



ARTICLE

The Relationship between Parental Stress and Child Conformity: The Mediating Role of Resilience

Houyan Li^{1,2}, Guandong Song^{1,*} and Bin Xiao^{1,*}

¹School of Humanities and Law, Northeastern University, Shenyang, 110169, China

²President's Office, Shenyang Urban Construction University, Shenyang, 110167, China

*Corresponding Authors: Guandong Song. Email: neu_echo2022@163.com; Bin Xiao. Email: 2010009@stu.neu.edu.cn

Received: 31 May 2024 Accepted: 14 August 2024 Published: 20 September 2024

ABSTRACT

Background: In today's society, parental stress has become a prevalent and significant issue, impacting not only parents' mental health but also potentially profoundly affecting children's growth and education. This topic has garnered continuous attention from scholars. The present study aims to delve into the relationship between parental stress and children's behavior, particularly focusing on children's conformity and discipline development during crucial stages. This study aims to explore the relationship between parental stress, child conformity, and resilience, and further examines the mediating role of resilience in the relationship between parental stress and child conformity. **Methods:** We used three scales: the Parental Stress Scale, the Child Conformity Scale, and the Resilience Scale, to survey 890 elementary school students (aged 6–12) and their parents in the Beijing-Tianjin-Hebei region of China. We employed SPSS 26.0 software for data analysis, conducting descriptive statistics, correlation analysis, and mediation effect tests sequentially. In the mediation effect tests, we utilized structural equation modeling (SEM) and regression analysis to examine the mediation effects, ensuring the accuracy and scientific nature of our analysis. **Results:** Through descriptive statistics, correlation analysis, regression models, and mediation effect tests, we found that parental stress significantly negatively predicts child conformity, while resilience shows a significant positive prediction. Further mediation analysis indicates that resilience plays a partial mediating role between parental stress and child conformity, with the mediation effect accounting for 36.67%. **Conclusion:** These findings highlight the importance of the family environment on child behavior and provide valuable insights and recommendations for family education practices in the Beijing-Tianjin-Hebei region. Therefore, we suggest future research should further explore the complex relationships among parental stress, child conformity, and resilience, and examine regional differences to better promote children's overall development.

KEYWORDS

Parental stress; child conformity; resilience; mediating variable; family education

Introduction

In today's high-pressure social environment, parental stress has become a common issue faced by many families [1]. The fast pace of modern life and increased social competition have exacerbated the stress parents feel when raising children [2]. This stress not only negatively impacts parents' mental and psychological health but may also have

adverse effects on children's growth and education [3]. In recent years, multiple studies have shown that excessive parental expectations and pressure can have negative impacts on children's growth and education [4]. For instance, a study conducted on urban primary school students found that those who felt strong academic pressure from their parents were more prone to psychological issues such as anxiety and depression, and their academic



performance did not significantly improve as a result [5]. This finding highlights the complex relationship between parental pressure and children's mental health and academic achievement, further justifying the need for deeper research into this issue. The relationship between parental stress and children's behavior, particularly during crucial stages of shaping behavior and developing discipline, has garnered increasing attention from scholars [6].

Previous research has established a significant reciprocal relationship between parental stress and children's problem behavior. For instance, Baker et al observed that parents of children with developmental delays experience higher stress levels, which correlates with more pronounced problem behaviors in their children [7]. This interaction model has gained widespread recognition in academia, highlighting the significant impact of parental stress on children's behavior and providing a theoretical foundation for subsequent research on the relationship between parental stress and child conformity [8].

Resilience, defined as the ability to recover and adapt quickly in adversity [9], plays a pivotal role in how stress affects both parents and children. Parenting styles have been shown to significantly influence children's resilience [10], providing crucial evidence for understanding its mediating role between parental stress and child conformity [11,12]. Child conformity, vital for socialization [13,14], encompasses utilitarian, emotional, and internalized conformity [15,16], and is influenced by children's cognitive processes such as attention, memory, and thinking [8,17].

Although existing research has achieved certain results in parental stress, children's behavior, and resilience, comprehensive analysis combining these three aspects is still relatively rare. Especially the roles and status of resilience and the newly proposed child conformity in this relationship have not been fully recognized and explored. This study aims to fill this research gap by exploring the relationships among these three aspects to further understand and reveal their internal connections. Specifically, we hypothesize that parental stress negatively impacts child conformity, and that resilience mediates this relationship. By deeply exploring these dynamics, we hope to provide scientific evidence and practical guidance for family education, helping parents and educators more effectively guide children's healthy growth.

In summary, this study not only has theoretical value but also profound practical significance and social value. By deeply exploring the relationships among parental stress, child conformity, and resilience, and understanding the mechanisms of information processing psychology in children's behavior patterns, we hope to provide scientific evidence and practical guidance for family education, helping parents and educators more effectively guide children's healthy growth.

Literature Review and Hypotheses

Research on the relationship between parental stress and child conformity

With the rapid development of modern society, parents face increasing stress in the process of raising children. This

stress arises not only from the challenges brought by economic and lifestyle changes but also from high expectations for children's education. Parental stress refers to the tension, anxiety, and distress parents feel during child-rearing, which can be triggered by various factors, such as balancing work and life, competing for educational resources, and concerns about children's future development [8,11].

