

# The Mediating Role of Attachment between Parenting Style and Depression Based on Hierarchical Regression Analysis

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**Abstract.** Nowadays, depression is the second cause of death among college students, and it has become a major killer on college campuses. Many college students are deeply troubled by depression, and the malignant events caused by depression are increasing. Therefore, great attention should be paid to the influence of depression on college students. In this study, 639 college students were randomly selected, literature review method, questionnaire survey method, SPSS statistical software were used to explore the relationship between the three variables of college students' parenting style, attachment and depression with hierarchical regression analysis method, further understand the status of college students' depression, analyze the influence mechanism of college students' depression, and provide evidence for depression intervention. So that more college students can study and live more healthily.

**Keywords:** College student, parenting style, attachment, depression.

## 1 Introduction

With higher levels of education, students are faced with more stressful events, such as more pressing and challenging academic tasks, living in student dormitories, and these challenges need to be effectively addressed. Studies have shown that Asian countries suffer from more depression than other countries [1]. The psychological problems of college students are very worthy of attention, and the malignant events of suicide caused by depression are often reported. According to a new study by the International Association for Mental Health, depression is becoming more common among young people between the ages of 18 and 25. Young people in this period are just entering university. College students face a variety of stressors that are closely related to depression. Many college students leave home and parents for the first time, and they have to deal with strangers, new ideas, sexual issues, and all kinds of anxiety in their lives. Studies showed that more than 10% of college students have had suicidal thoughts, and depression is the second cause of death among college students [2]. It can be seen from the relevant literature at home and abroad that most studies on depression are limited to clinically depressed patients, and there are few studies on non-clinically depressed groups, and even fewer studies on depression in non-clinical samples of college students.

Therefore, this study will take non-clinical samples of college students as subjects to further explore the mechanism of depression.

## **2 Review**

### **2.1 Research on the relationship of parenting style and depression**

Previous studies had shown that early parent-child relationship and traumatic events can easily lead to personality disorders in children <sup>[3]</sup>. Parents' early behavior can influence children's physical and mental health during adolescence <sup>[4]</sup>. Parental warmth and behavioral control are negatively correlated with adolescent depression <sup>[5]</sup>. Depressed children and adults have the following patterns of parenting: more rejection, hostility, criticism, lack of attention and emotional warmth from parents. Overprotection by parents is also a bad parenting style associated with depression. The parents of neurotic patients tend to adopt the parenting style of less concern and more control. Parents lack concern for their children, and there is more punishment, rejection and denial <sup>[6]</sup>.

Therefore, hypothesis 1 was proposed: *The parenting style of parents has a significant impact on depression.*

### **2.2 Research on the relationship of parenting style and attachment**

Kim et al. (2021) adopted the meta-analysis method and concluded that early parenting style plays a very important role in children's physical health and development outcomes, and authoritarian and authoritative parenting styles are positively and negatively correlated with anxious attachment and avoidant attachment respectively <sup>[7]</sup>. The study of Malonda et al. (2019) verified the view, he pointed out that parenting style play an important role in children's personal socialization development, which affects prosocial behavior and peer attachment <sup>[8]</sup>. Therefore, it is quite important for the parent to pay close attention to the development of the child during the developmental stage. Parents raise their children in a reasonable way, give them warm care, and their children form a secure attachment style.

Therefore, hypothesis 2 was proposed: *The parenting style of parents has a significant impact on the attachment.*

### **2.3 Research on the relationship of attachment and depression**

In recent years, a large number of clinical psychological studies had found that adults' early attachment experience has an important impact on their future personality and psychological development, such as depression, fear and anxiety, inappropriate sexual behavior, and inability to establish intimate relationships with others are highly correlated with adults' insecure attachment type <sup>[9]</sup>. A study by Spruit et al. (2020) showed that secure attachment is a protective mechanism against the occurrence of mental illness, and insecure attachment is a predictive factor for the development of depression in adolescents <sup>[10]</sup>. Brophy et al. (2020) verified that attachment anxiety and attachment avoidance have significant predictive effects on depression <sup>[11][12][13]</sup>.

