

RESEARCH

Open Access



Effects of grandparents' involvement on young children's resilience: mother's parenting stress and family strength as mediators

Jinjing Wu¹, Junyi Zhu², Yan Lei¹ and Leishan Shi^{1*} 

Abstract

Background Given the fact that grandparents share the responsibility for child-rearing in contemporary China, limited research has explored the relationship between grandparents' involvement and grandchildren's resilience in the three-generation family (a child lives with parents and one or more grandparents). The purpose of this study was to examine the relationship between grandparents' involvement and young children's resilience, as well as the mediating roles of mother's parenting stress and family strength in this association.

Methods The study surveyed 919 mothers of children aged 3–5 years in Chinese three-generation families to report their children's resilience, grandparents' involvement, mother's parenting stress, and family strengths.

Results The findings revealed a positive association between grandparents' involvement and young children's resilience. This relationship was partially mediated by mother's parenting stress and family strengths independently, as well as sequentially through the pathway from mother's parenting stress to family strengths.

Conclusions Grandparents' involvement may help to relieve perceived mother's parenting stress and enhance family strengths, thereby, indirectly affect young children's resilience. These findings highlight the potential positive impact of grandparents' involvement on young children's resilience and offer a novel perspective for family counseling.

Keywords Grandparents' involvement, Resilience, Mother's parenting stress, Family strength, Young children

Viewed through the lens of positive psychology, Resilience emphasizes the exploration of an individual's intrinsic potential, focusing on their capacity for self-transcendence and adaptive growth in the face of stress and adversity. Resilience is characterized by a set of protective mechanisms that enable successful adaptation in the face of adversity (Ernst & Burcak, 2019), yielding positive outcomes in child development, including enhanced individual resilience (Lockwood et al., 2015), improved well-being, stronger attachment (Karreman & Vingerhoets, 2012), and reduced depression and anxiety (Ma et al., 2020). Although resilience can be cultivated at any age,

*Correspondence:

Leishan Shi

shileishan@lsu.edu.cn

¹Faculty of Teacher Education, Lishui University, No. 1, Xueyuan Road, Lishui City 323000, Zhejiang Province, PR China

²Faculty of Music, Lishui University, No. 1, Xueyuan Road, Lishui City 323000, Zhejiang Province, PR China

specific developmental windows offer optimal opportunities for fostering protective factors and leveraging protective systems to adapt effectively (Masten, 2001). Early childhood, marked by surging brain plasticity (Southwick & Charney, 2012), stands out as one such critical period. Furthermore, the resilience developed during early childhood significantly influences adaptation throughout childhood, adolescence, and even into adulthood (Werner, 1989).

Resilience in young children includes their dynamic responsiveness to environmental stressors, manifesting in the ability to adapt flexibly to maintain or enhance equilibrium by regulating self-control (Naglieri et al., 2013), and includes such aspects as initiative, self-regulation, and attachments/relationships. While researchers have focused on young children's resilience, it has been primarily explored within the context of intergenerational relationships between parents and young children.

In China, the caregiving burden for preschool-aged children has emerged as a primary constraint on women's labor market participation (Zhao & Bi, 2025). Mothers, while balancing employment and household responsibilities, undertake the majority of childcare duties, which impacts the quality of child-rearing and heightens perceived parenting stress (Skreden et al., 2012). Concurrently, urbanization-driven shifts in intergenerational family dynamics have fostered a distinctive childcare support system, characterized by increasing grandparental involvement in grandchild care (Goh & Kuczynski, 2010; Shen, 2023). Data indicate that 69.3% of grandparents contribute to grandchild rearing (Han & Lyu, 2025), forming a collaborative intergenerational childcare model unique to China (Chen et al., 2011a, b). Child-rearing practices in contemporary Chinese families not only differ significantly from those of the past, requiring higher costs and more time, but also diverge markedly from those of Western societies characterized by nuclear family structures and individualism. The Chinese approach to "intensive motherhood" is built on the foundation of selfless "intensive grandmotherhood." More precisely, it relies on an intergenerational relay of caregiving, predominantly provided by women from both paternal and grandpaternal lineages (Ji et al., 2020).

