

Parental Emotional Warmth and School Adjustment in Higher Vocational Students: The Chain Mediating Role of Positive Coping Styles and Psychological Endurance

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Abstract: This paper aims to explore the relationship between parental emotional warmth and school adjustment of higher vocational students, as well as the chain-mediated roles of positive coping styles and psychological endurance. The study used the short-Egna Minnen av Barndoms Uppfostran Scale of Chinese Version(s-EMBU-C), the Simple Coping Style Questionnaire (SCSQ), the Psychological Endurance Scale, and the Brief College Student School Adjustment Scale to investigate 604 higher vocational students. The results showed that parental emotional warmth was significantly and positively correlated with school adjustment, positive coping styles, and psychological endurance ($r=0.43, 0.57, 0.60, P<0.01$); positive coping styles were significantly and positively correlated with psychological endurance and school adjustment ($r=0.56, 0.51, P<0.01$); and there was a significant and positive correlation between psychological endurance and school adjustment ($r=0.52, P<0.01$); the mediation effect test shows that both positive coping style and psychological endurance play separate mediating roles between parental emotional warmth and school adjustment, with mediating effect values of 0.45 and 0.29 respectively, and also play chain mediating roles, with mediating effect value of 0.13. Finally, this paper concludes that parental emotional warmth not only affects school adjustment of higher vocational students directly but also indirectly affects school adjustment through the separate mediating role and chain mediating role of positive coping style and psychological endurance.

1. Introduction

School adjustment refers to the process by which students actively adjust their physical and mental states during their interactions with the school environment to successfully meet academic requirements and achieve the school's standards[1]. Good school adjustment significantly enhances students' psychological well-being, boosts academic performance and self-efficacy, and fosters positive interpersonal relationships. Higher vocational education plays a crucial role in cultivating highly skilled personnel and is tasked with producing graduates equipped with practical abilities and

technical expertise for various industries. This responsibility sets higher standards and expectations for vocational students. However, many people tend to associate higher vocational students with negative stereotypes, labeling them as "inferior students," "examination failures." These stigmatizations can lead to feelings of inferiority and psychological pressure among higher vocational students, which may hinder their adjustment to college life after enrollment. Therefore, the mental health and school adjustment issues of higher vocational students deserve attention from all sectors of society.

Family parenting style has a profound impact on a student's level of school adjustment[2]. Parental emotional warmth, a positive aspect of parenting, is demonstrated by parents who respond promptly and appropriately to their children's needs while showing supportive and positive behaviors[3]. Some studies have confirmed a positive correlation between parental emotional warmth and students' school adjustment[4]. However, there is a lack of research examining the mechanisms through which parental emotional warmth affects school adjustment in higher vocational students. This study aims to explore how parental emotional warmth influences the school adjustment process of higher vocational students. Understanding this intrinsic mechanism is significant for enhancing the school adjustment skills of these students. It also addresses the current demands of vocational education and contributes to the development of high-quality, skilled professionals who meet industry requirements.

Positive coping styles refers to a range of proactive and beneficial psychological and behavioral strategies that individuals adopt when facing pressure and challenges. These strategies aim to help individuals respond effectively to both internal and external demands, utilize available resources, and develop creative plans to address issues[5]. Research indicates that positive coping styles significantly and positively predict students' school adjustment; students who favor positive problem-solving strategies are generally more effective at adapting to changes in the school environment[6]. Additionally, parental emotional warmth is a significant predictor of positive coping styles[7]. Children raised in warm and supportive family atmospheres are more likely to adopt positive coping methods to effectively manage stress and overcome challenging situations. Therefore, this study proposes hypothesis H1: Positive coping styles mediate the relationship between parental emotional warmth and higher vocational students' school adjustment.

Psychological endurance refers to an individual's ability to endure and overcome frustration. This involves not only tolerating distress without falling into behavioral or psychological disorders, but also taking constructive actions to transcend challenges and achieve success despite setbacks[8]. Students with a strong resilience to setbacks can accurately recognize pressures and challenges from various aspects of life and learning, often possessing the confidence and courage to face difficulties and adversity. They continually adapt and leverage their maximum potential to improve their circumstances[9]. According to social support theory, there is a generalized gain in the support that individuals perceive or receive from their social networks, promoting psychological health and development[10]. Parents are a crucial source of social support for their children, and their emotional care is vital for healthy growth. This support can buffer the negative effects of stress, enhance psychological resilience, and promote school adjustment. Thus, this study proposes hypothesis H2: Psychological endurance mediates the relationship between parental emotional warmth and school adjustment among higher vocational students.