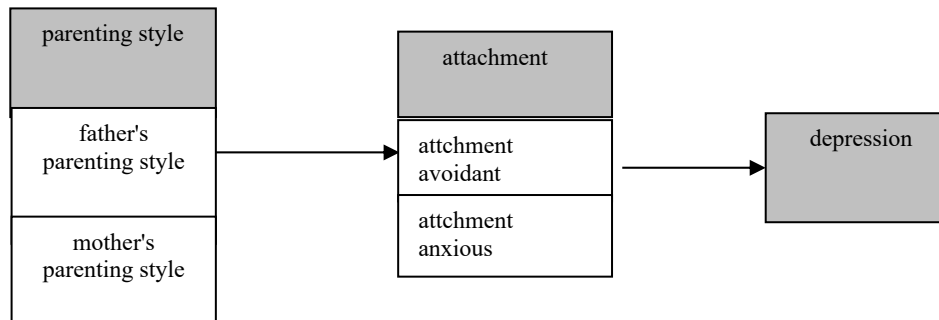
Therefore, hypothesis 3 was proposed: *Attachment has a significant effect on depression.*

## 2.4 Research on the relationship of parenting style, attachment and depression

A large number of scholars at home and abroad had conducted research on depression. On the one hand, it is found that gender, age, personality, cognition, attribution style, coping style, self-esteem, social class, social support, school, grade, family and other factors have an important impact on the generation of depression in college students, and parenting style and attachment are also very important influencing factors. Parenting style is the result of interaction between parents and children in the social environment and family environment. Because the gender and education level of the parents have a significant impact on the parenting style, different parents will adopt different parenting styles. Darling and Steinberg's (2017) research showed that parenting styles play a profound and long-term role in children's development. The parenting style has a non-negligible impact on children's cognitive development, character formation, self-concept, mental health and other aspects. The healthy growth of children depends on the correct parenting style of parents <sup>[14]</sup>. Since Bowlby established attachment theory in 1960s, the importance of attachment style to individual development has been recognized by more and more people. A secure attachment relationship is not only conducive to the physical and mental health and social development of children, but also directly affects the perfection of personality in the process of individual growth <sup>[15]</sup>. Akhtar (2012) showed that tolerant parenting style is significantly correlated with avoidant and anxious attachment <sup>[16]</sup>. According to the study of Fowler et al. (2013), secure attachment type plays a promoting role in emotional regulation, pain tolerance and relationship maintenance. Conversely, insecure attachment is associated with high levels of psychopathology <sup>[17]</sup>. Therefore, it is inferred that parents' parenting style affects college students' attachment style, which in turn affects depression.

Therefore, hypothesis 4 was proposed: *Parenting style affects depression through attachment.*

Based on this, the hypothesis model of this study is proposed see **Figure 1**.



**Fig. 1.** The hypothetical model of the study

## 3 Review

### 3.1 Sample

The study adopted random sampling from Beijing, Shenyang, Harbin, Yantai and Dongying. A total of 750 questionnaires were sent out and 702 were recovered, with a recovery rate of

93.60%. After excluding invalid questionnaires, 639 were valid, with an effective rate of 91.03%. The distribution of subjects is as follows see **Table 1**.

**Table 1.** List of basic information of samples

Variable	Type	NUM	Percent (%)
Sex	Male	323	50.5
	Female	316	49.5
Native place	City	234	36.6
	Town	148	23.2
	Village	256	40.1
School	Tsinghua University	208	32.5
	Northeastern University	26	4.1
	China University of Petroleum	57	8.9
	Shenyang Normal University	122	19.1
	Shandong Technology and Business University	151	23.6
	Shenyang Polytechnic University	8	1.3
Grade	Heilongjiang Institute of Technology	67	10.5
	Freshman	145	22.7
	Sophomore year	214	33.5
	Junior	95	14.9
	Senior	185	29.0
Major	Art	213	33.3
	Science	421	65.9

### 3.2 Instruments

*Self-Rating Depression Scale.* The self-rating scale developed by William W.K. Zung (1965) can effectively reflect the symptoms of depression and their severity and changes. Each item corresponds to one relevant symptom, rated on a 1-4 scale. The internal consistency coefficient of this scale is 0.810, and the half-point reliability is 0.720.

*Emga Minnen av Badndosnauppförstran(EMBU).* The Chinese version of EMBU, compiled by C. Priles et al. (1980), department of psychiatry, Umea University, Sweden, and revised by Yue Dongmei et al. (1993), China Medical University, was adopted to evaluate parents' parenting attitudes and behaviors. There are 66 questions in this scale, including six factors of father's parenting style: emotional warmth and understanding (FI), punishment and harshness (FII), excessive interference (FIII), preference for subjects (FIV), rejection and denial (FV), overprotection (FVI); There are five factors in the mother's parenting style: emotional warmth and understanding (MI), over interference and over protection (MII), rejection and denial (MIII), punishment and harshness (MIV), and preference for subjects (MV). The internal consistency coefficient of the scale was 0.928, and the half-point reliability was 0.809.

