

Research Article

The Effect of Parenting Style on Depression: The Mediating Role of Life History Strategies

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Abstract

In China, youth refer to under the age of 16. During adolescence, children's psychological problems are the focus of attention. Based on Bronfenbrenner's bioecology theory and life history theory, this study examined the relationship between parenting styles and depression, in which life history is a mediator. Based on ecosystem theory and life history theory, this paper examines the influence of parenting style on junior middle school students' depression and its mechanism. A total of 551 primary school students were investigated by using parenting style rating scale, depression scale and MINI-K scale. Data analyses were performed using SPSS 24.0. The results showed that: (1) Parents' positive parenting style negatively predicted depression, and parents' negative parenting style positively predicted depression; (2) Life history strategy played a mediating role between parenting style and depression. The results not only revealed the relationship between parenting style and depression of junior high school students, but also revealed its mechanism, which had certain reference value for improving the mental health of junior high school students. Results of this study indicate the negative influence of parents' negative parenting style on middle school students' emotional adjustment and the mediating role of life history strategies. Taken together, these findings suggest that parenting style is a proximal factor for depression and that future interventions should focus on parent-adolescent interactions.

Keywords

Parenting Style, Depression, Life History Strategy, Junior High School Students

1. Introduction

Depression is a negative emotional state that individuals experience when they feel overwhelmed by external pressures [1]. According to the "National Mental Health Development Report" published by the Institute of Psychology, Chinese Academy of Sciences, the detection rate of depression among adolescents in China was 24.6% in 2020, with an increasing trend as age progresses, indicating that adolescents have become a high-risk group for depression. Depression and depressive emotions can adversely affect social adaptation in adolescents and may even lead to self-harm or suicidal be-

haviors [2, 3]. They are also significant predictors of typical clinical depressive disorders in adulthood [4]. In the biopsychological model, research on adolescent depression primarily focuses on several factors such as genetic influences, chemical imbalances, and environmental conditions. Adolescence is a critical period for cognitive and personality development; thus, family environment, parenting styles, and individual personality traits can act as triggers for depressive emotions.

Parents not only give life to their children but also play

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crucial roles as behavioral and psychological guides during their growth. Studies indicate that parenting styles are related to depression levels among college students [5]. The Family Stress Model suggests that parental caregiving behaviors can increase the likelihood of children's behavioral issues and emotional problems like depression [6, 7]. Therefore, investigating how parenting styles influence depression is essential.

Broadly defined, parenting style refers to the parallel nurturing relationship between caregivers and those being cared for; more narrowly defined it pertains specifically to caregivers' attitudes or methods towards their children or other dependents. Parenting style encompasses both verbal and non-verbal behaviors created by parents along with the emotional atmosphere they foster [8]. Research has found that negative parenting styles adopted by parents can predict the level of depression in individuals, serving as a significant risk factor for adolescent depressive emotions [9]. The level of depression in adolescents is closely related to parental interference and overprotection. Such negative parenting practices hinder the development of autonomy in adolescents, leading to inevitable conflicts between parental control and the youth's desire for independence during their growth process, which results in strained parent-child relationships and low-quality development [10]. Excessive control exhibited by parents tends to increase levels of depression among adolescents; conversely, when parents demonstrate greater understanding and warmth, it can reduce depressive feelings in children. Furthermore, the stress-buffering model suggests that parental support can help mitigate external pressures faced by individuals, thereby decreasing the likelihood of depression; on the other hand, a lack of parental support increases this probability [11]. Therefore, this study hypothesizes that negative parenting styles positively predict depression while positive parenting styles negatively predict it.

The life history strategy refers to the evolutionary and developmental processes through which individuals allocate limited resources among various growth and reproductive tasks [12]. It is a continuous spectrum characterized by fast strategies on one end and slow strategies on the other. Research indicates that fast strategies are often associated with negative developmental outcomes, such as interpersonal vio-

lence, procrastination, and substance addiction (e.g., over-eating) [13, 14]. In contrast, slow strategies can predict positive development in individuals. As described by life history theory, those who adopt a slow life history strategy tend to prioritize quality over quantity when it comes to reproduction; they invest more emotionally and possess hope for the future along with a sense of responsibility. Therefore, it can be inferred that adolescents who engage in slow life history strategies are less likely to experience depression.

