The Impact of Parenting Style on College Students' Empathy: Peer Relationship as a Mediator

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Abstract: To investigate the effects of parenting style and peer relationships on college students' empathy, and the mediating role of peer relationships. A simple parenting style scale, a peer relationship scale, and a college student empathy scale were used to investigate college students from seven institutions in Shaanxi Province. The rejection dimension of parenting style significantly and negatively predicted college students' peer relationship, and empathy(β=-0.37, p<0.001; β=-0.06, p<0.01); the overprotective dimension significantly and negatively predicted college students' peer relationship, and positively predicted college students' empathy(β=-0.23, p<0.001; β=0.06, p<0.05); the emotional warmth dimension significantly and positively predicted college students' peer relationship and empathy(β=0.46, p<0.001; β=0.30,p<0.001). Peer relation partially mediated the relationship between the dimensions of parenting style and college students' empathetic ability (-0.16, -0.11, 0.11; 95% CI not including 0). Parenting styles had a significant effect on college students' empathetic ability, and peer relationships partially mediated the effect of parenting style on empathetic ability.

1. Introduction

While the impact of COVID-19 on the physical and mental health of individuals and society as a whole is still lingering, the new and rapidly evolving era continues to place greater demands on people. As the successors of the new era, college students carry the future and hope of the nation on their shoulders, and in this new era full of opportunities and challenges, their mental health needs more attention. However, in university life, factors such as changes in the learning and living environment, confusion in career planning and changes in interpersonal relationships[1] as well as the fact that individuals are still in a state of imminent but unstable psychological maturity, college

students are highly prone to mental health problems such as adjustment difficulties, academic anxiety and interpersonal conflicts[2-3]. Therefore, the ability to empathise, an important protective factor for mental health, has a self-evident role to play in their mental health[4]. Empathy is the ability of an individual to feel the other person's emotional state from their position, to empathise with them and to respond accordingly. It predicts people's mental health and promotes the development of a healthy personality[4]. Empathy is also the basis for the formation of pro-social behaviour, and increasing an individual's ability to empathise can effectively promote helpful behaviour[5]; individuals with high levels of empathy also have an increase in altruistic behaviour[6]. Therefore, exploring the influencing factors and mechanisms of empathic competence has practical value and theoretical significance for the improvement of university students' mental health and the generation of pro-social behaviour, as well as echoing the psychological needs of the new era.

The first environment an individual comes into contact with is the family, and parents are their guides in this environment and influence their development in a subtle way, therefore, parenting styles has an important impact on individual development[7]. Parenting styles are the composition of views, behaviours and feelings towards the child, characterised by stability, displayed by the parent or primary caregiver in the raising of the child. Whether in childhood, adolescence, or adulthood, parenting styles plays a role in individual development. Some researchers have found that the mental health of university students differs between parenting styles, with positive parenting by fathers and negative parenting by mothers having the greatest impact on individual psychological problems[8]. Empathy is higher when parents use warm and accepting parenting styles, but lower when they use harsh and rejecting parenting styles[9]; and a lack of parenting can also leave individuals with a lack of ability to communicate emotionally with others[7], which can affect the development of empathy. It has also been suggested that a good parenting styles can facilitate the development of peer relationships[10]. It is clear that parenting styles may play an important role in an individual's growth.

In addition, Erik H Erikson's eight-stage theory suggests that during university, i.e., early adulthood (18-25 years old), individuals will encounter intimacy versus loneliness conflict, and if the conflict is successfully resolved, they will be able to establish good intimate relationships, otherwise they will face loneliness and develop psychological distress about interpersonal relationships, which will in turn affect their psychological health, so establishing developing peer relationship at school is also an important factor in facilitating individuals' successful passage through university life[7]. Peer relationship refers to collaborative relationship established by the development of individuals with the same age or psychological level, and peer relationship has different meanings in different periods of growth. The peer relationships of university students are mainly classmates, roommates and peer friends, etc. Peer relationship remains their most dominant relationship and their main safe base in the process of adapting to society [11]. In exploring the factors influencing college students' peer relationships, some researchers found that relationships with family members affect college students' peer relationships[12]; healthy parenting styles are conducive to improving college student' peer relationship, while poor parenting styles can hinder their development[13]. It has also been found that children with good quality sibling relationship have higher levels of empathy in the preschool stage, and that sibling relationship also affects the development of individual empathy through influencing the quality of peer interaction[14]. Since the sibling relationship is a relationship formed between children in the family, this suggests that family factors may directly affect an individual's peer relationship, which in turn affects his or her empathy. In their exploration of factors influencing empathy, Zhu Longfeng and Zhang Xianying also found that the quality and familiarity of an interpersonal relationships can affect empathy[15].