*Experiences in Close Relationships Inventory (ECR).* The Chinese version compiled by Brennan et al. (1998) and revised by Li Tonggui of Peking University (2005) was adopted to measure the scores of participants' attachment dimension. The questionnaire consisted of 36 questions, including two dimensions of anxiety and avoidance. The internal consistency coefficient of the scale is 0.783, and the internal consistency coefficient of the avoidance dimension is 0.764. The internal consistency coefficient of the anxiety dimension was 0.850. The partitioned reliability of the avoidance dimension is 0.675. The half-reliability of the

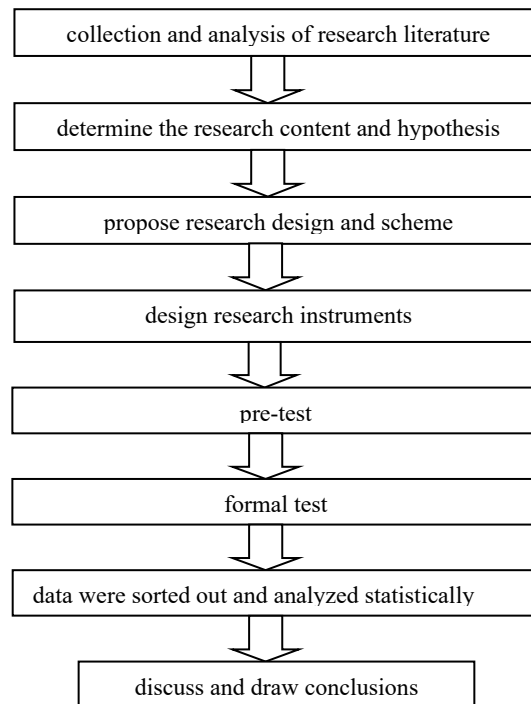
anxiety dimension was 0.819. Because there are many revised versions of ECR in China, confirmatory factor analysis was performed to test the structure of the scale used in this study. The fitting index can well reflect the fitting degree of the model to the original data, so the two-factor structure model of the ECR scale has been well verified see **Table 2**.

**Table 2.**Confirmatory factor analysis results of ECR inventory

Model	Index of fit								
	$\chi^2$	$df$	$\chi^2/df$	$GFI$	$NFI$	$CFI$	$TLI$	$IFI$	$RMSEA$
2028.945	593	3.421	0.948	0.917	0.932	0.924	0.932	0.073	

### 3.3 Research Procedures

According to the research theme, statistical data analysis was conducted to verify the hypothesis, and the conclusion of this research was obtained, see **Figure 2** for specific procedures.



**Fig.2.** Research Procedures

## 4 Results and analysis

### 4.1 Correlation analysis of parenting style, attachment and depression variables

**Table 3** presents the results of descriptive statistical analysis of the variables. As can be seen the correlation between parenting style, attachment and depression: the father's emotional

warmth, understanding, punishment, severity, rejection, denial parenting style and attachment avoidance are significantly correlated; Paternal parenting styles such as punishment, harshness, excessive interference, preference for subjects, rejection, denial and overprotection are significantly related to attachment anxiety. Mother's emotional warmth, understanding, rejection and denial are significantly related to attachment avoidance. There are significant correlation between the mother's interference, over-protection, rejection, denial, punishment, harshness and preference for the subjects' parenting style and attachment anxiety. Attachment avoidance and attachment anxiety are significantly related to depression. Father's emotional warmth, understanding, punishment, harshness, preference for subjects, rejection, denial, overprotective parenting style is significantly related to depression. The mother's emotional warmth, understanding, too interference, too protection, rejection, denial, punishment, severity, preference for the subjects' parenting style is also significantly related to depression.

**Table 3.** Correlation analysis of parenting style, attachment and depression

	1	2	3	4	5	6	7	8	9	10	11	12	1 3	1 4
FI	1													
FII	.28** *	1												
FIII	.16** *	.46** *	1											
FIV	.15** *	.25** *	.13* *	1										
FV	.21** *	.70** *	.50***	.18***	1									
FVI	.10* *	.29** *	.49***	.23***	.39***	1								
MI	.88** *	.34** *	.04	.03	-.29***	.02	1							
MII	.08	.36** *	.67***	.16***	.43***	.60** *	.02	1						
MIII	.28** *	.68** *	.42***	.16***	.80***	.37** *	.39** *	.50** *	1					
MIV	.24** *	.81** *	.35***	.23***	.62***	.23** *	.34** *	.41** *	.73** *	1				
MV	.10	.29** *	.12*	.89***	.24***	.25** *	.04	.20** *	.21** *	.26***	1			
De	.34** *	.36** *	.05	.10*	.27***	.16** *	.35** *	.13** *	.31** *	.33***	.13*	1		
Avo	.17** *	.097* 3	.03	-.06	.11**	.06	.19** *	.06	.12**	.07	-.06	.22** *	1	
Anx	-.01	.16** *	.21***	.15**	.18***	.25** *	-.02	.27** *	.21** *	.12**	.14* *	.24** *	-.04	1