Studies have found that individuals who were neglected or emotionally abused by their parents during their growth are more likely to use fast strategies [15]. The life history theory points out that even if individuals share the same evolutionary mechanism, the parenting style of their parents will also affect the formation of their life history strategies. According to the sensitization model, the life environment in childhood can influence the development of personal life history strategies by shaping both the coping styles in the face of adversity and the environmental cognitive schema constructed by individuals [16, 17]. Studies have found that parental behavior in childhood has a continuous influence on life history strategies and parental parenting style can affect the formation of personal life history strategies [18]. Authoritative parenting style is positively correlated with slow life history strategies, and can explain the differences of life history strategies in late adolescence. Based on this, it is inferred that parenting style has an impact on junior middle school students through life history strategies.

To sum up, in order to explore the mechanism of parents' parenting style on junior high school students' depression. This study proposes a mediation model to examine the mediating role of life history strategies, as shown in Figure 1. The research hypothesis is as follows:

H1: Parents' positive parenting style significantly negatively predicted junior middle school students' depression, and parents' negative parenting style significantly positively predicted junior middle school students' depression;

H2: Life history strategy plays a mediating role between parenting style and depression in junior middle school students.

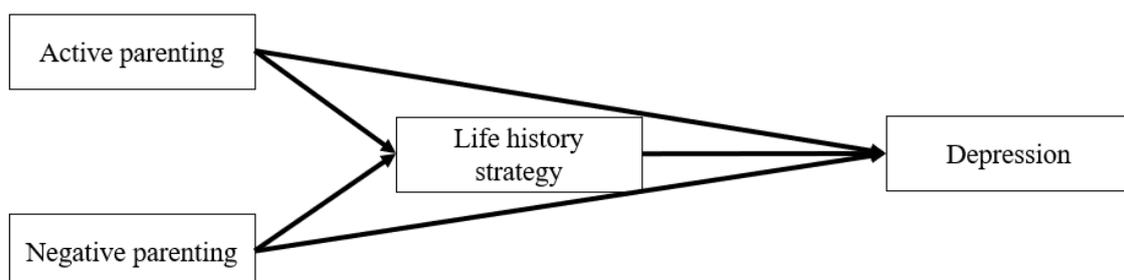


Figure 1. Theoretical model diagram.

2. Materials and Methods

2.1. Participants

The new junior high school students in a city of Shandong Province were selected as the subjects, and the method of class cluster sampling was adopted. A total of 600 questionnaires were issued in this survey, and 551 valid questionnaires were collected, with an effective recovery rate of 91.83%. Among them, there were 268 male students and 283 female students, and the total mean age was 12.02 ± 0.79 years old. All participants read the informed consent statement for this study and agreed to participate in this study.

2.2. Materials

2.2.1. Parenting Style

The parenting style rating scale revised by Yang Hongjun [19]. Including the father version and the mother version, with 23 questions each, covering the three dimensions of care, encouragement of autonomy and control (for example, my mother is very kind to me). The scale was scored with 4 points, ranging from "totally inconsistent" to "completely consistent". The two dimensions of caring and encouraging autonomy were classified as positive parenting scores, and the control dimension was classified as negative parenting scores. The lower the score, the less the child perceived the parenting style in this dimension. The internal consistency coefficients of these two parenting styles in this study were 0.87 and 0.83 respectively, indicating good reliability.

2.2.2. Depression

The depression status was measured by the Central Depression Scale compiled by Radloff, with a total of 20 questions [20]. The mood of the subjects in the latest week (e.g., I think my life is nothing) was tested with a score of 4 points, ranging from "totally inconsistent" to "completely consistent", and the words of 16 questions pointed to depression tendency. Four questions pointed to non-depressive states for reverse scoring. The lower the score is, the lower the frequency of depression in the individual will be. In this study, the internal consistency coefficient of the scale was 0.91, indicating good reliability.

2.2.3. Life History Strategy

The Chinese version of Mini-K scale translated by Chen and revised by Xu Mingjie was used to measure the life history strategies of the subjects [13, 21]. A total of 16 questions (e.g., I often provide emotional support and practical help to my relatives) were scored on a 7-point scale, ranging from

"totally inconsistent" to "completely consistent". The lower the score, the more inclined the individual was to use the fast life history strategy. In this study, the internal consistency coefficient of the scale was 0.90. Good reliability.

2.3. Data Analysis

SPSS24.0 was used for common method deviation test, descriptive statistics and correlation analysis, and PROCESS was used for middle effect analysis.

3. Result

3.1. Common Method Deviation Test

Since the data obtained in this study were all self-reported, Harman single factor test was used to test the common method bias of the two data respectively to avoid common method bias [22]. The results showed that 18 factors had eigenvalues greater than 1, and the variance explained by the first common factor was 15.08%. The first common factor explanation rate of the above test data was lower than the critical value of 40%. Therefore, the possibility that this study had serious common methodological bias was excluded.

