is directly related to the proportion of male and female students enrolled in the school every year. In the annual enrollment, the number of boys is less than 3%, and it is very difficult to achieve the gender ratio balance in the recruitment subjects. When Zuo & Ding investigated and studied the employment intention of preschool education undergraduates, 22 boys and 381 girls were recruited [35]; Yuan & Ma studied the relationship between mindfulness and self-esteem, recruited 36 boys and 355 girls [36]; Dai studied the relationship between undergraduate learning investment and professional identity, and recruited 35 boys and 475 girls as the intermediary variables of psychological resilience [37]; Cui & Zhang studied the relationship between psychological capital and employment ability of preschool students, and used professional commitment and learning investment as intermediary variables and social support as adjustment variables, recruiting 24 boys and 220 girls [38]. As can be seen from the above studies, it is difficult to achieve the balance of sex ratio for students choosing preschool education as subjects.

There are different findings on gender differences in social support: Girls can receive more social support than boys [39-42]; The effect of gender on social support total score was not significant [43]; boys' social support scores higher than girls [44]. The results on gender differences in psychological resilience were also inconsistent, with boys being more resilient than girls [45,46] and no difference [47,48]. Studies on anxiety focus on differences in specialty, grade, and detection rates [5-7,49]. Given the various different outcomes, the issue of

gender differences in the variables was not a focus in this study, and therefore no attempt was made to balance gender numbers.

5.1.1. Analysis of the current situation of social support

This study conducted a descriptive statistical analysis of the social support, psychological resilience, and anxiety levels of college students majoring in preschool education. The research findings revealed that the social support level among these students was below the national norms, aligning with previous studies by Qiu and Dai ^[50] and Liu ^[51]. This suggests a need for improvement in the social support system for college students in preschool education. The possible reason for this discrepancy could be attributed to the fact that these students have primarily been immersed in school and family environments, lacking a comprehensive understanding of societal complexities. With their focus on academic pursuits, particularly the demanding curriculum of preschool education that includes theoretical learning and practical skills such as dance, painting, piano, and handicrafts, students may not prioritize seeking social support during their academic endeavors.

5.1.2. Analysis of current status results of psychological resilience

The study revealed that college students majoring in preschool education exhibit good psychological resilience at an upper-middle level, aligning with previous research findings by Liu et al. ⁵² and Ding and Su ⁵³. This positive resilience may be attributed to the practical nature of the learning tasks in preschool education programs, which emphasize continuous practice and skill development. Apart from regular classes, students dedicate their time to honing their skills and engaging in extracurricular activities. As a result, they often have clear life goals and a sense of purpose, driving them to work diligently towards their objectives. This purpose-driven lifestyle contributes to the enhancement of their psychological resilience.

5.1.3. Analysis of Anxiety Status Results

Among college students majoring in preschool education, this study found a higher prevalence of mild anxiety, a lower prevalence of moderate anxiety, and very few cases of severe anxiety, aligning with Cao et al. ^[54]. The overall anxiety detection rate was 34.50%, surpassing previous findings by Du et al. ⁶ and Hou et al. ^[7]. As future kindergarten teachers, these students must acquire extensive educational knowledge, teaching skills, and practical experience, potentially leading to academic challenges and pressure. Additionally, internships and apprenticeships in educational settings can introduce uncertainty and stress, contributing to student anxiety.

5.2. Analysis of demographic differences in social support, psychological resilience, and anxiety among college students majoring in preschool education

5.2.1. Analysis of demographic differences in social support

There are noticeable disparities in the social support received by college students majoring in preschool education based on whether they are only children or not. Non-only children tend to receive significantly higher support scores compared to only children, a finding that aligns with the conclusions drawn by Duan ^[55]. This discrepancy could be attributed to the fact that only children lack the experience of interacting, playing, cooperating, and sharing with siblings, leading to a relatively limited exposure to social interactions. Consequently, they may exhibit more self-centered behaviors and possess a weaker ability to both offer and receive support from others.

Moreover, the social support among college students majoring in preschool education varies significantly based on family income levels. Families with higher incomes tend to provide a notably higher level of social support compared to those with average incomes, while families with average incomes offer

more support than those with lower incomes. A higher family income typically signifies the ability to provide financial support for students and access to superior educational resources. Additionally, a good family income often indicates a higher social standing, which can result in students having access to a broader network of social relationships and resources, such as family friends and social circles. These social connections can offer emotional support, encouragement, and assistance to students, thereby enhancing their overall social support levels.

5.2.2. Analysis of demographic differences in psychological resilience

The study observed significant differences in psychological resilience among college students majoring in preschool education based on their participation in higher academic examinations. Students who did not take higher academic examinations demonstrated notably higher psychological resilience scores compared to those who did. The junior college entrance examination for junior college students and the postgraduate examination for undergraduate and junior college students present challenging and competitive processes that can lead to significant examination pressure. The outcome of these examinations directly impacts students' future academic and career prospects, potentially causing feelings of unease and anxiety about the unknown future. Students preparing for these examinations often juggle multiple academic responsibilities, including coursework, review, and exam preparation, which can elevate stress levels and diminish psychological resilience.

The psychological resilience of college students majoring in preschool education varies significantly based on family income. Students from families with good income demonstrate notably higher psychological resilience compared to those from families with average or poor income. However, there is no significant difference in psychological resilience between students from families with average income and those from families with poor income. A good family income typically indicates a more stable family environment, which encompasses material conditions, emotional support, and family relationships. This stability fosters a sense of security and support, ultimately enhancing students' psychological resilience. Additionally, students from families with good income experience less economic pressure, have access to more educational resources and opportunities, and do not have to worry about their basic needs. This enables them to better develop their personal abilities and capacity to face challenges, further contributing to their psychological resilience.