Although current research has touched on children's conformity behavior, these studies primarily focus on children's general adherence to school and family rules, rather than specifically examining child conformity—how children adhere to and comply with rules and discipline [15,16]. Additionally, research on children's academic conformity mainly focuses on task completion and attitude formation, without directly addressing conformity behavior [12,17].

The impact of parental stress on child development has been widely studied, but specific research on its effect on child conformity behavior remains insufficient [18]. Most existing studies focus on the impact of parenting styles on children's behavioral problems, psychological health, and academic achievement, with less attention to child conformity at the behavioral level [14,19]. Research indicates a positive correlation between parental stress and children's behavioral problems [20,21]. The study, through long-term observation of 364 children, clearly indicates that increased parenting stress leads to more behavioral problems in children, indirectly suggesting that parental stress may negatively affect children's conformity behavior. Abidin mentioned that parental stress transfers to children, affecting their emotional stability and self-regulation abilities, which may impact their conformity behavior [21]. Emotionally unstable children find it more challenging to adhere to rules and discipline. Landry et al. found in their research that parental stress reduces the quality of parent-child interactions, and high-quality interactions are crucial for children to internalize rules and values, forming good conformity behavior [22]. Therefore, parental stress may indirectly affect child conformity by impacting parent-child interaction quality. Additionally, the study by Conger et al reveals that economic stress, a significant source of parenting stress, correlates significantly with children's problem behaviors, including non-conformity [23].

Theoretically, parental stress may affect child conformity through several pathways. Firstly, high parental stress may lead to stricter or inconsistent disciplinary demands, affecting children's understanding and adherence to discipline [24]. Secondly, parental stress may implicitly transfer to children, affecting their emotional stability and behavioral control, reflecting in their conformity behavior [25]. Finally, parental stress may affect the quality of parent-child interactions, which is crucial for children to internalize rules and values, influencing their conformity [26].

Based on this analysis, we propose the following hypothesis:

H1: There is a negative correlation between parental stress and child conformity behavior, i.e., higher parental stress leads to poorer child conformity behavior.

Research on the mediating role of resilience in the relationship between parental stress and child conformity

Resilience, defined as the ability to maintain adaptation and development despite significant threats or stress [27], is a crucial psychological quality in children's development. Werner first introduced this concept in the 1970s, observing children who displayed good adaptive abilities despite adversity [28]. Resilience affects children's attitudes and coping strategies when facing difficulties [29]. When parental stress increases, children's resilience can act as a buffer, mitigating the negative impact of this stress on their behavior [8]. Children with strong resilience are better at self-regulation in high-stress environments, making it easier for them to understand and adhere to rules [11]. Enhancing children's resilience can be achieved through fostering a positive outlook, self-efficacy, and providing social support [17]. Stronger resilience helps children better cope with parental stress and exhibit higher conformity in facing life's challenges [16].

Several studies have shown that children with higher resilience adapt more positively to rules and discipline. For instance, Ronen mentioned that resilience helps individuals recover and adapt in the face of adversity, which aids children in exhibiting higher conformity to rules [29]. In studies on non-migrant children, it was noted that fostering interpersonal relationships, personal traits, and effective use of environmental resources can significantly enhance children's resilience [22]. These methods and strategies not only help children cope with parental stress but also improve their ability to conform to rules when facing other life challenges [19].

In modern society, increasing parental stress often directly or indirectly influences children's behavioral norms. Resilience, as an intrinsic protective mechanism, may play a crucial moderating role in this influence. Specifically, when parents face high parental stress, their parenting styles may become stricter or more inconsistent, negatively affecting child conformity behavior [24]. However, children with strong resilience can better cope with such stress, maintaining conformity to discipline [25].

The mediating role of resilience is mainly reflected in two aspects. First, it helps children better understand and internalize rules. Resilient children can maintain clear cognition under parental stress, internalizing discipline as their behavioral standard, thus maintaining stable behavior under stress [17]. Second, resilience buffers the negative impact of parental stress on child conformity. When parents adopt poor parenting styles due to stress, resilience can help children resist this negative influence, maintaining conformity.

In summary, although comprehensive research directly targeting child conformity is lacking, analyzing resilience's role in children's conformity behavior provides valuable insights for family education practices [30]. Future research can further explore the specific relationship between resilience and child conformity and how education and training can enhance children's resilience to improve their conformity to discipline [29].

Based on the above analysis, we propose the following hypotheses:

H2: Resilience has a direct positive impact on child conformity.

H3: Higher resilience in children acts as a mediator, reducing the negative impact of parental stress on conformity behavior.

Research Methods

Research subjects

This study aims to investigate the mediating role of resilience in the relationship between parental stress and child conformity. We randomly selected 10 elementary schools from Beijing, Tianjin, and Hebei in China to ensure the research's comprehensiveness and representativeness. The subjects mainly covered school-aged children aged 6–12 and their parents, as this age range is crucial for children's psychological and behavioral development and where parental stress may manifest.