Mother's Parenting Stress is generally associated with adverse effects on family quality, functioning, and relationships (Crnic & Greenberg, 1990). During early childhood, the family serves as a critical system intricately linked to child development, with the family environment widely recognized as a pivotal social determinant of children's psychological development (Bronfenbrenner, 1979). Among family factors influencing early childhood development, family strength, a key psychological dimension of the family environment, is particularly salient. Enhancing parental support strengthens family strength,

fostering children's resilience in adversity (Westphal et al., 2022). Higher family strength during early childhood is associated with greater resilience in young children (Lee & Moon, 2011; Kang & Lee, 2014). In diverse co-parenting arrangements, intergenerational co-parenting relationships exhibit notable complexity (Chen & Du, 2023). In grandparental co-parenting models, children form not only parent-child attachments but also stable emotional bonds with grandparents, establishing grandparent-grandchild attachment (Poehlmann, 2003). Research indicates that in families with robust co-parenting dynamics, grandparents' involvement mitigates mother's parenting stress and enhances family cohesion, thereby promoting child development (Luo et al., 2020). Supportive and nurturing grandparental caregiving styles further facilitate the development of young children's peer interaction skills (Song et al., 2016). However, some scholars argue that grandparents' involvement and co-parenting models may adversely affect grandparents' health (He et al., 2021) and psychological well-being (Liu & Wang, 2022).

Despite the recognized significance of grandparents' involvement in early childhood development, few studies have investigated the association between grandparents' involvement and young children's resilience.

Grandparents' involvement and young children's resilience

Grandparents' involvement is the extent to which grandparents are engaged and participate in the lives of their grandchildren (Dunifon et al., 2018). Grandparents play an active role in the upbringing and care of their grandchildren through their developmental support; routine care; and leisure-coaching, participatory (consumption-based), and cyber-parenting activities (Choi, 2016). Long shaped by Confucian principles, Chinese individuals prioritize familial obligations, and families reciprocate by providing care and support (Lou & Wang, 2016). Due to the shortcomings of China's social service system for the elderly, familial support remains the primary solution for addressing old age-related challenges. Chinese grandparents often view caring for their grandchildren as a favorable option for an intergenerational exchange (Sun & Jiang, 2017). Consequently, grandparents with grandchildren frequently support their adult children in grandchild rearing (Leeson, 2018), with data indicating that 63% of grandparents in China actively participate in this role (Han & Lyu, 2025).

In accordance with ecosystem theory, grandparents serve as auxiliary parenting figures for young children, intervening in the mother-child dyadic system to establish a mother-child-grandparent ternary system. Along with the involvement of the young children's mother and family, this constitutes the closest microsystem

influencing young children's development. Grandparents' involvement centers on the interpersonal interactions among family members and children within the family unit, emphasizing the transfer of parenting across generations (Belsky, 1984). These interactions form the foundation for the connection between grandparent involvement and young children's resilience. Grandparents' tolerance, understanding, and thoughtfulness serve as exemplary parenting qualities, establishing a developmental triadic system (Bronfenbrenner, 1979). Research indicates that children often harbor positive feelings toward their grandparents as primary caregivers (Downie et al., 2010), and the favorable attachments they cultivate with their grandparents can directly enhance their social adjustment (Hayslip et al., 2019). Grandparents' involvement fosters essential facets of young children's resilience, including their cognitive skills, positive self-worth, and family cohesion (Egeland et al., 1993). However, these findings have primarily focused on school-aged children.

Although few studies have directly investigated the relationship between grandparents' involvement and young children's resilience, indirect evidence provides some support for this association. Studies indicate that such involvement positively influences young children's self-control and emotional regulation (Chen & Jiang, 2019). Grandparents' involvement is associated with enhanced initiative in toddlers (Lee et al., 2015; Rahmawati & Diana, 2016). These studies prove that grandparents' involvement in early childhood parenting can positively influence young children's self-resilience, affirming the notion that such involvement in parenting can benefit young children's resilience.