Note:1. \*\*\*  $P < 0.001$  \*\*  $P < 0.01$  \*  $P < 0.05$

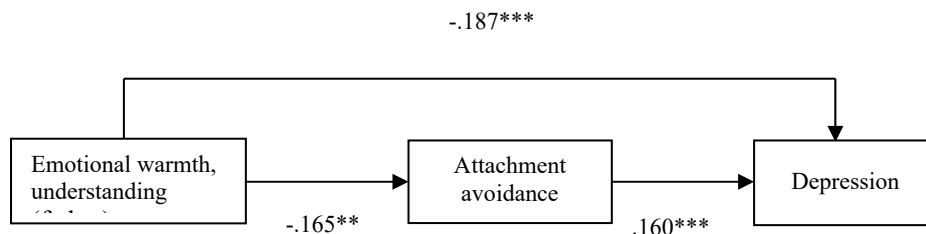
2. There are six factors in father's parenting style: emotional warmth and understanding (FI), punishment and harshness (FII), excessive interference (FIII), preference for subjects (FIV), rejection and denial (FV), and overprotection (FVI); There are five factors in the mother's parenting style: emotional warmth and understanding (MI), over interference and over

protection (MII), rejection and denial (MIII), punishment and harshness (MIV), and preference for subjects (MV); Depression (De); Attachment avoidance (Avo); Attachment Anxiety (Anx).

#### 4.2 Analysis of the mediating role of attachment between parenting styles and depression variables

##### 4.2.1 Analysis of the mediating effect of attachment avoidance on father's parenting styles and depression

As can be seen from **Table 4**, the influence of father's emotional warmth and understanding parenting style on attachment avoidance has reached a significant level (-.165\*\*). The influence of attachment avoidance on depression also reached a significant level (.195\*\*\*), and the contribution of attachment avoidance to depression variation was 3.7% after controlling variables were excluded. The influence of emotional warmth, understanding, punishment, harshness, excessive interference and overprotection on depression reached a significant level (-.213\*\*\*, .340\*\*\*, -.125\*, .140\*). After excluding the influence of control variables, the explained variance was 18.9%. When both father's parenting style and attachment avoidance are considered, attachment avoidance has a significant impact on depression (.160\*\*\*), and the dimensions of emotional warmth, understanding, punishment, harshness, excessive interference and overprotection in father's parenting style have a significant impact on depression (-.187\*\*\*, .345\*\*\*, -.128\*, .133\*). But the relationship between emotional warmth, understanding, and depression has weakened (-.213\*\*\* to -.187\*\*\*). These results indicate that attachment avoidance has a partial mediating effect between the father's emotional warmth, understanding parenting style and depression, and the relationship between them is shown in **Figure 3**.



**Fig.3.** Standardized value of father's emotional warmth and understanding parenting style, attachment avoidance and depression

**Table 4.** Results of three-step mediated regression analysis of father's parenting style, attachment avoidance and depression

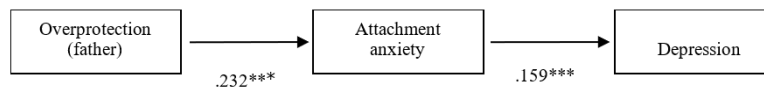
Variable	Attachment avoidance		Depression		Depression		
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 3
Sex	.014	.050	-.032	-.031	-.047	.077	.068
Native place	.078	.087	.042	.030	-.042	-.038	-.052
School	.105*	.097	.186***	.171***	.196***	.170***	.155***
Major	.112*	.113*	.108**	.091*	.113*	.091	.073

Grade	.073	.080	.008	.001	.026	.004	-.009
Emotional warmth, understanding		-.165**				-.213***	-.187***
Punishment, severity		-.034				.340***	.345***
Excessive interference		.022				-.125*	-.128*
Preferred subject		-.068				.037	.048
Reject, deny		.053				.005	-.003
Overprotection		.041				.140*	.133*
Attachment avoidance				.195***			.160***
F	2.592*	2.367*	5.885***	25.456***	3.714**	15.536***	12.187***
R <sup>2</sup>	.033	.068	.045	.082	.046	.235	.259
△R <sup>2</sup>	.033*	.035*	.045***	.037***	.046**	.189***	.024***

Note: \*\*\*  $P < 0.001$  \*\*  $P < 0.01$  \*  $P < 0.05$

#### 4.2.2 Analysis of the mediating effect of attachment anxiety on father's parenting style and depression

As shown in **Table 5**, the influence of father's preference for subjects and overprotective parenting style on attachment anxiety reached a significant level (.113\*,.232\*\*\*). The influence of attachment anxiety on depression also reached a significant level (.251\*\*\*), and after excluding the influence of control variables, the contribution of attachment anxiety to depression variation was 6.1%. The influence of emotional warmth, understanding, punishment, harshness, excessive interference and overprotection on depression reached a significant level (-.213\*\*\*,.340\*\*\*, -.125\*,.140\*). After excluding the influence of control variables, the explained variance variance was 18.9%. When both father's parenting style and attachment anxiety are considered, attachment anxiety has a significant impact on depression (.159\*\*\*), and the dimensions of emotional warmth, understanding, punishment, harshness and excessive interference in father's parenting style have a significant impact on depression (-.200\*\*\*,.343\*\*\*, -.140\*). The influence of the father's overprotective parenting style on depression became less significant (.103). This suggests that attachment anxiety has a complete mediating effect between the father's overprotective parenting style and depression, as shown in **Figure 4**.



