The Influence of Parenting Styles on Adolescents' Anxiety and Depression ---the Mediating Role of Self-Efficacy

Linzhe Li1, Ranqi Qian2,* and Yiran Wang3

1 College of Grammar and Law, Wuhan Donghu University, Wuhan, 430010, China
2 College of Humanities and Management, Guizhou University of Traditional Chinese Medicine, Guiyang, 55000, China
3 Shenghua Zizhu Academy, Shanghai, 200000, China

Abstract. The relationship between parenting styles (PS) and anxiety and depressive symptoms is one of the key research topics today. Researchers have found progress in the cause of adolescents' anxiety and depressive symptoms regarding parenting styles. However, there are still research gaps for factors related to PS. Therefore, this study investigates the effect of PS on adolescents' anxiety and depressive symptoms and treats self-efficacy (SE) as the mediator by collecting data from several scales (SAS, SDS, s-EMBU-C and GSE) and conducting SPSS 21.0 analysis on the data. According to the results in this paper, the father's emotional warmth parenting style (EWPS) could affect the level of anxiety, whereas that of the mother had an insignificant result. Besides, both parents' EWS were negatively and indirectly correlated with depression in significance. Additionally, the rejection parenting style (RPS) and over-protection parenting style (OPPS) affected anxiety and depression significantly directly and positively (all p < 0.05). That result turned out to be insignificant in the indirect path. Generally, this research provides an appropriate suggestion to lower anxiety and depressive symptoms. The suggestion is to encourage parents to offer more emotional warmth to their children instead of being RPS and OPPS.

1 Introduction

Nowadays, the mental health of adolescents has received increasing concern and attention. That is because many adolescents worldwide have depressive symptoms and anxiety. These symptoms may be underrated as they do not meet the diagnosed criteria with slight symptoms. Therefore, some adolescents may not find professional help. The reasons for the symptoms are various and complicated due to both environmental and individual factors. However, some papers have already provided some evidence that one of the reasons for adolescents' depressive symptoms and anxiety is related to PS.

1.1 Basic introduction to terms

Parenting refers to the encompassing set of attitudes and behaviors used by parents in the process of nurturing and guiding their children. These thoughts and behaviors manifest as a distinctive "parenting style (PS)." Baumrind posited that there are three distinct PS, namely authoritarianism, authoritarianism, and permissiveness [1]. The fourth PS, known as the neglectful parenting style, was subsequently supported by Baumrind in her third investigation [2]. Subsequently, Maccoby and Martin used the terminology "uninvolved parenting style" to represent a parenting approach characterized by little responsiveness and expectations in 1983 [3]. Self-efficacy (SE), as posited by Bandura's social cognitive theory [4], refers to a person’s confidence level in their capability to handle the requisite activities essential for attaining a desired goal. Subsequently, the domains of SE were progressively introduced and examined in various research studies, with a particular focus on academic self-efficacy [5].

1.2 Correlation between parenting styles and self-efficacy

Research consistently shows strong evidence supporting the link between PS and SE. Multiple studies have confirmed a significant relationship, particularly in specific areas of SE. Nevertheless, the findings differed with regards to the potential association between permissive and authoritarian parenting styles and SE, as well as the magnitude of this correlation. According to research, it was shown that there exists a considerably favorable correlation between various PS and career self-efficacy. However, the strength of this link varies across the different PS [6]. The researchers discovered that the authoritative parenting style had the greatest impact on career self-efficacy, surpassing both permissive and authoritarian styles [6]. Nevertheless, it is worth noting that young parents tended to use the authoritarian parenting style more often, as shown by previous research [6].

* Corresponding author: 201004010205@stu.swmu.edu.cn

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Positive character traits such as positivity, confidence, proactiveness, and responsibility play a significant role in developing emotional intelligence and enhancing the career self-efficacy of teenagers. Additionally, authoritative parenting style is positively linked to General Self-Efficacy (GSE) \( r = .25, \ p < .01 \) [7]. Nevertheless, there was no observed correlation between either an authoritarian or a permissive PS and GSE [7]. The findings of a previous study demonstrate the close correlation between the authoritative parenting style and SE among secondary school students, accounting for 36.9% of the variance. Additionally, the authoritarian parenting style is shown to play a crucial role in fostering SE in secondary school students [8]. A robust and significant association was seen between SE, authoritarianism, and authoritarianism. This study further provided support for the notion that the authoritative parenting style is more effective in developing children’s mental health and SE [8]. In addition to examining the traditional authoritative, authoritarian, and permissive parenting styles, Noel and other scholars also conducted an analysis of uninvolved parenting style [8]. The findings demonstrated that a PS characterized by lack of involvement had a negative correlation with children's SE [8].