Specifically, we first contacted the school officials, explained the research's purpose and methods, and obtained their support and cooperation. Subsequently, we sent detailed informed consent forms and questionnaires to the parents of the selected children. These questionnaires aimed to collect data on parental stress, children's resilience, and child conformity behavior.

To ensure the authenticity and validity of the data, multiple measures were implemented. Initially, meticulous attention was given to the clarity and precision of the questionnaire design to minimize ambiguities. Secondly, we conducted a small-scale pilot survey in Shenyang to test the questionnaire design's rationality and question validity, ensuring accurate reflection of the subjects' real situation during the actual survey. Additionally, the study was approved by Ethics Committee at the Northeastern University (IBR: 202404050003). The participants voluntarily participated in this study and provided informed consent for their participation.

During the formal survey, conducted from 1 January 2024 to 30 March 2024, we distributed 1000 questionnaires, covering all selected research areas and schools. Finally, we successfully collected 890 valid questionnaires, providing a rich and reliable data foundation for our study. Additionally, we considered the diversity and representativeness of the subjects. During sampling, we ensured balanced distribution in terms of gender, age, and family economic status to more comprehensively reflect the mediating role of resilience in the relationship between parental stress and child conformity.

Measurement tools

To ensure the accuracy and scientific nature of the measurements, we used three scales: the Parental Stress Scale, a self-made Child Conformity Scale, and the Resilience Scale.

Parental stress scale

The Parenting Stress Index Short Form was initially designed by clinical psychologist Abidin in 1976 to provide a thorough assessment of the various stresses parents encounter during the process of raising children [31]. This study utilized the

PSI/SF, which consists of 36 carefully crafted questions covering a wide range of stressful situations that parents may experience.

The PSI/SF employs a Likert 5-point scoring system, ranging from 1 (strongly disagree) to 5 (strongly agree), to more accurately quantify parenting stress. This scale has demonstrated good reliability and validity in numerous studies both domestically and internationally. In this study, the Cronbach's alpha coefficient was 0.85, indicating high internal consistency and stable and reliable measurement of parenting stress [32]. The PSI/SF is composed of three subscales: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child. These three subscales together provide a comprehensive assessment of parenting stress. The Parental Distress subscale focuses on the emotional distress and psychological pressure that parents experience due to parenting. The Parent-Child Dysfunctional Interaction subscale assesses the dysfunction and conflict in the interaction between parents and children. The Difficult Child subscale addresses the stress that parents experience due to the behavioral or emotional issues of the child. The total score range for the scale is 36 to 180 points.

Data analysis revealed that the average score for parenting stress was 97.4 points, with a standard deviation of 23.6 points, indicating that parents in the sample generally experienced moderate levels of stress. Specifically, parents who scored below 72 points (15% of the sample, approximately 134 individuals) experienced lower levels of stress; parents who scored between 72 and 108 points (55% of the sample, approximately 490 individuals) experienced moderate levels of stress; and parents who scored above 108 points (30% of the sample, approximately 267 individuals) faced higher levels of stress. Further analysis of the subscales revealed: In the Parental Distress subscale, the assumed average score was 30 points, with a standard deviation of 7 points. In the Parent-Child Dysfunctional Interaction subscale, the assumed average score was 35 points, with a standard deviation of 6 points. In the Difficult Child subscale, the assumed average score was 32 points, with a standard deviation of 8 points.

Self-made child conformity scale

This scale was self-made by the authors based on research needs to comprehensively assess child conformity behavior, drawing from the team's Child Learning Conformity Scale and Research Compliance Scale [11,32]. The scale contains 16 questions divided into three dimensions: conformity abidance (6 questions), conformity compliance (5 questions), and conformity obedience (5 questions). These

questions cover children's cognition, attitudes, and behavioral responses to discipline in different situations (Table 1). The same Likert 5-point scoring method was used to quantify child conformity behavior, with a total score range of 16 to 80. Although the scale was self-made, it showed high reliability and validity after rigorous pretesting and data analysis. In this study, the Cronbach's alpha coefficient was 0.78, indicating good internal consistency and effective measurement of child conformity [11].

Data analysis shows that the average score for child conformity is 52.6, with a standard deviation of 12.3, indicating that most children exhibit good conformity behavior. Specifically, children scoring below 40 (20%, approximately 178 children) have greater difficulty in conformity; children scoring between 40 and 60 (55%, approximately 490 children) exhibit average conformity behavior; and children scoring above 60 (25%, approximately 223 children) show excellent conformity behavior. Sub-dimension analysis shows:

Abidance (6 questions): Average score of 20.5, standard deviation of 5.1.

Compliance (5 questions): Average score of 16.3, standard deviation of 4.2.

Obedience (5 questions): Average score of 15.8, standard deviation of 4.1.

Resilience scale

This scale was jointly proposed by Hu et al. in 2008 to assess individual resilience levels [33]. The scale includes 27 items covering multiple aspects of resilience, such as emotional regulation, problem-solving ability, and social support network. A 5-point scoring method was used, from 1 (never) to 5 (always), to measure individual resilience more accurately. The total score range is 27 to 135. The scale has been widely used in psychological research and shows excellent reliability and validity. In this study, the Cronbach's alpha coefficient exceeded 0.80, indicating high internal consistency and accurate, stable measurement of individual resilience [33].