3.2. Describe Statistics and Correlation Analysis

It can be seen from Table 1 that the positive parenting styles of fathers and mothers are significantly higher than the negative parenting styles of fathers and mothers, indicating that the overall family parenting of students in this study group is better, and the average depression level is lower than the median value (2 points), indicating that the mental health level of this study group is better.

The correlation between parenting style, depression, and life history strategies varied to different degrees (Table 1). Specifically, the positive parenting styles of both fathers and mothers were significantly negatively correlated with life history strategies ($r = -0.27$; $r = -0.33$), indicating a significant positive association ($r = 0.37$; $r = 0.41$). Conversely, the negative parenting styles and depressive moods of both fathers and mothers were significantly positively correlated with life history strategies ($r = 0.28$; $r = 0.24$), suggesting a significant negative association ($r = -0.12$; $r = -0.10$). Table 1 presents the mean values, standard deviations of each variable, as well as relevant inter-variable results. Due to consistent correlation patterns observed in both positive and negative parenting styles of fathers and mothers, subsequent mediation effect analysis no longer distinguishes between parental roles but solely focuses on analyzing the mediating effects of positivity or negativity.

Table 1. Descriptive statistics and correlation analysis (n=551).

	1	2	3	4	5	6
paternal active parenting	1					
paternal passive parenting	-0.10*	1				
Maternal active parenting	-0.59**	-0.17**	1			
Maternal passive parenting	-0.01	0.50**	-0.21**	1		
Depression	-0.27**	0.28**	-0.33**	0.24**	1	
Life history strategy	0.37**	-0.12**	0.41**	-0.10*	-0.32**	1
<i>M</i>	2.96	1.77	3.20	1.80	1.80	5.10
<i>SD</i>	0.39	0.37	0.44	0.40	0.59	1.12

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3.3. The Mediating Role of Life History Strategies in the Influence of Parenting Style on Depression

According to correlation analysis, there is a significant correlation among parenting styles, life history strategies, and depression. However, a deeper exploration is needed among the three. Therefore, in this study, model 4 in the PROCESS macro program of SPSS24.0 is used to explore the effects between positive parenting style (X1), negative parenting style (X2) of parents and life history strategy (M), and depression (Y). At the same time, the bias-corrected non-parametric percentile BOOTSTRAP program is used to test the significance of the mediating effect. Sampling is repeated 1000 times to calculate the 95% confidence interval. If the confidence interval does not contain 0, the mediating effect is significant.

3.3.1. Mediating Effect Analysis of Life History Strategy Between Positive Parenting Style and Depression

Taking gender as a control variable, the regression model results show that positive parenting style significantly negatively predicts depression ($\beta = -0.34$, $t = -8.34$, $p < 0.001$) and positively predicts life history strategy ($\beta = 0.44$, $t = 11.41$, $p < 0.001$). After introducing the mediating variable of life history strategy, positive parenting style ($\beta = -0.24$, $t = -5.55$, $p < 0.001$) significantly negatively predicts depression, indicating that life history strategy plays a partial mediating role between positive parenting style and depression.

Secondly, the mediation effect test results are shown in Table 2. The direct effect value of positive parenting style on junior high school students' depression is -0.39. The 95%

confidence interval is [-0.52, -0.25], which does not include 0. This indicates that the direct path effect path between positive parenting style and depression is significant. The mediating effect value of life history strategy between positive parenting style and depression is -0.15. The 95% confidence interval is [-0.22, -0.09], which does not include 0. This indicates that the mediating effect is significant. The specific path model is shown in Figure 2.

3.3.2. Mediating Effect Analysis of Life History Strategy Between Negative Parenting Style and Depression

Taking gender as a control variable, the regression model results show that negative parenting style significantly positively predicts depression ($\beta = 0.30$, $t = 7.41$, $p < 0.001$) and negatively predicts life history strategy ($\beta = -0.13$, $t = -3.10$, $p < 0.01$). After introducing the mediating variable of life history strategy, negative parenting style ($\beta = 0.26$, $t = 6.74$, $p < 0.001$) significantly positively predicts depression, indicating that life history strategy plays a partial mediating role between negative parenting style and depression.

Secondly, the mediation effect test results are shown in Table 3. The direct effect value of negative parenting style on junior high school students' depression is 0.47. The 95% confidence interval is [0.33, 0.61], which does not include 0. This indicates that the direct path effect path between negative parenting style and depression is significant. The mediating effect value of life history strategy between negative parenting style and depression is 0.07. The 95% confidence interval is [0.02, 0.13], which does not include 0. This indicates that the mediating effect is significant. The specific path model is shown in Figure 3.

Table 2. The mediating effect of life history strategies between parents' positive parenting styles and depression.