1.3 Correlation between self-efficacy and depression and anxiety

Based on a study conducted by three Chinese researchers, there exists a correlation between SE, depressive symptoms, and anxiety. The researchers discovered a positive correlation between EW and SE in mathematics. Additionally, emotional warmth showed a negative association with math anxiety. This highlights the significance of nurturing positive parent-child relationships, particularly ones that are characterized by emotional warmth and reduced feelings of rejection. This can help improve children's mathematical self-confidence and reduce related anxiety [9]. A further investigation revealed that the presence of depressive symptoms had the ability to forecast levels of academic and emotional self-efficacy, with no discernible variance based on gender, after a period of six months [10]. Furthermore, it was shown that SE did not serve as a reliable predictor for later levels of depression symptoms [10]. The findings of this study indicated that there was a potential link between depressed sentiments and their detrimental impact on several aspects of functioning, such as academic and emotional self-efficacy. However, it should be found that low levels of SE did not seem to be a causal factor in the exacerbation of depression symptoms seen six months later [10]. Additionally, there is a noteworthy correlation between lower levels of self-esteem and higher levels of trait anxiety/neuroticism, which are indicators of anxiety disorders. This association also extends to symptoms of depression [11]. Previous research has shown some evidence supporting the notion that certain dimensions of SE are associated with anxiety-related concerns [11]. To clarify, the study found that SE was associated with generalized anxiety and panic/somatic phobia. Additionally, school phobia was shown to be strongly connected with academic self-efficacy, whereas emotional phobia was correlated with somatic phobia [11]. In conclusion, it was shown that SE remained a relevant factor in explaining a moderate but statistically significant portion of the variability in symptoms associated with anxiety and depression, even after accounting for the variables [11]. In general, Muris (2002) observed a strong positive association between elevated anxiety and depression and diminished levels of SE. Effective interventions in parenting methods has been shown to be beneficial in mitigating anxiety and depressive symptoms in teenagers.

1.4 Effective intervention in parenting styles helps to alleviate anxiety and depression in adolescents.

The personality and parenting practices of parents have a significant impact on the personality characteristics shown by teenagers. Parents often have a proclivity to impart education to their children in alignment with their own methodologies and preferences. This research aims to test the effects of parental skills training on negative emotions among adolescent girls. It is well-established that anxiety and depression play significant roles in the development of adolescents, and parents have been identified as key influencers in this process. The present experimental work used a multi-stage cluster sampling strategy as described in reference [12]. Prior to the implementation of the intervention, two distinct cohorts of participants were chosen. Data collection occurred at three time points: prior to the intervention, 2 months after the intervention, and 6 months following the therapy [12]. The average anxiety and depression levels of both groups were assessed using PS, Anxiety, and Depression questionnaires completed by the parents [12]. The types of information sent included audio files, brief textual messages, images with captions, video content, PowerPoint presentations, and other kinds of data analysis. The study used SPSS software version 24 to conduct statistical analyses. The findings of the study indicated that the implementation of maternal parenting styles may be beneficial in assisting teenage daughters in managing anxiety and depression, leading to a decrease in anxious and depressive emotions [12].

1.5 Impact of different types of PS on anxiety

The main objective of this study is to explore the relationship between different parenting styles (PS) and the development of anxiety symptoms in children. To gather data, a multi-stage cluster sampling approach was employed, and 161 questionnaires were completed by parents of children aged 4 to 12 in Karaj and West Tehran regions. The findings from the correlational analysis guided the research process [13]. The data was ultimately evaluated with the SPSS program, employing descriptive statistical techniques and correlation coefficients [13]. The findings of the study indicated a negative association between authoritative PS and self-emotional development.
A negative correlation between liberal parenting and energy competition was also detected. Additionally, the study found that authoritative PS significantly impact the self-strength components [13]. Hence, the influence of PS pertaining need to be emphasised in order to mitigate the anxiety experienced by both parents and children [13].

Further investigation is required in the realm of PS. The majority of study focuses on examining the correlation between various SE, including authoritative, authoritarian, and permissive parenting styles, and their impact on SE as well as symptoms of depression and anxiety. However, a limited number of scholars undertake an analysis of the association between PS and the aforementioned characteristics, namely over-protection, emotional warmth, and rejection. According to previous research, emotional warmth is considered a positive parenting style, while rejection and over-protection are seen as poor parenting styles [14]. In this study, the focus is on exploring how SE mediates the relationship between PS and the presence of depressive symptoms and anxiety.

2 Materials and Methods

2.1 Participants

A sum of 174 adolescents participated in the study (81 boys, 93 girls). Only one of the samples was removed. All participants are native Chinese speakers, born and educated in China.

2.2 Procedure

All the participants first completed basic questions. Using a link to Sojump, we could confirm their participation and completion. All the participants proceeded to complete the Self-Rating Anxiety Scale (SAS), the Self-Rating Depression Scale (SDS), the Short-Enga Mimmen Barndoms Uppfostran Chinese Version (S-EMBU-C), and the General Self-Efficacy Scale (GSE). SPSS 21.0 was used to analyse collected data.