In summary, an exploration of the previous literature on parenting style, peer relationship, and empathy reveals that previous research has focused on the relationship between two of the three factors: parenting style, peer relationship, and empathy, but no research has integrated them and systematically explored the relationship patterns of these three factors. Therefore, this study uses college students as subjects to investigate the mechanism of parenting style on individual empathetic ability, to provide a theoretical basis for improving university students' level of empathy and promoting the occurrence of pro-social behaviour, and on this basis, the core point is to strengthen home-school cooperation and promote peer relationship, forming programmes and measures to enhance the level of empathy of college students. The hypotheses of this study are as follows: (i) parenting style significantly predicts college students' peer relationship and empathy; and (ii) peer relationship mediates the relationship between parenting style and empathy.

2. Objects and Methods

2.1. Subjects

A stratified sampling method was used to study university students in seven universities in Shaanxi (including six categories of science, engineering, literature, medicine, and arts), and the questionnaires were distributed uniformly on the online platform - Questionnaire Star, with a planned sample of 1200 people. The survey yielded 1348 questionnaires, of which 1337 were valid, with a return rate of 99.18%. Demographic information is shown in Table 1.

Table 1. Demographic variable information

variable		No. of people
Sex	Male	496
	Female	841
Grade	Freshman	712
	Sophomore	349
	Junior	146
	Senior	92
	5th year	38
Only child or not	Only child	321
	Non-Alone	1016
Father's education level	Junior high school and below	837
	High school/junior college/technical school	333
	College and above	167
Mother's education level	Junior high school and below	897
	High school/junior college/technical school	294
	College and above	146

2.2. Research Tools

2.2.1. The Short-Form Egna Minnen Av Barndoms Uppfostran for Chinese(S-EMBU-C)

A short form scale developed by Jiang Jiang [16] et al. was used, which consists of a father and mother questionnaire with the same questions, with 42 items, all containing 3 dimensions of rejection, emotional warmth and overprotection. A 4-point scale was used, with higher dimension scores indicating that the parents used that parenting style more often in the family. As this study explores the parenting environment of the whole family, it does not differentiate between parental items and is measured using only 21 questions. The Cronbach alpha coefficient for the scale in this study was 0.703, with good reliability and validity.

2.2.2. Peer Relationship Scale

A peer relationship scale developed by Liu Naifan and Shi Xiangshi et al [17] was used, containing four dimensions of emotional interaction, utilitarian interaction, self-centredness, and self-awareness, with 28 questions. A 5-point scale is used, with higher scores indicating better peer relationship. The Cronbach alpha coefficient for the scale in this study was 0.873, with good reliability and validity.

2.2.3. Interpersonal Reactivity Index-C(IRI—C)

The Chinese version of the Interpersonal Reactivity Index Scale, revised by Zhang Fengfeng et al [18], was used, containing four dimensions of viewpoint picking, imagination, empathetic concern, and personal grief, with a total of 22 items, of which the first two dimensions are cognitive empathy and the last two are emotional empathy. The scale is scored on a 5-point scale, with higher scores indicating higher empathetic ability. The Cronbach alpha coefficient of the scale in this study was 0.844, with good reliability.

2.3. Analysis of Data

Common method deviation test, descriptive statistical analysis, and correlation analysis were conducted on the data using spss21.0; the mediation effect analysis of peer relationship was conducted in PROCESS according to the mediation effect test proposed by Wen Zhonglin [19] et al.

3. Results

3.1. Common Method Deviation Test

The Harman one-way test found 13 factors with eigenvalues > 1 in the unrotated condition, with the first common factor having a variance contribution of 16.009%, less than 40%, indicating that there was no significant common method bias in this study.

3.2. General Information on Parenting Style, Peer Relationship, and Empathy among College Students

The descriptive analysis found (see Table 2) that: of the dimensions of parenting style, emotional warmth scored highest, followed by overprotectiveness and rejection; the mean scores for peer relationship and scores for each dimension were higher than the theoretical median, with emotional

interaction scoring the highest; the mean scores for empathy and scores for each dimension were greater than the theoretical median, and total score for imagination and Viewpoint picking were higher than total score for personal grief and empathetic concern.