Research indicates that positive coping styles can significantly enhance individuals' psychological endurance[11]. When people adopt constructive attitudes and behaviors in the face of challenges, they are more likely to understand and analyze problems logically. This enables them to focus on finding solutions instead of becoming overwhelmed by distress. Such a positive outlook not only diminishes the negative impacts of setbacks but also facilitates quicker psychological recovery and the acquisition of skills to better handle future difficulties. Consequently, this approach helps prevent the onset of psychological issues and encourages individuals to maintain an optimistic mindset when

confronted with adversity. They learn to brainstorm solutions, take calculated risks, and reflect on their experiences, thereby enhancing their psychological endurance. Based on these findings, this study proposes hypothesis H3: Positive coping styles and psychological endurance serve as mediators in the relationship between parental emotional warmth and the school adjustment of higher vocational students.

In summary, this study focuses on higher vocational students, exploring the internal mechanisms by which parental emotional warmth influences their adjustment to school through a chain mediation model that includes positive coping styles and psychological endurance. It aims to provide theoretical insights for improving the school adjustment of them.

2. Research Methodology

2.1. Objects of study

A handy sampling method was employed to select 638 students from three grades at a higher vocational college in Anhui Province, China. An anonymous questionnaire was administered, resulting in the deletion of 34 invalid responses. Ultimately, 604 valid questionnaires were collected, yielding a validity rate of 94.67%. Of the respondents, 294 (48.7%) were male and 310 (51.3%) were female. The distribution of participants by year was as follows: 378 students (62.6%) were freshmen, 143 students (23.7%) were sophomores, and 83 students (13.7%) were juniors.

2.2. Research tools

2.2.1. The short-Egna Minnen av Barndoms Uppfostran Scale of Chinese Version(s-EMBU-C)

The study utilized the revised short-Egna Minnen av Barndoms Uppfostran Scale of Chinese Version developed by Jiang J et al.[12], which includes three dimensions: parental rejection, parental emotional warmth, and parental overprotection. For this research, 14 items from the parental emotional warmth dimension were selected for evaluation. The scale uses a 4-point Likert format, where "1" indicates "never" and "4" indicates "always." A higher score reflects a greater level of parental emotional warmth experienced by the subject. In this study, the Cronbach's alpha coefficient for this subscale is 0.97.

2.2.2. Simple Coping Style Questionnaire (SCSQ)

The Simple Coping Styles Questionnaire, developed by Xie Yaning[13], consists of a total of 20 questions. Among these, questions 1 to 12 are categorized as positive coping styles, while questions 13 to 20 are classified as negative coping styles. For this study, only the 12 questions related to positive coping styles were selected for analysis. The scale is scored using a 4-point Likert scale, where "0" indicates "do not adopt" and "3" signifies "often adopt." In this study, the Cronbach's alpha coefficient for the scale was 0.86, indicating good internal consistency.

2.2.3. Psychological Endurance Scale

The Psychological Endurance Scale developed by Xie Bingqing et al [14]. was utilized in this study. This scale consists of 30 questions that are answered with either "yes" or "no." A "yes" response is scored as 1 point, while a "no" response is scored as 0 points. Some questions are scored in the reverse direction; for example, one question asks, "Do you feel that you are a weak person?" After tallying the scores from all questions, the total score can be interpreted as follows: a score between 0 and 12 indicates a weak level of psychological resilience, a score between 13 and 20 indicates a

moderate level, and a score between 21 and 30 indicates a strong level of psychological resilience. In this study, the Cronbach's alpha coefficient for the scale was found to be 0.82.

2.2.4. Brief College Student School Adjustment Scale

The Brief College Student School Adjustment Scale, developed by Zeng Xiaoqiang [15], consists of 25 questions divided into four dimensions: academic motivation adjustment (questions 1-5), academic stress adjustment (questions 6-10), interpersonal adjustment (questions 11-18), and physical and mental adjustment (questions 19-25). The scale uses a 6-point Likert scale for scoring, where "1" indicates "Strongly Disagree" and "6" indicates "Strongly Agree." A mean score greater than 4 for each dimension suggests that the subject is well-adjusted, while a total school adjustment score above 16 indicates that the subject is generally well-adjusted to school. In this study, the Cronbach's alpha coefficient for the scale was 0.73.

2.3. Data processing

SPSS version 26.0 was utilized for conducting descriptive statistics, assessing scale reliability, and performing correlation analysis on the data. The PROCESS plug-in was employed for regression analysis, examining mediation effects, and testing chained mediation effects.

3. Results

3.1. Common method bias test

The Harman one-factor test was employed to assess common method bias. Results indicated that 18 factors had eigenvalues greater than 1, with the first factor accounting for 24.37% of the variance, which was below the critical threshold.