Analysis shows that the average score for resilience is 88.7, with a standard deviation of 15.9, indicating that the children in the sample generally have high resilience. Specifically, children scoring below 68 (20%, approximately 178 children) have lower resilience; children scoring between 68 and 102 (50%, approximately 445 children) exhibit moderate resilience; and children scoring above 102 (30%, approximately 267 children) have higher resilience. Sub-item analysis shows: Emotional Regulation (8 questions): Average score of 29, standard deviation of 6.

TABLE 1

Description and sample items of the child conformity scale

Scale items	Description and sample items
Child abidance	Does your child show internal motivation to behave in accordance with family values?
Child obedience	When given a choice, does your child choose to obey to prevent negative consequences?
Child compliance	When asked to do something, does your child consider how it will affect the family's mood or happiness?

Problem-Solving Ability (10 questions): Average score of 39, standard deviation of 8. Social Support Network (9 questions): Average score of 37, standard deviation of 7.

Data analysis

We used advanced statistical software, including SPSS 26.0, to conduct an in-depth analysis of the collected data [34]. To ensure the accuracy and scientific nature of the analysis, we conducted descriptive statistics, correlation analysis, and mediation effect tests sequentially [35]. Firstly, we performed descriptive statistical analysis to comprehensively describe the basic situation of the research sample [35]. Secondly, we used correlation analysis to explore the relationships among parental stress, child conformity, and resilience. In this step, we calculated Pearson correlation coefficients to quantify the strength and direction of the linear relationships among these variables [36]. Finally, to deeply explore the mediating role of resilience in the relationship between parental stress and child conformity, we conducted mediation effect tests. This test adopted the mediation effect test procedure proposed by Wen et al. using structural equation modeling (SEM) or regression analysis to test the mediation effect [37]. In the mediation effect test, we focused on the explanatory power of resilience on the relationship between parental stress and child conformity and whether this mediation effect is significant [38]. A threshold p -value of 0.05 was used to determine statistical significance. Throughout the data analysis process, we strictly followed statistical principles and methods to ensure the accuracy of the data and the scientific nature of the analysis [35]. Through precise statistical analysis, we aim to deeply understand the complex relationships among parental stress, child conformity, and resilience, providing valuable references for research and practice in related fields.

Research Results

Descriptive statistical results

This study collected data on parental stress, child conformity, and resilience through questionnaires. The sample included 890 participants, and the data analysis yielded the following descriptive statistical results (Table 2).

The sample comprised school-aged children between 6 and 12 years old and their parents. Among the children, the gender distribution was nearly equal, with 52% boys and 48% girls. The age distribution included 34% of children aged 6–8 years, 45% aged 9–10 years, and 21% aged 11–12 years.

To assess family economic status, we gathered data on parental income levels and occupational status. The sample included 25% from high-income families, 50% from middle-income families, and 25% from low-income families. This balanced distribution across gender, age, and economic status ensures that the findings of the study are both comprehensive and representative of the broader population, enabling a thorough examination of the mediating role of resilience in the relationship between parental stress and child conformity.

Overall, the data indicate that most parents experience a certain level of stress in parenting, primarily concentrated in

educational, health, and economic stress. Simultaneously, most children demonstrate good conformity behavior and high resilience, particularly in social support. These descriptive statistical results provide foundational data support for subsequent correlation analysis and further exploration of the relationships among parental stress, children's behavior, and psychological traits (Table 2).

Correlation analysis results

Correlation between parental stress and child conformity behavior

Table 3 shows the Pearson correlation coefficients between parental stress and various child behaviors, all significant at $p < 0.01$. Parental stress has a negative correlation with child conformity behavior ($r = -0.45^{**}$), indicating that higher parental stress is associated with lower child conformity. This supports hypothesis H1, confirming a statistically significant negative correlation at the 99% confidence level, meaning the result is unlikely due to chance.

Additionally, parental stress is negatively correlated with abidance ($r = -0.40^{**}$), compliance ($r = -0.38^{**}$), and obedience ($r = -0.36^{**}$), and shows a significant negative correlation with resilience ($r = -0.50^{**}$). These results suggest that various types of parental stress can adversely affect different aspects of children's behavior, emphasizing the need for support to alleviate parental stress and promote healthier child development.

Different forms of parental stress (educational, health, economic) are all negatively correlated with child conformity behavior, highlighting that the stresses faced by parents in the family environment can significantly influence their children's behavior. This underscores the importance of supporting parents to reduce stress and enhance children's development.

Correlation between resilience and child conformity behavior

Table 3 shows that the Pearson correlation coefficient between resilience and child conformity behavior is 0.60^{**} , with a significance level of $p < 0.01$. This indicates that higher resilience is associated with better child conformity behavior, supporting hypothesis H2. The $p < 0.01$ significance level suggests this positive correlation is statistically significant at the 99% confidence level.