Mother's parenting stress as mediator between grandparents' involvement and young children's resilience

Mother's parenting stress is the stress mothers experience in fulfilling their maternal roles and during parent-child interactions. This stress is influenced by their personal characteristics, interactions with their children, their children's traits, and situational factors within the family. It manifests in parenting difficulties, dysfunctional interactions, and the challenges presented by difficult children (Abidin, 1990). In China, mothers bear a greater share of the responsibility for parenting and household chores, leading to numerous challenges in balancing their maternal roles with their work and family responsibilities. Mothers not only endure the stress resulting from the continual accumulation of daily pressures in their lives (Daundasekara et al., 2021), but they must also contend with the negative psychological effects of their maternal role's demands (Xiang et al., 2014). Working mothers in particular experience heightened parenting stress due to social support deficits, exacerbated by China's fledgling

parental leave system and inadequate social care services (Chen et al., 2011a, b; Yang et al., 2019).

According to ecosystem theory, the mother-toddler relationship is a crucial dichotomous system in early childhood development (Bronfenbrenner, 1979). The more parenting stress a mother experiences, the more she can reject her children (Lee, 2008) and adopt severe parenting attitudes, such as forced physical punishment or permissiveness (Lee & Mun, 2011). Clearly, mothers with high parenting stress experience negative emotions and engage in negative parenting behaviors (Abidin, 1990), affecting their children's emotional and psychological well-being (Fadzil & Maulidiyah, 2023), which can then negatively impact the development of resilience in young children (Choi & Lee, 2011).

According to family systems theory, within the entire family system, the involvement of other adult caregivers besides the mother (such as the father, grandparents, or members of the extended family) expands the mother-child relationship into a triadic relationship. When these caregiving participants establish harmonious relationships, achieving systemic equilibrium, children derive developmental benefits (Minuchin, 1985). Interdependence theory further posits that interpersonal experiences are fundamentally shaped by interactions, with relational partners mutually influencing each other's behaviors. As a result, individuals form perceptions tied to their experiences and the quality of their relationships (Rusbult & Buunk, 1993; Polenick et al., 2017). This theory provides critical insights into the reciprocal influences among parents' and grandparents' experiences, perceptions, and emotional closeness. By integrating family systems theory and interdependence theory, this study has developed a more comprehensive analytical framework. Grandparents' involvement in parenting not only supports mothers in parenting more effectively, instills the family culture, and fosters strong bonds between the three generations, but also reduces parenting stress for mothers of young children (Kim et al., 2015). As counselors, grandparents can offer guidance on young mothers' parenting attitudes. Grandparents can also support mothers of young children by alleviating their household chores through active involvement in their daily lives. Therefore, grandparents' participation in parenting mitigates the psychological burden on young mothers (Noriega et al., 2017). Grandparents' involvement in child rearing directly affects mother's parenting self-efficacy, and mothers who raise young children themselves have higher self-efficacy (Wang et al., 2015). However, studies also indicate that mothers experience increased anxiety and parenting stress when grandparents are involved in co-parenting (Sivak, 2018; Wang et al., 2020). Research has examined the mediating role of mother's parenting stress in the relationships between

grandparents' involvement and various young children outcomes, including problem behaviors (Li et al., 2016), personality and adaptation (Sun & Jiang, 2017), social adjustment (Luo et al., 2020), and social competence (Gong et al., 2021).

The impact of grandparents' involvement in caregiving, mediated by mother's parenting stress, on young children's resilience remains inconclusive. Consequently, there is a pressing need to investigate the current state of grandparent-parent co-parenting in Chinese families, its influence on young children's resilience, and the underlying mechanisms driving these effects.