**Fig. 4.** Standardized value of father's overprotective parenting style, attachment anxiety and depression

**Table 5.** Results of three-step mediated regression analysis of father's parenting style, attachment anxiety and depression

Variable	Attachment anxiety		Depression		Depression		
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 3
Sex	.022	.070	-.032	-.049	-.047	.077	.065
Native place	-.134**	-.116*	.042	.068	-.042	-.038	-.019
School	.021	.011	.186***	.190***	.196***	.170***	.169***

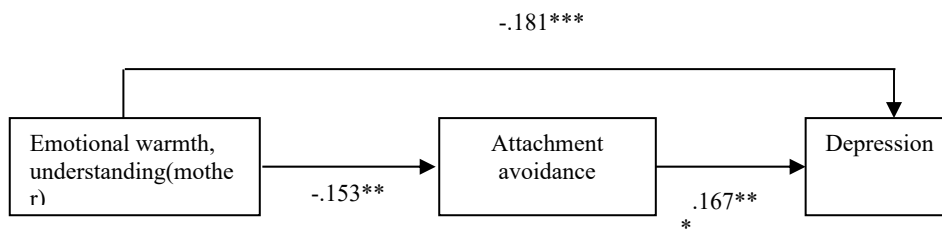


Major Grade	.167***	.144**	.108**	.089*	.113*	.091	.068
Emotional warmth, understanding	.073	.058	.008	-.002	.026	.004	-.005
Punishment, severity		-.079				-.213***	-.200***
excessive interference		-.025				.340***	.343***
Preferred subject		.094				-.125*	-.140*
Reject, deny		.113*				.037	.019
Overprotection		.017				.005	.002
Attachment anxiety		.232***				.140*	.103
F			.251***				.159***
R <sup>2</sup>	3.530**	7.597***	5.885***	43.273***	3.714**	15.536***	10.932***
ΔR <sup>2</sup>	.044	.147	.045	.106	.046	.235	.256
	.044**	.103***	.045***	.061***	.046**	.189***	.022***

Note: \*\*\*  $P < 0.001$  \*\*  $P < 0.01$  \*  $P < 0.05$

#### 4.2.3 Analysis of the mediating effect of attachment avoidance on mother's parenting styles and depression

As shown in **Table 6**, the influence of mother's emotional warmth and understanding parenting style on attachment avoidance reaches a significant level (-.153\*\*). The influence of attachment avoidance on depression also reached a significant level (.167\*\*), and the contribution of attachment avoidance to depression variation was 3.7% after controlling variables were excluded. The influence of maternal emotional warmth, understanding, punishment and strict parenting style on depression reached a significant level (-.207\*\*\*, .263\*\*\*). After excluding the influence of control variables, the explained variance was 16.4%. When the mother's parenting style and attachment avoidance are considered at the same time, attachment avoidance has a significant impact on depression (.167\*\*), and the mother's emotional warmth and understanding, punishing and severe parenting style has a significant impact on depression (-.181\*\*\*, .268\*\*\*). But the relationship between emotional warmth, understanding, and depression has weakened (-.207\*\*\* to -.181\*\*\*). The results showed that attachment avoidance had a partial mediating effect between maternal emotional warmth and understanding parenting styles and depression, as shown in **Figure 5**.



**Fig. 5.** Standardized value of mother's emotional warmth and understanding parenting style, attachment avoidance and depression

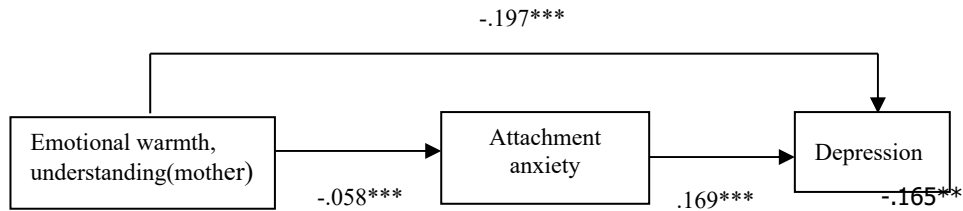
**Table 6.** Results of three-step mediated regression analysis of mother's parenting style, attachment avoidance and depression