Among the dimensions of resilience, emotional regulation and child conformity showed a correlation coefficient of 0.85^{**} , $p < 0.01$. This suggests that children with better emotional regulation abilities are more likely to exhibit good conformity behavior, as they can effectively control their emotions and impulses, making it easier to adhere to discipline and rules. Problem-solving ability and child conformity showed a correlation coefficient of 0.80^{**} , $p < 0.01$, indicating that children with higher problem-solving abilities are more likely to conform to discipline and rules. Good problem-solving abilities help children address difficulties and challenges effectively, reducing the likelihood of non-conforming behavior. Social support network and child conformity showed a correlation coefficient of 0.78^{**} , $p < 0.01$, indicating that children with a more robust and stable social support network are more likely to exhibit good conformity behavior. A strong social support network

TABLE 2

Descriptive statistical analysis results

Variable	Average score	Standard deviation	Low score proportion (<25%)	Medium score proportion (25%–75%)	High score proportion (>75%)
Parental stress	97.4	23.6	15% (approx. 134 people)	55% (approx. 490 people)	30% (approx. 267 people)
Educational stress	38	8	–	–	–
Health stress	50	10	–	–	–
Economic stress	53	11	–	–	–
Child conformity	52.6	12.3	20% (approx. 178 children)	55% (approx. 490 children)	25% (approx. 223 children)
Abidance	20.5	5.1	–	–	–
Compliance	16.3	4.2	–	–	–
Obedience	15.8	4.1	–	–	–
Resilience	88.7	15.9	20% (approx. 178 children)	50% (approx. 445 children)	30% (approx. 256 children)
Emotional regulation	29	6	–	–	–
Problem-solving ability	39	8	–	–	–
Social support network	37	7	–	–	–

TABLE 3

Pearson correlation test results

Variable	Parental stress	Educational stress	Health stress	Economic stress	Child conformity	Abidance	Compliance	Obedience	Resilience
Parental stress	1	0.80**	0.75**	0.70**	–0.45**	–0.40**	–0.38**	–0.36**	–0.50**
Educational stress	0.80**	1	0.50**	0.55**	–0.30**	–0.28**	–0.27**	–0.25**	–0.40**
Health stress	0.75**	0.50**	1	0.45**	–0.35**	–0.32**	–0.31**	–0.29**	–0.42**
Economic stress	0.70**	0.55**	0.45**	1	–0.40**	–0.37**	–0.35**	–0.33**	–0.45**
Child conformity	–0.45**	–0.30**	–0.35**	–0.40**	1	0.70**	0.75**	0.65**	0.60**
Abidance	–0.40**	–0.28**	–0.32**	–0.37**	0.70**	1	0.45**	0.42**	0.55**
Compliance	–0.38**	–0.27**	–0.31**	–0.35**	0.75**	0.45**	1	0.50**	0.52**
Obedience	–0.36**	–0.25**	–0.29**	–0.33**	0.65**	0.42**	0.50**	1	0.48**
Resilience	–0.50**	–0.40**	–0.42**	–0.45**	0.60**	0.55**	0.52**	0.48**	1

Note: ** indicates that the correlation is significant at the $p < 0.01$ level (two-tailed).

provides emotional support, guidance, and behavioral models, helping children form positive behavior patterns and values, promoting their conformity.

Overall, the findings highlight the importance of resilience in enhancing child conformity behavior. This underscores the need for interventions that boost resilience, as they can positively impact children's behavioral development.

Mediation effect test

Mediation effect test steps

First, we conducted a simple regression analysis between parental stress and child conformity. The results showed that parental stress has a significant negative predictive effect on child conformity, meaning that higher parental stress is associated with lower child conformity (Fig. 1).

Mediation Effect of Resilience on Parental Stress and Child Conformity

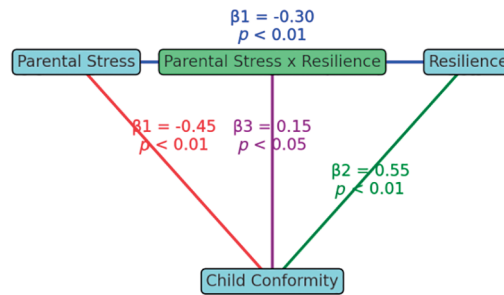


FIGURE 1. Mediation effect diagram.

Step 1: Regression Analysis of Parental Stress and Child Conformity Regression equation: Child Conformity = $\beta_0 + \beta_1 * \text{Parental Stress} + \epsilon$ Results: $\beta_1 = -0.45, p < 0.01$, indicating that parental stress significantly negatively predicts child conformity.

Next, in step two, we included resilience as a mediating variable and conducted the regression analysis again. The results showed that, in addition to parental stress, resilience also significantly positively predicts child conformity, meaning that higher resilience is associated with better child conformity.

Step 2: Regression Analysis with Resilience as a Mediating Variable Regression equation: Child Conformity = $\beta_0 + \beta_1 * \text{Parental Stress} + \beta_2 * \text{Resilience} + \epsilon$ Results: $\beta_1 = -0.30, p < 0.01, \beta_2 = 0.55, p < 0.01$, indicating that resilience significantly positively predicts child conformity.