Table 2. Results of descriptive analysis for each variable

		M	SD	Theoretical median
Parenting style	Rejection	1.50	0.46	-
	Overprotection	2.06	0.42	
	Emotional warmth	2.71	0.61	
Peer relationship	Emotional Interaction	3.78	0.66	3
	Utilitarian interaction	3.08	0.50	
	Self-centredness	3.55	0.61	
	Self-awareness	3.65	0.53	
	Total average score	3.52	0.37	
Empathy	Viewpoint picking	2.97	0.78	3
	Imagination	3.84	0.74	
	Empathic concern	3.61	0.58	
	Personal grief	2.03	0.67	
	Total average score	3.08	0.47	

3.3. Analysis of the Correlation between Parenting Style and Peer Relationships and Empathy among University Students

The correlation analysis between the variables showed (see Table 3): (i) between the dimensions of parenting style: rejection and overprotection were positively correlated, rejection, overprotection, and emotional warmth were negatively correlated; (ii) between the different dimensions of parenting style and empathetic ability and peer relationship: rejection, overprotection and peer relationship were negatively correlated, emotional warmth and peer relationship were positively correlated; rejection and empathetic ability were negatively correlated, overprotection, emotional warmth and empathetic ability were positively correlated; (iii) peer relationship were positively correlated with empathetic ability.

Table 3. Results of correlation analysis for each variable

|	1	2	3	4	5
1.Rejection	—	0.58**	-0.41**	-0.37**	-0.06*
2.Overprotection		—	-0.18**	-0.23**	0.06*
3.Emotional warmth			—	0.46**	0.30**
4.peer relationship				—	0.37**
5.Empathy					—
Note:**p<0.01,*p<0.05					

3.4. Analysis of the Mediating Effect of Peer Relationship

Using Model 4 in the PROCESS program developed by Hayes, models were constructed using the rejection, overprotective, and emotional warmth dimensions of parenting style as independent variables, peer relationship as the mediating variable, and empathetic competence as the dependent

variables, respectively, to analyse the mediating role of peer relationships in the relationship between parenting style and empathetic competence.

The results showed (see Figure 1) that the rejection dimension negatively predicted college students' empathy(β=-0.06, p<0.01),overprotection and emotional warmth positively predicted college students' empathy(β=0.06, p<0.05; β=0.30, p<0.001);rejection and overprotection negatively predicted college students' peer relationship(β=-0.37, p<0.001; β=-0.23, p<0.001),while emotional warmth was a significant positive predictor of college students' peer relationship (β=0.46, p<0.001); peer relationship positively predicted college students' empathy in all three parenting modes (β=0.41/0.41/0.30, p<0.001). These results suggest that all dimensions of parenting style have a significant effect on college students' peer relationship and empathy, supporting the research hypothesis (i).
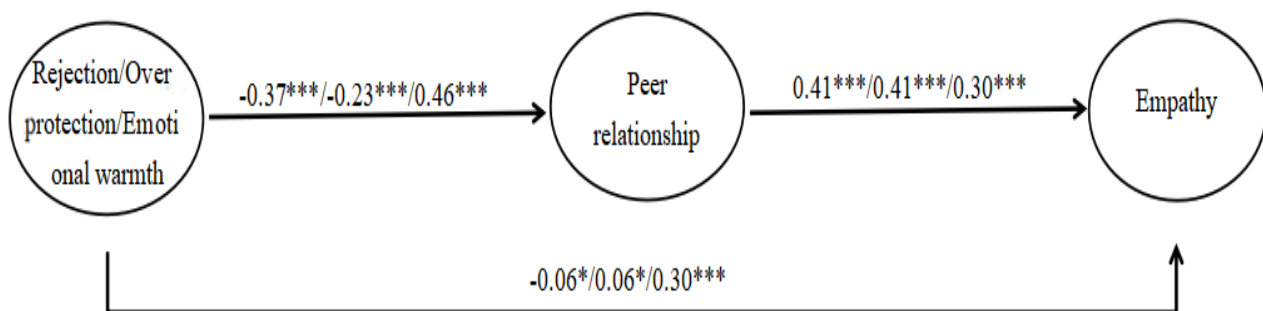
Note: The path values are, in order from left to right, the standardised regression coefficients for the rejection dimension, the overprotection dimension, and the emotional warmth dimension; *p<0.05, **p<0.01, ***p<0.001

Figure 1. Model of the mediating role of peer relationships in the relationship between the dimensions of parenting style and empathy

The results of the mediating effect analysis (see Figure 1 and Table 4) indicated that there was a partial mediating effect of peer relationship between the dimensions of parenting style and empathetic competence. The magnitude of the peer relationship mediating effect (effect value) across the structural equation models was -0.16, -0.11, and 0.11, accounting for 63%, 39%, and 46 % of the total effect ratio (relative effect value) and no 0 in the Bootstrap 95% CI, indicating that peer relationship play an important mediating role between rejection, overprotection, emotional warmth, and empathetic competence. This result supports the hypothesis of this study (ii).