Variable	Attachment avoidance		Depression		Depression		
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 3
Sex	.013	.040	-.032	-.031	-.047	.055	.048
Native place	.080	.087	.042	.030	-.042	-.030	-.044
School	.103*	.088	.186***	.171***	.198***	.151**	.136**
Major	.111*	.107*	.108**	.091*	.113*	.083	.065
Grade	.073	.088	.008	.001	.027	.006	-.009
Emotional warmth, understanding	-	.153**				-.207***	-.181***
overinterference, overprotection		.073				.007	-.005
Reject, deny		.034				.029	.024
Punishment, severity		-.030				.263***	.268***
Preferred subject		-.096				.056	.072
Attachment avoidance				.195***			.167***
F	2.550*	2.970*	5.885***	25.456***	3.765**	15.651***	12.734***
R <sup>2</sup>	.032	.069	.045	.082	.047	.211	.237
△R <sup>2</sup>	.032*	.037*	.045***	.037***	.047**	.164***	.026***

Note: \*\*\*  $P < 0.001$  \*\*  $P < 0.01$  \*  $P < 0.05$

#### 4.2.4 Analysis of the mediating effect of attachment anxiety on mother's parenting style and depression

As shown in **Table 7**, mothers' emotional warmth, understanding, and preferred subject's parenting style have a significant impact on attachment anxiety (-.058\*\*, .108\*). The influence of attachment anxiety on depression also reached a significant level (.251\*\*\*), and after excluding the influence of control variables, the contribution of attachment anxiety to depression variation was 6.1%. The influence of maternal emotional warmth, understanding, punishment and severity parenting style on depression reached a significant level (-.207\*\*\*, .263\*\*\*). After excluding the influence of control variables, the explained variance was 16.4%. When the mother's parenting style and attachment anxiety were considered at the same time, attachment anxiety had a significant impact on depression (.169\*\*\*), and the mother's emotional warmth, understanding, punishment and severe parenting style had a significant impact on depression (-.197\*\*\*, .285\*\*\*). But the relationship between emotional warmth, understanding, and depression has weakened considerably (-.207\*\*\* to -.197\*\*\*). The results showed that attachment anxiety has a partial mediating effect between emotional warmth, understanding and depression in mothers' parenting style, as shown in **Figure 6**.



**Fig. 6.** Standardized value of mother's Emotional warmth, understanding parenting style, attachment anxiety and depression

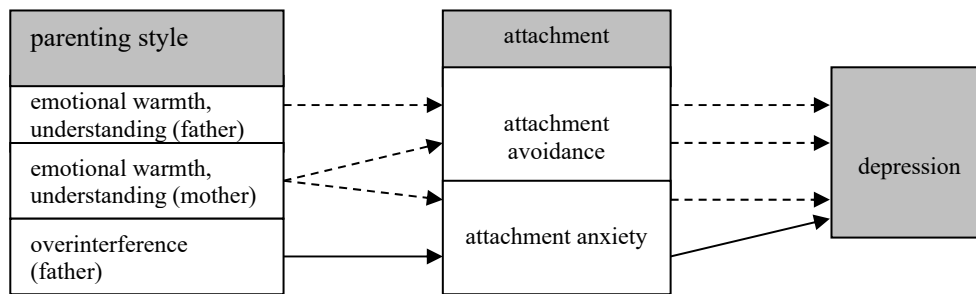
**Table 7.** Results of three-step mediated regression analysis of mother's parenting style, attachment anxiety and depression

Variable	Attachment avoidance		Depression		Depression		
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 3
Sex	.028	.037	-.032	-.049	-.047	.055	.048
Native place	-.145**	-.144**	.042	.068	-.042	-.030	-.005
School	.029	-.005	.186***	.190***	.198** *	.151**	.151***
Major	.174***	.136**	.108**	.089*	.113*	.083	.060
Grade	.074	.050	.008	-.002	.027	.006	-.003
Emotional warmth, understanding		-				-.207***	-.197***
Overinterference, overprotection		.248				.007	-.035
Reject, deny		.141				.029	.006
Punishment, severity		-.132				.263***	.285***
Preferred subject		.108*				.056	.038
Attachment anxiety				.251***			.169***
F	3.918**	8.716** *	5.885** *	43.273** *	3.765* *	15.651** *	12.017** *
R <sup>2</sup>	.049	.147	.045	.106	.047	.211	.235
ΔR <sup>2</sup>	.049**	.099***	.045***	.061***	.047**	.164***	.024***

Note: \*\*\*  $P < 0.001$  \*\*  $P < 0.01$  \*  $P < 0.05$

#### 4.2.5 Modified hypothesis model

Through the mediation regression analysis results of the first four steps, the model hypothesized in the research was modified, as shown in **Figure 7**.