Finally, in the third step, we further included the interaction term of parental stress and resilience to examine the mediating effect of resilience on the relationship between parental stress and child conformity. The results showed that the interaction term significantly predicts child conformity, suggesting that resilience plays a mediating role in the relationship between parental stress and child conformity.

Step 3: Regression Analysis with Interaction Term Regression equation: Child Conformity = $\beta_0 + \beta_1 * \text{Parental Stress} + \beta_2 * \text{Resilience} + \beta_3 * (\text{Parental Stress} \times \text{Resilience}) + \epsilon$ Results: $\beta_1 = -0.25, p < 0.01, \beta_2 = 0.50, p < 0.01, \beta_3 = 0.15, p < 0.05$, indicating that resilience significantly mediates the relationship between parental stress and child conformity.

Overall, the academic explanation of this mediation effect process shows the mechanism by which resilience influences the relationship between parental stress and child conformity. Specifically, parental stress affects children’s resilience, which in turn influences their conformity behavior indirectly. These findings provide important clues for understanding the mechanisms of child behavior development within the family environment and offer a theoretical basis for future family education interventions.

Mediation effect proportion

The study adopted the bias-corrected non-parametric percentile bootstrap method in SPSS to determine whether the mediation effect of resilience on the relationship

between parental stress and child conformity is significant. By repeatedly randomly sampling 1000 samples from the population, we obtained 95% confidence intervals (CI) for the direct, indirect, and total effects to assess the significance of these effects [38]. The results indicate that parental stress has a partial mediation effect on child conformity through resilience (Table 4). This means that parental stress influences child conformity through resilience, and this mediation effect is significant, accounting for 36.67% of the total effect [37].

Specific Calculation Results: First, determine the values of the mediation effect (ab) and the total effect (c). The direct effect (c) from the first regression analysis is -0.45 . The direct effect (c’) from the second regression analysis is -0.30 . The indirect effect (ab) is $-0.30 * 0.55 = -0.165$. Therefore, the total effect is -0.45 , the direct effect is -0.30 , and the indirect effect is -0.165 . The actual mediation effect proportion is the ratio of the indirect effect (a * b) to the total effect (c): Mediation effect proportion = 0.3667 . Thus, the actual mediation effect proportion is 36.67% (Table 4).

Discussion

The impact of parental stress on child conformity

The study results show that parental stress has a significant negative impact on child conformity. Parental stress is a common phenomenon in families, encompassing various aspects such as work stress, economic pressure, and family responsibilities [8,17]. These stresses can affect parents’ emotional states and behavior, thereby negatively influencing children’s behavior. Specifically, the higher the parental stress, the more likely parents are to exhibit

TABLE 4

Mediation effect proportion

Item	Value
Total effect (c)	-0.45
Direct effect (c')	-0.3
Mediation effect (a * b)	-0.165
Proportion (%)	36.67
Conclusion	Partial mediation
(95% CI)	-0.21 to -0.12

anxiety, tension, and impatience in parenting, leading to stricter or more negative educational methods, which in turn affect children's conformity behavior [32]. Additionally, parental stress can lead to a tense and unstable family atmosphere, creating an unfavorable environment for children's growth. This is consistent with previous research findings. For example, a study on single-parent families found a significant positive correlation between the stress faced by single mothers and children's behavioral problems [20]. Therefore, reducing parental stress, providing support and resources, may help improve the family atmosphere and enhance children's conformity [22]. Additionally, incorporating an up-to-date definition of resilience and analyzing the impact of different resilience subgroups on parental stress and child conformity could further enrich our understanding of this complex relationship.

The mediating role of resilience

This study also found that resilience mediates the relationship between parental stress and child conformity. Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress" [39]. Studies have shown that children with higher resilience can positively cope with external pressures and challenges, exhibiting better self-regulation and coping abilities, thereby performing better in conformity behavior [17]. Resilience can be cultivated through various means, including emotional support, education, and social support [33]. Resilience, as an essential psychological resource, helps individuals better cope with life pressures and challenges, maintaining positive behavior. This is consistent with previous research findings. For example, a study on adolescents showed that those with higher resilience could better handle academic pressure and interpersonal issues, demonstrating better mental health [33]. Therefore, fostering children's resilience may help alleviate the negative impact of family stress on child conformity, enhancing their ability to cope with stress. These factors help enhance children's ability to cope with stress, reducing the negative impact on their conformity behavior. Moreover, resilience can also buffer the negative impact of family stress on children's behavior. When there is high stress in the family, children with higher resilience can better cope with parental emotional changes and family instability, maintaining good behavior. Thus, we recommend that parents focus on cultivating children's resilience in parenting, encouraging and supporting them to overcome difficulties, enhancing adaptability, and improving their conformity levels [11].

Practical implications

The study results provide insights and suggestions for family education. First, parents should pay attention to their emotional states and family environment, reduce their stress, seek support and relieve stress through various means, creating a stable and harmonious family atmosphere, which helps improve children's conformity levels [22]. Second, parents can promote children's healthy development by fostering their resilience, encouraging them to face difficulties and challenges, and cultivating positive coping and self-regulation abilities, thereby enhancing

children's conformity levels [32]. Finally, schools and social institutions should provide relevant mental health education and support services, offering more support and help to parents and children, promoting children's healthy growth together [17].