3.2. Descriptive statistics and correlation analysis

The results of the descriptive statistics and correlation analysis for each research variable are presented in Table 1. Significant correlations were identified among parental emotional warmth, positive coping styles, psychological endurance, and the school adjustment of higher vocational students. Specifically, there was a significant positive correlation between parental emotional warmth and positive coping style ($r=0.57$, $P < 0.01$), psychological endurance ($r=0.60$, $P < 0.01$), and school adjustment ($r=0.43$, $P < 0.01$). Additionally, positive coping style was positively correlated with psychological endurance ($r=0.56$, $P < 0.01$) and school adjustment ($r=0.51$, $P < 0.01$). Moreover, there was a significant positive correlation between psychological endurance and school adjustment ($r=0.52$, $P < 0.01$).

Table 1: Descriptive statistics and correlation analysis between variables (N=604).

	<i>M</i>	<i>SD</i>	Parental emotional warmth	Positive coping style	Psychological endurance	School adjustment
Parental emotional warmth	2.83	0.74	1			
Positive coping style	1.75	0.63	0.57**	1		
Psychological endurance	18.95	5.49	0.60**	0.56**	1	
School adjustment	14.56	1.87	0.43**	0.51**	0.52**	1

Note:*stands for $P < 0.05$, **stands for $P < 0.01$, ***stands for $P < 0.001$, same below.

3.3. Regression analysis, intermediation, and chained intermediation

In this study, all variables were standardized, and a chained mediation effect test was conducted using a bias-corrected nonparametric percentile bootstrap method. The analysis involved repetitive sampling set at 5,000 times, with a confidence interval of 95%.

The regression results are presented in Table 2 and Figure 1. Parental emotional warmth was found to significantly and positively predict positive coping styles ($\beta=0.49$, $P < 0.001$). Additionally, both parental emotional warmth ($\beta=3.03$, $P < 0.001$) and positive coping styles ($\beta=2.87$, $P < 0.001$) significantly and positively predicted psychological endurance. When parental emotional warmth, positive coping styles, and psychological endurance were included simultaneously in the regression equation, all three variables significantly and positively predicted school adjustment: parental emotional warmth ($\beta=0.23$, $P < 0.05$), positive coping styles ($\beta=0.90$, $P < 0.001$), and psychological endurance ($\beta=0.95$, $P < 0.001$). Notably, parental emotional warmth was a direct predictor of school adjustment, while positive coping styles and psychological endurance partially mediated the relationship between parental emotional warmth and school adjustment.

Table 2: Regression analysis.

Regression equation		Overall fit index			Significance of regression coefficients		
	Predictor variable	R	R^2	F	β	SE	t
School adjustment	Parental emotional warmth	0.43	0.19	138.84***			
Positive coping style	Parental emotional warmth	0.57	0.33	290.61***	0.49	0.29	17.05***
Psychological endurance	Parental emotional warmth	0.65 0.43 224.82***			3.03	0.28	10.80***
	Positive coping style				2.87	0.33	8.81***
School adjustment	Parental emotional warmth	0.58 0.34 102.98***			0.23	0.11	2.069*
	Positive coping style				0.90	0.13	7.16***
	Psychological endurance				0.09	0.15	6.37***
Note: The variables in the model are standardized and brought into the regression equation							

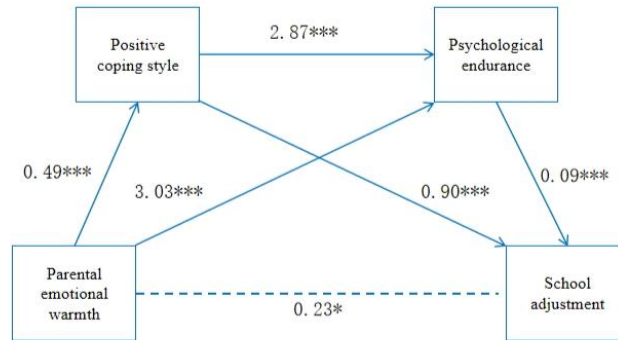


Figure 1: Chain mediation between positive coping style and psychological endurance in the effect of parental emotional warmth on school adjustment among higher vocational students.

The mediation effect analysis results are shown in Table 3. Positive coping styles had a mediation effect of 0.45 between parental emotional warmth and school adjustment, with a 95% confidence interval of 0.31 to 0.59, accounting for 40.87% of the total effect. Psychological endurance showed a mediation effect of 0.29, with a 95% confidence interval of 0.20 to 0.39, contributing 26.34% to the total effect. Additionally, the chained mediation effect of positive coping styles and psychological endurance was 0.13, with a 95% confidence interval of 0.09 to 0.19, accounting for 11.80% of the total effect.

Table 3: The mediating effects of positive coping styles and psychological endurance between parental emotional warmth and school adjustment.