**Fig.7.** Revised hypothetical model

*Note: The solid line represents fully mediation; Dotted lines represent partial mediations*

## 5 Discussion

### 5.1 Relationship between parenting style and depression

The results showed that parental emotional warmth, understanding, punishment and severity parenting style had significant predictive effect on depression. Paternal overintervention and overprotective parenting styles were significant predictors of depression. This was consistent with the findings of Ebrahimi et al. (2017), who suggested that authoritative parenting was significantly negatively correlated with student depression <sup>[18]</sup>.

When children are in stressful situations and feel anxious and sad, parents give their children warmth and understanding, which can help them deal with emotional distress and emotional mediation. Parents' timely response to their children's sadness or frustration can alleviate their pain at the time and help them suppress negative feelings in the long run to control the bad emotions that may cause them depression <sup>[19]</sup>. On the contrary, if the child lacks the warmth and understanding of the parents, it will make the child's personality is not perfect, the lack of the ability to relieve the trouble and pain, and then produce depression.

The punishing and severity parenting style of the parents makes the children feel inferior, helpless and insecure. In social communication, they are worried about being criticized by others and are afraid of failure, so they focus their attention on avoiding being negated by others and are excessively demanding on their own behavior, which leads to the formation of bad personality characteristics such as lack of self-confidence, self-esteem, excessive restraint and dependence, and in severe cases, children are prone to interpersonal sensitivity, depression and other symptoms <sup>[20]</sup>.

Generally, the father is in the dominant position in a family and is a symbol of power and status. Father's special status in the family determines that father is easy to take excessive interference, excessive protection of parenting. Western studies believed that such parenting style will lead to the impairment of children's social skills and lower social support in

adulthood, and will affect adult personality characteristics, such as excessive dependence, too strong achievement motivation, and too much emphasis on the sense of control over the environment. These are predisposing factors for depression in adults [6].

## **5.2 Relationship between parenting style and attachment**

The hierarchical regression analysis showed that parental emotional warmth and understanding parenting style had a significant predictive effect on attachment avoidance. Parental preference for the subjects' parenting style has positive predictive effect on attachment anxiety; Father's overprotective parenting style has a significant predictive effect on attachment anxiety; Mothers' emotional warmth and understanding parenting style were significant predictors of attachment anxiety.

Parents lack warmth and understanding of their children, cold, belittle, picky, and children lack the necessary affirmation, understanding and encouragement, do not feel the warmth of the family, children will experience a sense of worthlessness, incompetence, inferiority, lack of confidence. In daily life, they will avoid as much as possible a variety of interpersonal interactions, the formation of high avoidance attachment pattern.

The parenting style of parents has a very important impact on the anxiety level of children [21]. Parents' excessive preference for the subjects will make their children lack the opportunity to exercise, which will lead to their lack of self-care ability and necessary social skills. Moreover, this parenting style of parents will make their children ridiculed and discriminated by people around them, and will affect their adult personality characteristics, such as excessive dependence, timidity, selfishness and self-centeredness. The personality trait makes it difficult for them to get along with others. When encountering difficulties, setbacks, and stressful events, they will feel powerless and helpless, and lack the necessary social support, it is easy to produce a sense of helplessness, and then produce anxiety, forming a high anxiety attachment pattern.

There is a big difference between China's family education mode and that of foreign countries. Parents give their children too much love. Due to the dominant position of the father in the family, it is easier to over-protect the children, the mother's natural maternal nature gives more warmth and understanding, these "overflowing love", often make the children too capricious, excessive immersion in dependence, these are the characteristics of attachment anxiety.

## **5.3 Relationship between attachment and depression**

Regression analysis showed that both attachment avoidance and attachment anxiety have significant positive predictive effects on depression, which is consistent with the research of Zheng et al. [12]. Other studies had shown that individuals with attachment avoidance and anxiety have extremely low self-esteem [22] [23], and low self-esteem can easily lead to depression [24] [25].

Individuals who avoid attachment are afraid of forming intimate relationships with others deep down, so they are easy to suppress and hide their emotions, poor interpersonal skills, lack of social support systems, and easy to form a withdrawn personality. When encountering difficult problems, individuals with attachment avoidance usually adopt avoidance and withdrawal to solve problems. This negative coping method may play a buffer effect in a short period of time,

but in the long run, problems will accumulate, and without social support system to use, they will be disappointed and helpless, and then depression.

Individuals with attachment anxiety, in order to attract others' care and attention to themselves, excessively express their negative emotions, while getting others' attention, they are afraid of losing, so individuals with attachment anxiety are always in anxiety. When others can't give him full attention, he will become more and more excessive demands, so that the people around him away from him, and this vicious circle continues. When they encounter difficulties, setbacks, and stress problems, they experience too much negative emotions, and even connect some negative events in the past, which strengthens their negative emotions, and then lead to depression.