Family strength as mediator between grandparents' involvement and young children's resilience

Family strength refers to the inherent health and positive dynamics within families. According to ecosystem theory (Bronfenbrenner, 1979), the family environment involves the primary social context humans experience from birth, and is a significant factor in later development. Grandparents' involvement is a crucial variable in the family environment during early childhood parenting. Such involvement involves frequent interactions between grandparents and their adult children, which strengthen family bonds. By imparting family culture to their grandchildren, grandparents foster a sense of cultural identity and family solidarity (Even-Zohar & Garby, 2016). Literature has observed that grandfathers in particular promote family identity and wholeness by addressing family members' needs for strong, stable, continuous, disciplined, and communicative relationships, thus educating their grandchildren about family dynamics (Bates & Taylor, 2013a, b).

Psychological factors within the family environment are crucial predictors of young children's future positive adjustment, and family strength is one of the most representative factors of these psychological components (Xu et al., 2007). A healthy family recognizes the individuality of its members, enabling clear, positive conversations; the effective resolution of family problems or crises; a clear delineation of responsibilities; and the establishment of shared family values and rules (Yoo et al., 2013). Therefore, families with healthy dynamics facilitate the better development of attachments/relationships in young children, promoting self-control as young children learn through home discipline (Chen & Jiang, 2019). Bonding within families, shared values and goals, positive communication, and problem-solving skills all significantly impact young children's resilience (Dunifon et al., 2018). Research indicates that greater family strength correlates with higher resilience in young children (Lee & Moon, 2011).

However, the interplay between grandparents' involvement, family strength, and young children's resilience

remains underexplored. Recent studies have explored the link between family strength and young children's resilience (Yoon et al., 2018), as well as the impact of parental involvement behaviors on young children's resilience (Kang & Kim, 2017). Hence, the current study hypothesizes that grandparents' engagement behaviors contribute to the development of young children's resilience by building family strength.

Relationship between mother's parenting stress and family strength.

Mothers' parenting stress is an indicator of family health. An increase in the amount of stress that mothers experience in interactions with their children can negatively affect their sense of bonding, communication, and family cohesion and resilience. Specifically, the mother's parenting stress can threaten family strength (Kim et al., 2007). Research indicates that mother's parenting stress significantly and negatively impacts young children's self-regulation and indirectly affects young children's behavior through family strength (Yu & Choi, 2022). Mothers' parenting stress influences young children's social performance, mediated through family strength (Hong & Kim, 2020). Therefore, we can hypothesize that grandparents' involvement may influence young children's resilience through the interconnected relationship between mother's parenting stress and family strength.

Goal of the study

Although research in ecological systems theory has demonstrated the positive impacts of grandparents' involvement on young children's psychological resilience, the relationship between grandparental involvement and young children's resilience and its internal mechanisms remains underexplored. Previous studies have not simultaneously considered the relationships among variables at the grandparent, mother, family, and child levels, as well as the internal mechanisms by which grandparents' involvement affects young children. Based on ecosystem theory, this study constructed a theoretical model to examine the effects of grandparents' involvement on young children's resilience, with mothers' parenting stress and family strength as mediating variables (Fig. 1), to explore these effects and their underlying mechanisms. The study population consisted of young children aged 3 to 5 years. Control variables included the children's age, gender (Chen et al., 2021), and birth order (Kour, 2022); the mother's age, education, and occupation (Lee, 2018; Hong & Kim, 2020); and family type and monthly income (Bruno et al., 2023).

Accordingly, the following hypotheses are proposed:

Hypothesis 1: Grandparents' involvement positively relates to young children's resilience.