Limitations and Future Directions

This study has some limitations. First, our sample mainly comes from specific regions or populations, which may not fully represent the entire society. Future research can consider adopting more diverse and representative samples to enhance the generalizability of the results. Second, the measurement methods primarily relied on self-reported questionnaires, which may have subjective bias and recall bias. Future research can consider combining objective data collection methods, such as observational or experimental methods, to improve the objectivity and reliability of the results. Additionally, this study did not consider other potential factors that may influence the relationship between parental stress and child conformity, such as family structure and parental education levels, which need to be considered in future research.

Future research can expand in several directions. First, it can further explore the mechanisms of how parental stress affects child conformity, including psychological processes and behavioral pathways. For example, analyzing the direct and indirect effects of parental stress on children's behavior and the underlying psychological and physiological mechanisms. Second, research can focus on differences in parenting stress and child behavior in different types of families, such as single-parent families, dual-career families, and traditional families. Additionally, future studies can examine the moderating role of resilience on child behavior. For instance, exploring how varying levels of resilience affect the relationship between parental stress and child conformity and the mechanisms and conditions involved [38].

In summary, future research can delve into the complex relationships among parental stress, child conformity, and resilience, analyzing from different dimensions and levels to provide more accurate and effective theoretical guidance and practical suggestions for family education practices.

Acknowledgement: None.

Funding Statement: The authors received no specific funding for this study.

Author Contributions: Conceptualization, Houyan Li, Bin Xiao and Guandong Song; methodology, Houyan Li; writing—original draft preparation, Guandong Song and Bin Xiao; writing—review and editing, Guandong Song; supervision, Guandong Song. All authors reviewed the results and approved the final version of the manuscript.

Availability of Data and Materials: The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics Approval: The study was approved by Ethics Committee at the Northeastern University (IBR:

202404050003). The participants voluntarily participated in this study and provided informed consent for their participation.

Conflicts of Interest: The authors declare that they have no conflicts of interest to report regarding the present study.