#### **5.4 Partial mediating role of attachment avoidance between parental emotional warmth, understanding parenting style and depression**

The analysis of the results showed that attachment anxiety plays a partial mediating role between emotional warmth and understanding parenting style of parents and depression, that is, parental emotional warmth and understanding parenting style can indirectly affect children's depression through attachment avoidance, and can also directly affect children's depression.

Parents give their children enough warmth and understanding, praise, encouragement, support, affirmation, children will feel the warmth from the family, and then children will experience more sense of value, will be more confident, self-improvement, self-reliance. In daily learning and life, they will like to participate in a variety of interpersonal interactions, forming a low avoidance attachment pattern. On the contrary, it is easy to form a high avoidance attachment pattern, which leads to the lack of social interaction, withdrawn personality, withdrawal and problem-solving style, and provides the possibility of depression. In addition, if the lack of parents' warmth and understanding in the process of children's growth, it is easy to make the children's personality isn't sound, lack of the ability to relieve pain, directly lead to depression.

Therefore, the more emotionally warm and understanding parenting styles parents, the lower the level of attachment avoidance in their children, and the lower the chance of depression.

#### **5.5 The fully mediating role of attachment anxiety between father's overprotective parenting styles and depression**

The results showed that attachment anxiety plays a fully mediating role between father's overprotective parenting style and depression. That is, the father's overprotective parenting style has a significant effect on depression through attachment anxiety.

The father in the dominant position in the family is prone to excessive protection of his children, and this parenting style often makes the children too willful, self-centered, excessive immersion in dependence, lack of confidence, perseverance and ability to overcome difficulties, which are the characteristics of attachment anxiety. As mentioned above, attachment patterns with high anxiety tend to over-express their negative emotions and their powerlessness, and they are afraid of losing others' attention and help at the same time, so individuals with attachment anxiety are always in anxiety. When they encounter difficulties, setbacks, and stress problems, they experience too much negative emotion, and they often link this negative emotion with some negative events in the past, and depression becomes possible.

Therefore, the more overprotective the parenting style, the higher the level of attachment anxiety, and thus the greater the chance of depression.

### **5.6 The partial mediating role of attachment anxiety between mother's emotional warmth, understanding parenting style and depression**

The analysis of the results showed that attachment anxiety plays a partial mediating role between maternal emotional warmth and understanding parenting style and depression, that is, maternal emotional warmth and understanding parenting style can indirectly affect children's depression through attachment anxiety, and can also directly affect children's depression.

As mentioned earlier, the mother's lack of warmth and understanding of her children easily leads to her children's willfulness and lack of ability to cope with society, leading to her children's anxiety, which in turn easily leads to depression. In addition, children who excessively lack the emotional warmth and understanding of their mothers are more likely to have dysfunctional personalities, leading to depression.

Therefore, the more emotionally warm and understanding parenting styles adopted by the mother, the lower the level of attachment anxiety, and thus the lower the chance of depression.

### **5.7 Summary of the mediating role of attachment between parenting style and depression**

Attachment avoidance and attachment anxiety have a significant predictive effect on depression. The above mediation analysis results showed that emotional warmth and understanding parenting style of parents and overprotective parenting style of fathers are the two most important factors to reduce the level of attachment avoidance and attachment anxiety. Therefore, it is necessary to strengthen the parents' emotional warmth and understanding parenting style, and reduce the father's overprotective parenting style.

To strengthen the emotional warmth and understanding of parents' upbringing, parents should be more love, care, understanding and support for their children, give their children more affirmation, encouragement, and stand in the perspective of their children. To reduce the excessive protection of the father's parenting style, the father should be appropriate "decentralization", give more freedom to the children, let them have more autonomy, at the same time provide more opportunities for children to exercise, truly cultivate their self-reliance, self-improvement ability, improve their mental health level, in order to children can better adapt to society.

## **6 Conclusions**

In this study, college students were used as subjects to explore the relationship between parenting style, attachment and depression by hierarchical regression analysis. The study concluded as follows: First, parents' emotional warmth, understanding, punishment, severity parenting style, father's excessive interference, overprotective parenting style has a significant predictive effect on depression. Second, parents' emotional warmth and understanding parenting style have significant predictive effect on attachment avoidance; Preferred subject parenting style, father's overprotective parenting style and mother's emotional warmth and understanding parenting style had significant predictive effect on attachment anxiety. Thirdly,

attachment avoidance and attachment anxiety have significant predictive effects on depression. Fourth, attachment plays a mediating role between parenting style and depression. Among them, parents' emotional warmth and understanding parenting style influenced depression through attachment avoidance, and it also directly influenced depression. Overprotective parenting by fathers influences depression through attachment anxiety; Mother's emotionally warm and understanding parenting style influences depression through attachment anxiety, and it can also directly affect depression.

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