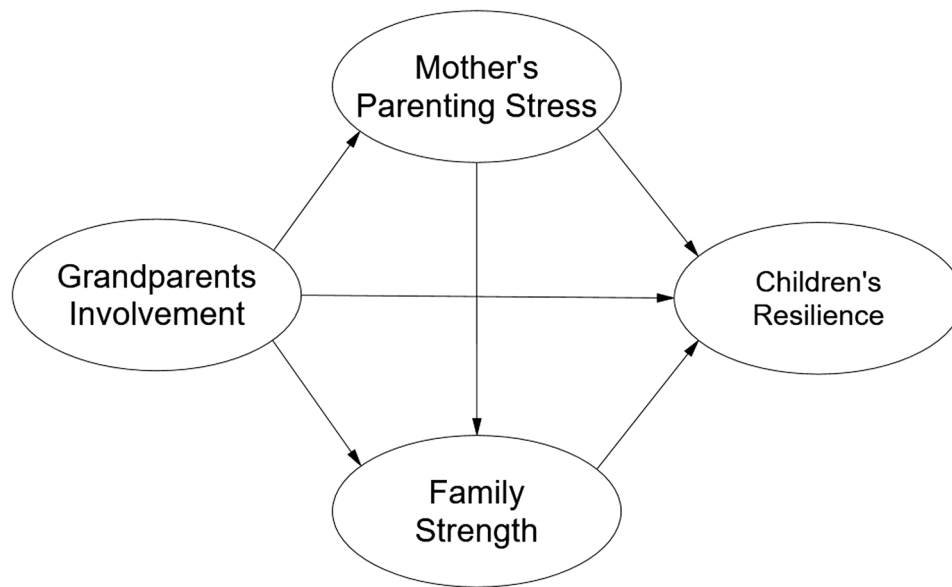


Fig. 1 Theoretical research framework

Hypothesis 2: Mother's parenting stress mediates the relationship between grandparents' involvement and young children's resilience.

Hypothesis 3: Family strength mediates the relationship between grandparents' involvement and young children's resilience.

Hypothesis 4: Mother's parenting stress negatively predicts family strength, and grandparents' involvement also impacts young children's resilience through the chain mediator of mother's parenting stress and family strength.

Research methodology

Participants and procedures

Ethical approval for this study was obtained from the Ethics Committee of Lishui College. A stratified sample of 1,005 mothers in urban families with young children aged 3–5 years, whose grandparents were involved in parenting, was drawn from seven cities in Zhejiang Province: Hangzhou, Ningbo, Wenzhou, Jiaxing, Jinhua, Quzhou, and Lishui. The selection criteria were (a) the child resided with married parents and (b) at least one of the child's grandparents was directly involved in the child's parenting (Bowers & Myers, 1999; Dunifon et al., 2018). Parents who did not meet these two criteria did not participate in the survey. All participants were mothers of young children receiving support from their grandparents and were informed about the purpose of the study; as volunteers, they could withdraw from the study at any time without penalty. The questionnaires were completed by mothers using a web-based app, and the administration procedure was explained to them, assuring them of confidentiality and support for any issues. Based on

completion time, 919 questionnaires were deemed valid, yielding a validity rate of 91.4%. Table 1 displays the participants' basic information.

Research tools

Young children's resilience scale

This study used the Second Edition of the Resilience in Young Children Scale developed by Naglieri et al. (2013); subsequently, Niu et al. (2019) adapted it for Chinese culture. The questionnaire consists of 27 questions categorized into three dimensions: initiative (YCR1) (e.g., "try different ways to solve a problem?"), self-regulation (YCR2) (e.g., "calm himself/herself down?"), and attachment (YCR3) (e.g., "show affection for familiar adults?"). A five-point Likert scale was used, with responses ranging from one ("does not do it at all") to five ("does it very often"). The higher the score, the stronger the young children's resilience. In this study, the resilience questionnaire's Cronbach's alpha was 0.943, and that for each dimension was 0.886, 0.915, and 0.917, respectively.

Grandparents' involvement scale

This study also used the Questionnaire for Grandparent Involvement as developed by Choi (2016). The questionnaire consisted of 39 items related to five categories: development support activities (GI1) (e.g., "He/she explains to the children what they are curious about."); daily care activities (GI2) (e.g., "He/she cares about how the child gets along with friends."); leisure coaching (GI3) (e.g., "He/she goes with the child to the park, zoo, museum, etc."); participatory (consumption) activities (GI4) (e.g., "He/she likes to think or talk with the child about something together."); and cyber-parenting

Table 1 Demographic information of the participants ($N=919$)