2.3 Measure

2.3.1 SAS

The SAS contains 20 items. It is a self-reported scale which cover a variety of anxiety symptoms. Answers are graded on a 4-point scale from 1 (very little time) to 4 (most or all the time). Participants should fill in the questionnaire based on their last week experience. Both positive and negative experiences are included in the project. [15].

2.3.2 SDS

SDS, is a tool for measuring depressive emotions. SDS is an important tool for tracking changes in depression [16]. The higher possibility for the participant to be dejected as the score is higher.

2.3.3 S-EMBU-C

The S-EMBU-C questionnaire is self-reported assessment tool that consists of 21 items, with separate versions for fathers and mothers. One item, the 15th, requires reversing the score. The questionnaire measures three dimensions: rejection, emotional warmth, and over-protection. The scoring is done using a four-point Richter scale. The final score for each dimension is determined by calculating the average score. A higher score indicates a greater likelihood that the child has experienced that parenting style.

2.3.4 General Self-Efficacy Scale

The General Self-Efficacy Scale (GSE) was developed to measure individuals’ perception of their own SE. It aims to predict how well people cope with daily challenges and adapt to various stressful life events. The questionnaire is suitable for use among adults, including adolescents.

2.4 Statistical Analyses

We used Pearson correlation analysis to detect the relation between variables. Furthermore, in the study utilised three PS as predictor variables, anxiety and depression as the outcome variable and SE as the mediator. The study used SPSS PROCESS component and Model 4 to analyze mediating effects, a full mediation model. The Bootstrap method [17] was utilized to detect the mediation effect.

3 Result

This study examined the possible relation between all the variables.

Father’s rejection parenting style (RPS) was negatively associated with father’s EWPS (r (174) = −0.470, p < 0.01) and positively associated with father’s over-protection parenting style (OPPS) (r (174) = 0.710, p < 0.01). Hence, higher father’s RPS was associated with low levels of EW and high levels of father’s OPPS. Also, mother’s PS have the same relationships between rejection, EW, and over-protection.

Notably, anxiety and depression were positively related to the RPS, regardless of the PS of father or mother. Also, depression was negatively associated with SE. However, RPS and OPPS were positively related to anxiety and depression. All of the results can be seen in Table 1.
Table 1. Correlations analysis

<table>
<thead>
<tr>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>0.407**</td>
<td>0.334**</td>
<td>-0.151*</td>
<td>0.269**</td>
<td>0.280**</td>
<td>-0.043</td>
<td>0.330**</td>
<td>-0.144</td>
</tr>
<tr>
<td>Depression</td>
<td>1</td>
<td>0.325**</td>
<td>-0.327**</td>
<td>0.231**</td>
<td>0.365**</td>
<td>-0.297**</td>
<td>0.277**</td>
<td>-0.296**</td>
</tr>
<tr>
<td>Rejection (father)</td>
<td>1</td>
<td>-0.470**</td>
<td>0.710**</td>
<td>0.734**</td>
<td>-0.342**</td>
<td>0.540**</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Emotional warmth (father)</td>
<td>1</td>
<td>-0.290**</td>
<td>-0.385**</td>
<td>0.753**</td>
<td>-0.297**</td>
<td>0.311**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over protection (father)</td>
<td>1</td>
<td>0.646**</td>
<td>-0.321**</td>
<td>0.771**</td>
<td>0.038</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rejection (mother)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.459**</td>
<td>0.740**</td>
<td>0.006</td>
</tr>
<tr>
<td>Emotional warmth (mother)</td>
<td>1</td>
<td></td>
<td>-0.307**</td>
<td>0.253**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over protection (mother)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>-0.002</td>
<td></td>
</tr>
<tr>
<td>Self-efficacy</td>
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<td></td>
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<td>1</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01

The research ran a mediation analysis to predict anxiety and depression. The effects of father’s PS were significant. RPS and OPPS were positively influencing anxiety and depression. However, EWPS was negatively influencing anxiety and depression. Mother’s RPS and OPPS were positively influence anxiety and depression, but mother’s EWPS was not negatively influencing anxiety. The results were shown in Table 2.