The psychological resilience of college students majoring in preschool education varies significantly based on their employment type. Those who take the civil service exam and attend school exhibit significantly higher psychological resilience compared to those who are employed. However, there is no significant difference in psychological resilience between the two groups. Students who opt for the civil service exam and school are typically clear about their goals, which enhances their motivation, determination, and psychological resilience. Despite facing challenges and difficulties during this process, these students demonstrate good coping abilities, actively confront challenges, and effectively solve problems, ultimately strengthening their psychological resilience.

5.2.3. Analysis of demographic differences in anxiety

Anxiety levels vary among college students majoring in preschool education based on family income. Students from low-income families experience significantly higher anxiety compared to those from average and high-income families. The lack of financial resources in low-income families may result in limited support for students, leading to concerns about paying tuition, living expenses, and other costs. Additionally, students from low-income families may feel societal pressure and comparisons, impacting their self-worth and increasing anxiety levels.

There are variations in anxiety levels among college students majoring in preschool education based on their educational level. The anxiety levels of junior college students are significantly higher compared to undergraduate students and junior college students, but there is no significant difference between undergraduate students and junior college students. Junior college education may be perceived as a lower tier of education, leading some students to experience pressure and feelings of unfair treatment from family, peers, or society, which can exacerbate their anxiety. Junior college students may lack the same level of social recognition as undergraduate education, potentially causing feelings of inferiority and anxiety. Additionally, they may encounter challenges in the job market, facing increased employment pressure and struggling to access better career opportunities and prospects for development.

The anxiety levels of college students majoring in preschool education exhibit notable disparities depending on whether or not they have engaged in internships. Those who have not participated in internships tend to report significantly higher anxiety scores compared to their counterparts with internship experience. The absence of internship experience may lead to a lack of clarity regarding future career prospects and work settings, potentially triggering feelings of anxiety and unease. Conversely, internships provide students with practical experience and skills in a real-world work environment, which can help alleviate concerns about practical abilities and experience among students without internship exposure, ultimately reducing their anxiety levels.

5.3. Analysis of the correlation between social support, psychological resilience, and anxiety among college students majoring in preschool education

This study revealed a significant positive relationship between social support and psychological resilience among college students majoring in preschool education, aligning with previous research findings [7,56,57]. Increased specific support for students can alleviate their burdens and provide emotional comfort, encouragement, and understanding, fostering feelings of being understood, cared for, and supported, ultimately boosting their psychological resilience.

Additionally, anxiety and social support among these students exhibited a significant negative correlation, in line with prior studies [58,59]. Enhanced family and friend support enables students to better navigate life challenges, enhance adaptability, build confidence in facing difficulties, and reduce external pressures, thereby lowering anxiety levels and promoting overall well-being.

Moreover, a negative correlation was found between anxiety and psychological resilience in this student population. Higher psychological resilience levels were associated with lower anxiety levels, consistent with existing research [20,21]. Students with elevated psychological resilience demonstrate proactive responses to life uncertainties, possess effective emotional regulation and coping mechanisms, exhibit high self-confidence and self-efficacy, and actively manage pressure and challenges, reducing the likelihood of experiencing anxiety.

5.4. Analysis of the mediating role of social support, psychological Resilience, and anxiety among college students majoring in Preschool education

The results of the mediation effect analysis indicate that the psychological resilience of preschool education college students acts as a complete mediator in the relationship between social support and anxiety. This finding aligns with Bandura's ⁶⁰ concept of reciprocal determinism, which suggests that social support, psychological resilience, and anxiety levels are interconnected. Social support, an external environmental factor, influences anxiety through psychological resilience, an internal factor of the individual. Therefore, enhancing social support and psychological resilience can help reduce anxiety levels among preschool

education students and promote mental well-being. This study also broadens the application of relevant theories to a wider population.

5.5. Revelation to reality

The study found that the social support and psychological resilience of preschool education students have an impact on anxiety, and can negatively predict anxiety, that is, if you want to reduce the anxiety of preschool education students, then you can improve their social support and psychological resilience. So how can students get more social support and psychological resilience? When improving students' social support and psychological resilience, consider the following:

1. Preschool education students should actively participate in social activities and take the initiative to seek professional help. Make friends who share common secrets, are of the same age, and have a closer relationship. When you encounter difficulties and anxiety, you can seek help from your class teacher, education mentor, or through school psychological counseling center.

2. Teachers help preschool education students to achieve psychological resilience through "encountering challenges, perceiving challenges, and adapting to challenges". It is necessary to create a tolerant and error-tolerant class atmosphere, pay attention to the cultivation of the "growth mentality" of preschool education students, and enhance their self-efficacy.

3. The school should establish a complete professional support team at the four levels of class, department, college, and school to help students better cope with various problems encountered in life and learning, alleviate anxiety, and maintain physical and mental health development.

4. Parents should respect and support their children's decisions, and give both spiritual and material encouragement. A good parent-child relationship can provide students with good social support, which can help them become more resilient and better able to overcome the difficulties they encounter in life.

6. Conclusion

This study explores the correlation between social support, psychological resilience, and anxiety among college students majoring in preschool education. The findings indicate a positive relationship between social support and psychological resilience, as well as a negative relationship between anxiety and both social support and psychological resilience. Furthermore, psychological resilience is identified as a complete mediator in the relationship between social support and anxiety among professional college students in preschool education.

Conflict of interest

The authors declare no conflict of interest.

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