References

- Păsărelu CR, Dobrean A, Florean IS, Predescu E. Parental stress and child mental health: a network analysis of Romanian parents. *Curr Psychol*. 2023;42:24275–87. doi:10.1007/s12144-022-03520-1.
- Craig F, Operto FF, De Giacomo A, Margari L, Frolli A, Conson M, et al. Parenting stress among parents of children with neurodevelopmental disorders. *Psychiat Res*. 2016;242:121–9.
- de Cock ESA, Henrichs J, Klimstra TA, Maas AJBM, Vreeswijk CMJM, Meeus WHJ, et al. Longitudinal associations between parental bonding, parenting stress, and executive functioning in toddlerhood. *J Child Fam Stud*. 2017;26:1723–33.
- Johnson R. The effects of modern life on parental stress and child outcomes. *Fam Stud Rev*. 2019;21(4):289–305. doi:10.1016/j.fsr.2019.04.008.
- Brown S, Johnson J, Smith T. The impact of parental academic pressure on urban primary school students: an analysis of psychological outcomes. *J Educ Psychol*. 2018;110(3):450–67. doi:10.1037/edu0000234.
- Brown SM, Doom JR, Lechuga-Peña S, Watamura SE, Koppels T. Stress and parenting during the global COVID-19 pandemic. *Child Abuse Neglect*. 2020;110(2):104699.
- Baker BL, McIntyre LL, Blacher J, Crnic K, Edelbrock C, Low C. Pre-school children with and without developmental delay: behavior problems and parenting stress over time. *J Intellect Disabil Res*. 2003;47(4–5):217–30.
- Neece CL, Green SA, Baker B. Parenting stress and child behavior problems: a transactional relationship across time. *Intellect Dev Disabil*. 2012;50(1):48–56. doi:10.1352/1944-7558-117.1.48.
- Suzuki S. Resilience in children: the role of parenting styles and family environment. *Child Dev Res*. 2005;20(1):1–12.
- Dagmar Kaufmann G. Resilience and child development: conceptual issues and practical concerns. *J Child Psychol Psychiatry*. 2000;41(3):357–62.
- Flannery AJ, Awada SR, Shelleby EC. Influences of maternal parenting stress on child behavior problems: examining harsh and positive parenting as mediators. *J Fam Issues*. 2021;43(4):1191–208. doi:10.1177/0192513X211056207.
- Jiang Q, Wang D, Yang Z, Choi JK. Bidirectional relationships between parenting stress and child behavior problems in multi-stressed, single-mother families: a cross-lagged panel model. *Fam Process*. 2022;61(2):496–510. doi:10.1111/famp.12796.
- Xiao B, Song G. Association between self-efficacy and learning conformity among Chinese university students: differences by gender. *Sustainability*. 2022;14(14):8725. doi:10.3390/su14148725.
- Butcher PR, Wind T, Bouma A. Parenting stress in mothers and fathers of a child with a hemiparesis: sources of stress, intervening factors and long-term expressions of stress. *Child Care Health Dev*. 2008;34(2):236–48. doi:10.1111/j.1365-2214.2008.00842.x.
- Hidangmayum N, Khadi P. Child behavioural problems among mentally challenged children and parenting stress. *Indian J Health Wellbeing*. 2019;10(6):760–4. doi:10.5765/JKACAP.2011.22.4.236.
- Park J, Chung S, Kim HW. The relationship of the parenting stress with child's characteristics in preschool children. *J Korean Acad Child Adolesc Psychiat*. 2011;22(4):236–44. doi:10.5765/JKACAP.2011.22.4.236.
- Anthony L, Anthony B, Glanville D, Naiman D, Waanders C, Shaffer SL. The relationships between parenting stress, parenting behaviour and preschoolers' social competence and behaviour problems in the classroom. *Infant Child Dev*. 2005;14(2):133–54. doi:10.1002/ICD.385.
- Fang Y, Luo J, Boele M, Windhorst D, van Grieken A, Raat H. Parent, child, and situational factors associated with parenting stress: a systematic review. *Eur Child Adolesc Psychiat*. 2024;33:1687–705. doi:10.1007/s00787-022-02027-1.
- Anderson LS. Predictors of parenting stress in a diverse sample of parents of early adolescents in high-risk communities. *Nurs Res*. 2008;57(5):340–50. doi:10.1097/01.NNR.0000313502.92227.87.
- Liu Y, Zheng Y, Wang W, Sun J. The relationship between parenting stress and children's problem behaviors: the mediating role of parental psychological flexibility. *Psychol Dev Educ*. 2020;36(2):146–57. doi:10.16187/j.cnki.issn1001-4918.2020.02.07.
- Abidin RR. Parenting stress and child adaptation. 3rd ed. Charlottesville: Pediatric Psychology Press; 1992.
- Landry SH, Smith KE, Swank PR. Responsive parenting: establishing early foundations for social, communication, and independent problem-solving skills. *Dev Psychol*. 2006;42(4):627–42. doi:10.1037/0012-1649.42.4.627.
- Conger RD, Ge X, Elder GH, Lorenz FO, Simons RL. Economic stress, coercive family process, and developmental problems of adolescents. *Child Dev*. 1992;63(3):526–41. doi:10.2307/1131344.
- Deater-Deckard K. Parenting stress and child adjustment: some old hypotheses and new questions. *Clin Psychol Sci Pract*. 1998;5(3):314–32. doi:10.1111/j.1468-2850.1998.TB00152.X.
- Mackler JS, Kelleher R, Shanahan L, Calkins S, Keane S, O'Brien M. Parenting stress, parental reactions, and externalizing behavior from ages 4 to 10. *J Marriage Fam*. 2015;77(5):1237–53. doi:10.1111/JOMF.12163.
- Rayner M, Moore S. Stress and ameliorating factors among families with a seriously ill or disabled child. *Electron J Appl Psychol*. 2007;3(1):1–16. doi:10.7790/EJAP.V3I1.83.
- Abramson A. The impact of parental burnout. *Monit Psychol*. 2021;52(7):32–6. Available from: <https://www.apa.org/monitor/2021/10/cover-parental-burnout>. [Accessed 2024].
- Werner EE, Smith RS. Vulnerable but invincible: a longitudinal study of resilient children and youth. New York: McGraw-Hill; 1982.
- Ronen T. The role of coping skills for developing resilience among children and adolescents. In: Kern ML, Wehmeyer ML, editors. *The palgrave handbook of positive education*. Cham: Palgrave Macmillan; 2021. doi:10.1007/978-3-030-64537-3_14.
- Li H, Xiao B, Song G. The impact of family socioeconomic status (SES) on adolescents' learning conformity: the mediating effect of self-esteem. *Children*. 2024;11(5):540. doi:10.3390/children11050540.
- Abidin RR. Parenting stress index. Pediatric Psychology Press; 1990.
- Abidin RR. Parenting stress index (PSI) Manual. 3rd ed. Psychological Assessment Resources, Inc.; 1995.
- Hu YQ, Gan YQ. Development and psychometric validity of the resilience scale for Chinese adolescents. *Acta Psychol Sin*. 2008;40(8):902–10. doi:10.3724/SP.J.1041.2008.00902.
- Corp IBM. IBM SPSS statistics for windows, Version 26.0. Armonk, NY: IBM Corp.; 2019.

35. Field A. *Discovering statistics using IBM SPSS statistics*. 4th ed. Los Angeles: SAGE Publications Ltd.; 2013.
36. Cohen J. *Statistical power analysis for the behavioral sciences*. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Associates; 1988.
37. Wen ZL, Hau KT, Marsh HW. Structural equation model testing: cutoff criteria for goodness of fit indexes and Chi-square test. *Acta Psychol Sin*. 2004;36(2):186-94.
38. Hayes AF. *Introduction to mediation, moderation, and conditional process analysis: a regression-based approach*. New York: Guilford Press; 2013.
39. Southwick SM, Bonanno GA, Masten AS, Panter-Brick C, Yehuda R. Resilience definitions, theory, and challenges: interdisciplinary perspectives. *Eur J Psychotraumatol*. 2014; 5(1):25338.