Table 2. Summary of the results

<table>
<thead>
<tr>
<th></th>
<th>Anxiety</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>SE</td>
</tr>
<tr>
<td>Rejection (father)</td>
<td>0.659</td>
<td>0.142</td>
</tr>
<tr>
<td>EW (father)</td>
<td>-0.230</td>
<td>0.115</td>
</tr>
<tr>
<td>Over-protection (father)</td>
<td>0.483</td>
<td>0.132</td>
</tr>
<tr>
<td>Rejection (mother)</td>
<td>0.612</td>
<td>0.160</td>
</tr>
<tr>
<td>EW (mother)</td>
<td>-0.075</td>
<td>0.133</td>
</tr>
<tr>
<td>Over-protection (mother)</td>
<td>0.568</td>
<td>0.124</td>
</tr>
</tbody>
</table>
Path coefficients reveal the effects of the PS on anxiety and depression. This paper predicted ten direct paths between PS and anxiety and depression would be found, along with two indirect paths via SE. The correlations between variables were shown in Figure 1. Firstly, father’s EWPS had a direct negative influence on anxiety. In contrast, mother’s EWPS had an insignificant negative influence on anxiety. Secondly, both parents’ EWPS had a significant indirect negative influence on depression. Thirdly, the RPS and OPPS significantly positively affected anxiety and depression. Also, the RPS and OPPS had an insignificant indirect positive influence on anxiety and depression.

Firstly, father’s EWPS had a direct negative influence on anxiety. In contrast, mother’s EWPS had an insignificant negative influence on anxiety. Secondly, both parents’ EWPS had a significant indirect negative influence on depression. Thirdly, the RPS and OPPS significantly positively affected anxiety and depression. Also, the RPS and OPPS had an insignificant indirect positive influence on anxiety and depression.

\[ *p < 0.05, **p < 0.01. \]

**Fig 1.** Final results (Photo/Picture credit: Original)

4 Discussion

The result of the present study indicates that the RPS and OPPS predicts depression and anxiety. If the PS is authoritarian, which can be equaled to rejection and over-protection in this study, children are likelier to suffer more from anxiety and depression. Moreover, authoritarian parenting style leads to a stronger anxious feeling among children [18]. The implication is that parents are underestimating their children’s capabilities to emotional regulation. When parents do not let their children solve problems on their own, their children are more likely to lose the ability to acquire skills to help them deal with negative emotions. Regarding the mother’s EWPS, we found an insignificant positive correlation to anxiety. The mother’s EWPS has a negligible influence on anxiety. What’s more, when parents character more than one PS, a relationship between the different PS will appear. RPS and OPPS harm the EWPS. The high levels of rejection and OPPS reduce the level of EWPS.

Although this study has been concluded, shortcomings have been found. For example, in terms of research content, this study mainly focuses on the SE of adolescents and the impact of PS on negative emotions of adolescents. In terms of research methods, since this study uses the form of a questionnaire survey to allow participants to fill in the three scales, the authenticity of the questionnaire survey results cannot be verified. Furthermore, this point needs to be further analyzed. In terms of research results, other non-research factors will interfere with the results during the research process, and this defect will interfere with and affect the results of data analysis, which is unavoidable. Although there will be certain limitations in the method part and the data analysis are still more effective and reliable and can also provide corresponding references for future researchers to study related topics. Of course, it is valuable to discuss this study and conduct a more in-depth analysis in the future.

5 Conclusion

This current study found that depressive symptoms were negatively correlated to SE. It means that SE was negatively associated with lower depressive symptoms. Therefore, a teenager who has higher SE is likely to have less severe depressive symptoms or even not these symptoms. So, adolescents are encouraged to develop higher SE to alleviate depressive symptoms. Then, the direct negative effect on anxiety happened significantly on the father’s EWPS, while that of mothers had an insignificant result. This result may be caused by most fathers’ greater authoritativeness and less frequency of warm giving than that of mothers. It further causes the father’s emotional warmth to be more effective than the mothers in alleviating anxiety. In addition, EWPS given by both mother and father were negatively and indirectly associated with depressive symptoms in significance. It indicates that SE is a highly correlated mediator in the influencing mechanism between emotional warmth and depression.

Furthermore, the RPS and OPPS affected anxiety and
depressive symptoms directly and positively, with significance but without the indirect path. This consequence shows that SE is ineffective in mediating the RPS, OPPS, and anxiety and depressive symptoms. Parents are wise to avoid adopting the RPS and OPPS as much as possible due to its positive correlation to anxiety and depressive symptoms. This paper fills the research gap in the factors of PS and anxiety and depressive symptoms other than the types of PS. Moreover, this paper contributes to further studying the correlation of PS for the researchers devoted to investigating that topic. Although the method of this paper is reliable and valid, some things could still be improved. For instance, the fatigue effect may not be avoided because the authenticity of participants' answers for several scales cannot be verified. Moreover, this flaw would influence the results via data analysis. As a result, the study can be improved by enhancing the validity of it in the future. The results concluded in this research are not definitely correct because they have not been verified. Therefore, more research should be conducted to study deeper in this topic related to the influence of parenting styles on adolescents' negative emotions with more meaningful conclusions and academic discoveries.

Authors Contribution
All the authors gave an equal contribution, and their names were listed in alphabetical order.

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