Paths	Estimate	SE	ULCI	LLCI	RES
Total effect	-0.54	0.06	-0.66	-0.41	—
Direct effect	-0.39	0.07	-0.52	-0.25-	72.22%
Indirect effect	-0.15	0.03	-0.22	-0.09	27.78%

Table 3. The mediating effect of life history strategies between parents' negative parenting styles and depression.

Paths	Estimate	SE	ULCI	LLCI	RES
Total effect	0.54	0.07	0.40	0.68	—
Direct effect	0.47	0.07	0.33	0.61	87.04%
Indirect effect	0.07	0.03	0.02	0.13	12.96%

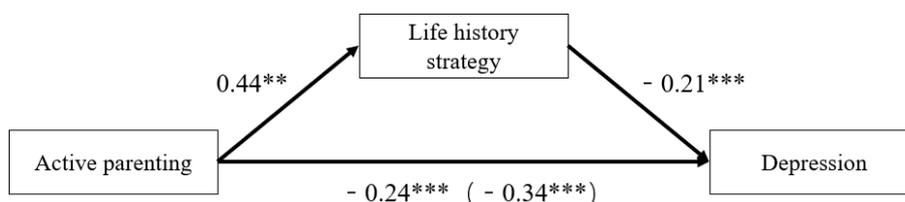


Figure 2. The mediating model of life history strategies between parents' active parenting style and depression.

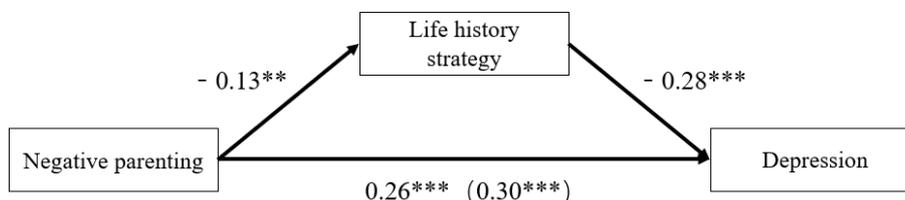


Figure 3. The mediating model of life history strategies between parents' negative parenting style and depression.

4. Discussion

From the perspective of life history theory, this study explores the influence and mechanism of parental rearing style on depression in junior high school students. The results show that junior high school students' perception and response to parental rearing style significantly affect their depression, and life history strategies play a mediating role between parental rearing style and depression.

4.1. The Influence of Parenting Style on Depression

The results showed that positive parenting directly and negatively predicted depression in junior high school students,

and negative parenting directly and positively predicted depression in junior high school students. Verified hypothesis 1. According to the ecosystem theory, there is a regular and active two-way interaction between the developing individual and the environment. When this interaction process becomes more and more complex, development appears. In junior high school, although parents are not as important as childhood, their influence is still great. The parenting style they adopt is crucial to the psychological development of junior high school students. The more negative the parenting style of parents, such as rejection and overprotection, may limit the child's behavior and easily induce negative emotions such as depression. Children under positive parenting style are prone to a series of positive emotions, while children under negative parenting style are more likely to produce negative emotions such as loss and confusion [23]. Foreign studies have also obtained the same results, and children's negative emotions

are associated with high maternal control [24]. The stress-buffer model of depression indicates that in the face of external stress, parental support can help individuals reduce stress and reduce the probability of depression, while lack of parental support increases the risk of depression [25]. Therefore, negative parenting is more likely to make individuals prone to depression.

4.2. The Mediating Role of Life History Strategies in Parenting Styles and Depression

The results of this study supported Hypothesis 2. Parenting style affected the depression of junior high school students through the mediating role of life history strategies. That is, if parents adopt active parenting style, junior high school students will tend to slow life history strategies, which will reduce the depression problem of junior high school students. Maslow's hierarchy of needs theory states that the need for belonging and love is a basic need of the individual. Parents refuse and over-protect adolescents, lack love and care, basic needs are not met, and it is difficult to form a stable relationship. At this time, individuals will adopt the fast life history strategy both psychologically and physiologically, they will become more precocious physiologically, and they will pursue more impulses and risks psychologically, hoping for immediate satisfaction [26]. Although there is no distinction between the two life history strategies, the fast life history strategy is more prone to emotional problems, such as depression [27]. When parents adopt an emotionally warm positive parenting style, they are more likely to have social support. After growing up, they are more likely to show up as slow life history strategies, focusing on the quality of development, avoiding risks, overcoming impulses, focusing on family life and intimacy building, and altruistic helping others [28]. Individuals with slow life history strategies are able to suppress impulses and regulate their behavior, and display friendly, altruistic, and reciprocal prosocial behaviors in social activities, reducing the probability of depression [29].