Effect	Trails	Efficiency value	BootSE	95% confidence interval		Magnitude of effect
				BootLLCI	BootULCI	
Direct effect	Parental emotional warmth→School adjustment	0.23	0.11	0.01	0.45	21.09%
Indirect effect1	Parental emotional warmth→Positive coping style→School adjustment	0.45	0.07	0.31	0.59	40.87%
Indirect effect2	Parental emotional warmth→Psychological endurance→School adjustment	0.29	0.05	0.20	0.39	26.34%
Indirect effect3	Parental emotional warmth→Positive coping style→Psychological endurance→School adjustment	0.13	0.03	0.09	0.19	11.80%

4. Discussion

4.1. The impact of parental emotional warmth on higher vocational students' adjustment to school

First of all, this study found a significant positive correlation between parental emotional warmth and the school adjustment of higher vocational students. This suggests that the more emotional support parents provide, the better students adjust to school. These findings align with previous research conducted on secondary and college students[14]. Parents who create a nurturing environment filled with emotional support and positive feedback help their children build self-confidence, establish healthy interpersonal relationships, and successfully navigate their studies. Furthermore, parental emotional warmth and family intimacy influence the development of children's

psychological traits. Students with strong psychological qualities tend to adapt more positively in various aspects of school life, including academic achievement and interpersonal skills.

4.2. The mediating role of positive coping styles

The results of this study show that positive coping styles mediated the relationship between parental emotional warmth and the school adjustment of higher vocational students, which supported the hypothesis H1 proposed in this research. Parental emotional warmth provides a foundation for children's cognitive restructuring[16], promoting the development of positive emotional regulation strategies. This helps children better understand and cope with challenges in school, ultimately improving their school adjustment. Additionally, parents' parenting styles profoundly impact children's character, positive psychological traits, and overall outlook on life. These positive psychological traits can be subconsciously transmitted to children, equipping them with valuable psychological resources. As a result, children are more likely to take proactive and flexible approaches to problem-solving when faced with challenges, rather than avoiding or responding passively to them. This active coping strategy encourages students to seek meaning in their lives and helps upper-level students face their current environment with optimism. Consequently, they demonstrate greater resilience in their academic, social, and daily lives, allowing them to integrate into school life more smoothly and achieve a higher level of school adjustment.

4.3. The mediating role of psychological endurance

It can be concluded in this study that psychological endurance mediates the relationship between parental emotional warmth and the school adaptation of higher education students, supporting the study's hypothesis H2. The family serves as an essential component of a child's social support network, with parenting style playing a crucial role. A strong social support network can significantly enhance individuals' resilience [17], helping them mitigate the negative effects of stress, cope with challenging situations, and ultimately improve their adaptability within society. In other words, a nurturing and supportive parenting environment fosters students' psychological resilience and encourages them to explore and adjust quickly to new settings. The respect, understanding, and acceptance provided by parents contribute to the development of a positive self-image among higher vocational students. This nurturing atmosphere also aids students in forming emotional connections with others, cultivating adaptive personality traits, and strengthening their psychological resilience. When faced with adversity, these students are more likely to maintain an optimistic outlook, actively seek their strengths and potential, and effectively harness both their internal and external resources to overcome challenges in their studies and personal lives.

4.4. Chain-mediated effects of positive coping styles and psychological endurance

Positive coping styles and psychological endurance have a mediated effect on the relationship between parental emotional warmth and school adjustment among higher vocational students, supporting the proposed Hypothesis 3 of the present study. When individuals adopt positive coping styles, which can improve their adaptability to environmental changes and bolster their psychological resilience during difficult times, demonstrating strong endurance against stress. Research in positive psychology indicates that qualities such as optimism, hope, and gratitude are important resources that can enhance the ability of college students to withstand setbacks[18]. These positive traits can stimulate an individual's capacity to manage stress and promote the use of positive coping styles. As a result, individuals are more likely to perceive opportunities within challenges and believe in their ability to overcome adversity. Such beliefs provide clear goals and motivation for students in

vocational programs, encouraging them to be more resilient in the pursuit of their objectives and ultimately improving their tolerance for psychological frustration.

5. Research Value and Research Outlook

The results of this study offer significant theoretical support for educational practices in higher vocational colleges and universities. First, schools should adopt a "school-family collaborative parenting" approach, working closely with families to encourage parents to foster an emotionally warm environment. This can help promote better school adjustment for students. Second, schools can assist students in navigating the challenges of school life by promoting the development of positive coping strategies, such as emotional regulation and problem-solving skills. Additionally, it is crucial to enhance students' psychological endurance, as this contributes to their ability to adapt in the face of adversity.

However, this study has some limitations. The geographical scope and cultural background of the sample may restrict the generalizability of the findings. Future research should aim to validate these results with a more diverse sample. Furthermore, this study primarily relied on questionnaires; thus, incorporating more varied data collection methods, such as in-depth interviews or observational studies, could enhance the accuracy of future research.

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