Sample	Characteristics	Category	Number	P (%)
Children	Age (Years)	3	283	30.8
		4	308	33.5
		5	328	35.7
	Gender	Boy	473	51.5
		Girl	446	48.5
	Birth order	Only child	319	34.7
		First child	279	30.4
		Second child or above	321	34.9
Mother	Age (Years)	21–25	51	5.5
		26–30	147	16.0
		31–35	253	27.5
		36–40	283	30.8
		41–45	150	16.3
	Education	46+	35	3.8
		Middle school and below	61	6.6
		High school	71	7.7
		3-year college	259	28.2
		4-year university diploma	420	45.7
Grandparent	Job	Master or above	108	11.8
		Full-time	695	75.6
		Freelance	165	18.0
		Part-time	24	2.6
	Type	Unemployed	35	3.8
		Paternal grandfather	106	11.5
		Paternal grandmother	322	35.0
		Maternal grandfather	82	8.9
		Maternal grandmother	409	44.5
	Age (Years)	< 50	72	7.8
		51–60	362	39.4
		61–70	398	43.3
		71+	87	9.5
	Education	Elementary school or below	239	26.0
		Middle school	288	31.3
		High school	288	31.3
		3-year college or above	104	11.3
Family	Type	Nuclear family	569	61.9
		Stem family	263	28.6
		Other	87	9.5
	Monthly income (Yuan)	< 3,000	59	6.4
		3,000–6,000	123	13.4
		6,000–9,000	274	29.8
		9,000–12,000	344	37.4
		12,001+	119	12.9

activities (GI5) (e.g., “He/she uses the Internet or media to find information about parenting”). Items were also measured on a five-point Likert-type scale, with responses ranging from one (“strongly disagree”) to five (“strongly agree”). Although China and Korea share the same East Asian cultural background, this study examined the questionnaire in the Chinese cultural context. The questionnaire was developed by an expert panel and finalized following the cross-cultural adaptation process for self-report measures proposed by Beaton et al. (2000). The Cronbach’s alpha for the grandparent participation questionnaire in this study was found to be 0.957, with each dimension having Cronbach’s alpha values of 0.921, 0.894, 0.893, 0.879, and 0.859, respectively. The Average Variance Extracted (AVE) values were 0.762, 0.754, 0.638, 0.629, and 0.756, while the Composite Reliability (CR) values were 0.910, 0.816, 0.754, 0.652, and 0.858, respectively. Results of the confirmatory factor analysis (CFA) indicated acceptable model fit: CFI=0.918, TLI=0.902, RMSEA=0.072 (90% CI=0.066–0.083), and SRMR=0.052.

Mother’s parenting stress scale

This study measured mothers’ parenting stress using the 15-item Short Form Parenting Stress Scale; Luo et al. (2021) developed this scale by adapting Abidin’s (1992) Parenting Stress Index Short Form for China’s national situation. The questionnaire includes items related to parenting distress (MPS1) (e.g., “Since having a child, I can hardly do what I like.”), dysfunctional parent-child interactions (MPS2) (e.g., “Most of the time I feel that my child does not like me and does not want to be close to me”), and dysfunctional parent-child interaction (MPS3) (e.g., “My child seems to cry more and be more fussy than other children.”). The items were also measured on a five-point Likert-type scale, with responses ranging from one (“never”) to five (“always”). In this study, the Cronbach’s alpha for the index was 0.939, with each dimension having Cronbach’s alpha values of 0.893, 0.926, and 0.887, respectively.

Family strength scale

This study then incorporated the Family Strength Questionnaire developed by Yoo et al. (2013). The questionnaire consists of 22 items, with five categories: family resilience (FS1) (e.g., “Families will help each other.”), valuing each other & acceptance (FS2) (e.g., “There is mutual respect and acceptance between families.”), qualitative bonds (FS3) (e.g., “Family members like to chat together.”), economic stability & cooperation (FS4) (e.g., “Our family has sufficient financial resources for leisure and cultural life.”), and caring about community (FS5) (e.g., “Our family has its traditions and culture.”). Items were also measured on a five-point

Likert-type scale, with responses ranging from one (“strongly disagree”) to five (“strongly agree”). Similar to the Grandparent Involvement Scale, the Family Strength Questionnaire was tested for applicability to the Chinese cultural context following the same steps and requirements. The Cronbach’s alpha for this study’s Family Strength Questionnaire was 0.957, with each dimension having Cronbach’s alpha values of 0.934, 0.925, 0.881, 0.913, and 0.873, respectively.