Table 4. Analysis of the mediating effects of peer relationship

Model	Effect value	Boot SE	Boot LLCI	Boot ULCI	relative effect value
Rejection	-0.16	0.02	-0.19	-0.13	63%
Overprotection	-0.11	0.01	-0.14	-0.08	39%
Emotional warmth	0.11	0.01	0.08	0.13	46%

4. Discussion

4.1. Analysis of the Current Situation of Parenting Style, Peer Relationships and Empathy among University Students

The study found that parents used emotional warmth in education more often in family life, with overprotection and rejection coming second, similar to the findings of Wang Dongna[20] and Yang Fan[21]. The increase in economic levels has led to an increasing emphasis on all aspects of

children's education, and parents are able to put themselves in their children's shoes more often and use emotional warmth to communicate with them.

The study also found that college students had a better peer relationships and showed more emotional aspects when it came to interpersonal interactions, which is the same as Tang Xiaoqing's findings [22]. This may be due to the fact that when college students leave their parents to come to a new environment, they need more emotional bonding with their peers so that they can transfer their missing of their parents to their relationship with their peers in order to better adapt to university life.

The overall state of university students' empathy is good, which is consistent with the findings of Zhang Dong's study [23]. At the university level, individuals already have good empathy skills and are able to empathise more cognitively with others, putt themselves in others' shoes to understand issues, understand their perspectives and thoughts, and feel their emotions in an imaginative way.

4.2. Analysis of the Correlation between Parenting Style and Peer Relationships and Empathy among University Students

This study found that the rejection dimension of parenting style significantly and negatively predicted college students' peer relationship and empathy, which is consistent with the findings of Yu Wanwan [24] and Zuo Xiaoyang [25]. Rejection refers to the behaviour of parents who ignore their children's emotional needs and punish and humiliate them in the process of parenting. As a result, individuals who grow up with this parenting style will care more about their own feelings, ignore the thoughts of others, and lack the ability to build good relationships with their peers.

The overprotection dimension has a negative predictive effect on college students' peer relationship, which is consistent with the findings of Zuo Xiaoyang [25]. Overprotection refers to parents overprotecting their children in order to prevent them from being harmed, thus affecting their children's autonomous development. As a result, when individuals are removed from their parents' embrace and come into contact with others, they encounter difficulties and are highly prone to conflict with their peers when they are slightly unhappy, leading to the breakdown of relationships. The correlation analysis also showed that overprotection had a significant positive relationship with empathy and positively predicted the empathy of university students, whereas previous studies have shown that the use of overprotection by parents reduces the empathy of their children, possibly because overprotection includes both extreme permissiveness and extreme restraint, with individuals raised in extreme permissiveness being more concerned with their own feelings, more capricious and inconsiderate of others, while In contrast, individuals brought up under extreme restraint parenting style will empathise with others emotionally and are more sensitive; it may also be due to the fatigue effect of subjects not answering the questionnaire carefully during the questionnaire collection process, the contradictory result worth exploring.

The emotional warmth dimension of parenting style positively predicts college students' peer relationship and empathy, which is consistent with the findings of Jia Liru[9]. The use of positive and warm parenting styles during an individual's upbringing will give them more emotional experiences, and will also allow individuals to apply the warm and understanding traits learned from their parents to their relationships with peers, thus also making them more likely to think differently and empathise with others.

4.3. Analysis of the Mediating Effect of Peer Relationship

The results of the mediation effect showed that the dimensions of parenting style affect individuals' empathy by influencing their peer relationship, which is consistent with the expected hypothesis of this study.

Urie Bronfenbrenner's ecological systems theory states that an individual's development is nested between interacting environmental systems, and that the first microsystem an individual comes into contact with after birth is the family, so family factors such as family structure and parenting style have a significant impact on an individual's development. As individuals grow up, the micro-environment they are exposed to becomes school, and peer relationship becomes an important factor in influencing them, directly affecting their development. It is evident that parenting styles within the family can influence the establishment and development of an individual peer relationships, which in turn affects the individual's level of empathy. Rejection and overprotection parenting styles can lead to individuals having difficulty building relationships with peers, withdrawing, being self-centred and not easily integrated into the group, which in turn can lead to lower empathy, whereas individuals who live in an emotionally warm parenting style are more likely to put themselves in the shoes of others and build good relationships with them, which further enhances their empathy.

5. Conclusions

The overall state of peer relationship and empathy among university students is good, and in their parenting style, parents are more likely to use emotional warmth, followed by overprotection and rejection.

The rejection dimension of parenting style significantly and negatively predicted college students' peer relationship and empathy; the overprotective dimension significantly and negatively predicted college students' peer relationship and positively predicted college students' empathy; the emotional warmth dimension significantly and positively predicted college students' peer relationship and empathy.

Parenting styles affects college students' empathy by influencing peer relationships.

Funding

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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