From an evolutionary perspective, a good and positive environment will lead to a positive trend. Parents, as the responsible parents of enlightenment, adopt a parenting style that allows adolescents to form different life history strategies. Positive parenting styles influence individuals to gradually develop slow life history strategies and show less depression in the subsequent growth process.

4.3. Research Limitations and Prospects

Although this study has gained some valuable findings, it also has some shortcomings, which need to be further improved in future studies. First, this study is a cross-sectional study. In the future, experimental research or other research methods should be used to verify the causal relationship between variables, so as to deepen the mechanism of action

between variables. Secondly, the source of the sample in this study is relatively single, only represented by the first grade of junior high school, and the ecological validity of the research results is insufficient. In the future, the sample size can be expanded to make the research results more representative. Finally, this study focuses on depression as an emotional indicator. According to the perspective of positive psychology, more positive emotional indicators should be explored in the future to enrich the relevant research on emotional adaptation.

5. Conclusion

This study set out to explore the relationship between parenting style and depression, as well as the mediating role of life history strategy in this relationship. The findings clearly demonstrate two important conclusions.

First, positive parenting style was found to negatively predict depression. This indicates that when parents exhibit positive parenting behaviors such as warmth, support, and encouragement, it is less likely for individuals to experience depression. On the other hand, negative parenting style positively predicted depression. Harsh discipline, rejection, and lack of emotional support associated with negative parenting increase the risk of developing depression.

Second, life history strategy was shown to play a mediating role. This means that parenting style influences an individual's choice of life history strategy, which in turn affects the likelihood of experiencing depression. For example, negative parenting may lead to a more short-term and risk-taking life history strategy, which is associated with higher levels of depression.

These findings have important implications for future research and practice. Future studies could further explore the specific mechanisms through which parenting style and life history strategy interact to influence depression. Longitudinal studies could be conducted to track the development of these relationships over time. Additionally, interventions could be developed to promote positive parenting styles and help individuals develop more adaptive life history strategies to reduce the risk of depression.

In conclusion, this research has shed light on the complex relationship between parenting style, life history strategy, and depression, opening up new avenues for future research and potential interventions to improve mental health.

6. Educational Enlightenment

The results of this study provided implications for reducing the likelihood of depression among junior high school students.

First, parents should provide positive parenting styles and avoid negative parenting styles. Parents should set a positive example. Parents are imitators of their children's behavior. If they want their children to be positive and

optimistic, they must demonstrate this attitude. Parents should encourage rather than criticize their children. Positive encouragement can enhance children's self-confidence. Excessive criticism can lead to frustration. Parents should develop children's problem-solving skills. When facing problems, they should guide children to think of solutions rather than solve them directly. This can cultivate children's independent thinking ability and anti-frustration ability. Parents should teach children to be grateful and see the beauty in life, so that they can learn to cherish the people and things around them and find the beauty in life. At the same time, children should experience moderate challenges and failures, which can help children learn to face difficulties and setbacks. But parents should avoid negative rejection, severe punishment, over-interference, over-protection, and favoritism. These negative parenting styles can dampen children's self-esteem levels, make children feel afraid and insecure, and thus lack children's independence and autonomy, as well as problem-solving skills and the ability to cope with setbacks.

Second, nurture according to the child's life history strategy. Parents should observe the child's behavior and emotions to understand whether the child's life history strategy is fast or slow. If the child's life history strategy is fast, it can help the child learn to cope with stress and frustration by providing a stable environment and support. If the child's life history strategy is slow, it can help the child develop his own abilities and potential by providing more opportunities and challenges. But whether the child's life history strategy is fast or slow, it is necessary to develop adaptability to adapt to different environments and situations.

Abbreviations

X	Independent Variable
Y	Dependent Variable
M	Mediator Variable
SD	Standard Deviation
SE	Standard Error
RES	Relative Effect Size

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Author Contributions

Yan Wang: Conceptualization, Investigation, Methodology, Formal Analysis, Writing—original draft, Project administration, Supervision

Fengjie Ci: Data curation, Writing—review & editing

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Data Availability Statement

The data is available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

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Biography



Yan Wang is currently a third-year master's student at Ludong University and an undergraduate at Suzhou City University, both majoring in psychology. Their primary research focus is on the social development of children and adolescents.

Research Field

Yan Wang: Educational Psychology, Fairness Psychology, Third-Party Punishment, Adolescent Mental Health, Empathy Psychology.

Cifeng Jie: Children's Social Development, Adolescent Development, Positive Psychology, Empathy Psychology, Adolescent Mental Health.