Data analysis

The collected data were analyzed using SPSS software, version 26.0, and Mplus 8.3. The statistical test for significance was set as $p < 0.05$. The statistical analyses included descriptive statistics, a correlation analysis, structural equation modeling, mediating effect estimation, and bootstrapping. The model’s fit was assessed using such indicators as CFI, TLI, SRMR, and RMSEA (Byrne, 2001). A good fit was indicated if the CFI and TLI exceeded 0.90. The model’s fit was considered good if the RMSEA and SRMR were below 0.06, with values between 0.06 and 0.08 deemed acceptable (Byrne, 2001; Marsh et al., 2004). Bootstrapping with 1,000 samples was performed to assess the significance of the mediating effect and calculate the effect size (MacKinnon, 2009).

Common method bias

The common method bias test using Harman’s one-way method yielded 16 factors greater than 1. The first factor explained 33.56% of the variance, which is below the critical criterion of 40% (Podsakoff et al., 2003), indicating no serious common method variation in the data.

Results

Correlations and descriptive statistics

Table 2 presents the variables’ descriptive statistics and correlation analyses’ results. Significant positive correlations were observed between young children’s resilience and both grandparent involvement and family strength, with correlation coefficients ranging from 0.073 to 0.689. Significant, negative correlations were identified between mothers’ parenting stress and each factor of young children’s resilience, grandparents’ involvement, and family strength, with correlation coefficients ranging from -0.378 to 0.108 .

Hypothesis testing

Total effect

This study examined the effects of grandparents’ involvement on young children’s resilience by developing a structural equation model with good fit ($\chi^2/df = 279.313/93 = 3.00$, CFI = 0.944, TLI = 0.930, RMSEA = 0.0047 [90% CI 0.040–0.053], and SRMR = 0.056). After controlling for the subjects’

demographic variables, the results revealed that grandparents’ involvement significantly related to young children’s resilience ($\beta = 0.372$, $p < 0.001$, [95% CI 0.309, 0.436]), explaining 22.1% of the variance ($p < 0.001$).

Mediating effects

The mediating effect of mother’s parenting stress and family strength was further examined through the total-effects model using bias-corrected, nonparametric percentile bootstrapping ($\chi^2/df = 835.55/255 = 3.28$, CFI = 0.924, TLI = 0.911, RMSEA = 0.0050 [90% CI 0.073–0.093], and SRMR = 0.057). Figure 2 illustrates the coefficients of the effects for each pathway.

As Fig. 2 indicates, grandparents’ involvement negatively related to mother’s parenting stress ($\beta = -0.261$, $p < 0.001$, 95% CI $[-0.349, -0.181]$), positively related to family strength ($\beta = 0.200$, $p < 0.001$, 95% CI $[0.126, 0.237]$), and also positively related to young children’s resilience ($\beta = 0.197$, $p < 0.001$, 95% CI $[0.114, 0.268]$). Mother’s parenting stress negatively related to young children’s resilience ($\beta = -0.293$, $p < 0.001$, 95% CI $[-0.365, -0.216]$), and family strength positively related to young children’s resilience ($\beta = 0.385$, $p < 0.001$, 95% CI $[0.318, 0.459]$). Mother’s parenting stress negatively related to family strength ($\beta = -0.218$, $p < 0.001$, 95% CI $[-0.295, -0.135]$).

The total effect of grandparents’ involvement on young children’s resilience was 0.372 (95% CI $[0.294, 0.449]$), with a total indirect effect of 0.175 (95% CI $[0.134, 0.222]$), which accounted for 47.1% of the total effect. Of the three pathways for the effect of grandparents’ involvement on young children’s resilience (Table 3), the M1, M2, and M3 pathways were all significant. The mediation effect was 0.077 (95% CI $[0.049, 0.111]$) for M1, 0.077 (95% CI $[0.048, 0.108]$) for M2, and 0.022 (95% CI $[0.013, 0.034]$). This suggests that mother’s parenting stress and family strength not only individually mediated the relationship between grandparents’ involvement and young children’s resilience, but also that the chained mediating effect of mother’s parenting stress and family strength was significant. Hence, Hypotheses 2, 3, and 4 are supported. However, testing the three mediating paths of grandparents’ involvement and young children’s resilience (M1, M2, and M3 in Table 3) revealed that the difference between the M1 and M2 paths was not significant ($p = 0.98$), but $M1 > M3$ ($p = 0.001$) and $M2 > M3$ ($p = 0.000$). This suggests that mother’s parenting stress and family strength individually mediate the relationship between grandparents’ involvement and young children’s resilience more strongly than the chained mediation of mother’s parenting stress and family strength.

Table 2 Correlation coefficients, means, and standard deviations of variables

	YCR1	YCR2	YCR3	GI1	GI2	GI3	GI4	GI5	MPS1	MPS2	MPS3	FS1	FS2	FS3	FS4	FS5
YCR1	1															
YCR2	0.606**	1														
YCR3	0.607**	0.462**	1													
GI1	0.295**	0.201**	0.226**	1												
GI2	0.251**	0.110**	0.109**	0.522**	1											
GI3	0.326**	0.147**	0.171**	0.544**	0.511**	1										
GI4	0.294**	0.152**	0.118**	0.553**	0.574**	0.682**	1									
GI5	0.275**	0.127**	0.073*	0.553**	0.470**	0.600**	0.689**	1								
MPS1	-0.252**	-0.200**	-0.117**	-0.166**	-0.235**	-0.159**	-0.137**	-0.201**	1							
MPS2	-0.378**	-0.375**	-0.325**	-0.250**	-0.266**	-0.225**	-0.187**	-0.147**	0.545**	1						
MPS3	-0.279**	-0.290**	-0.258**	-0.198**	-0.202**	-0.144**	-0.125**	-0.108**	0.600**	0.718**	1					
FS1	0.288**	0.252**	0.250**	0.215**	0.148**	0.219**	0.215**	0.182**	-0.058	-0.217**	-0.171**	1				
FS2	0.357**	0.372**	0.299**	0.201**	0.136**	0.226**	0.217**	0.203**	-0.140**	-0.252**	-0.177**	0.612**	1			
FS3	0.328**	0.353**	0.301**	0.165**	0.098**	0.193**	0.155**	0.134**	-0.047	-0.245**	-0.148**	0.582**	0.709**	1		
FS4	0.363**	0.360**	0.309**	0.096**	0.077*	0.119**	0.110**	0.077*	-0.092**	-0.197**	-0.135**	0.558**	0.680**	0.694**	1	
FS5	0.298**	0.280**	0.263**	0.133**	0.166**	0.201**	0.118**	0.123**	-0.147**	-0.264**	-0.164**	0.493**	0.536**	0.603**	0.587**	1
M	360	356	357	331	350	336	336	325	269	245	240	338	311	316	312	323
SD	0.73	0.77	0.83	0.85	0.89	0.87	0.81	0.90	0.86	0.99	0.93	1.04	1.12	1.08	1.19	1.09

YCR1 initiative, YCR2 self-regulation, YCR3 attachment/relationship, GI1 development support activities, GI2 daily care activities, GI3 leisure coaching activities, GI4 participatory (consumption) activities, GI5 cyber-parenting activities, MPS1 parental distress, MPS2 dysfunctional parent-child interaction, MPS3 difficult child characteristics, FS1 family resilience, FS2 valuing each other and acceptance, FS3 qualitative bonds, FS4 economic stability and cooperation, FS5 caring about community

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

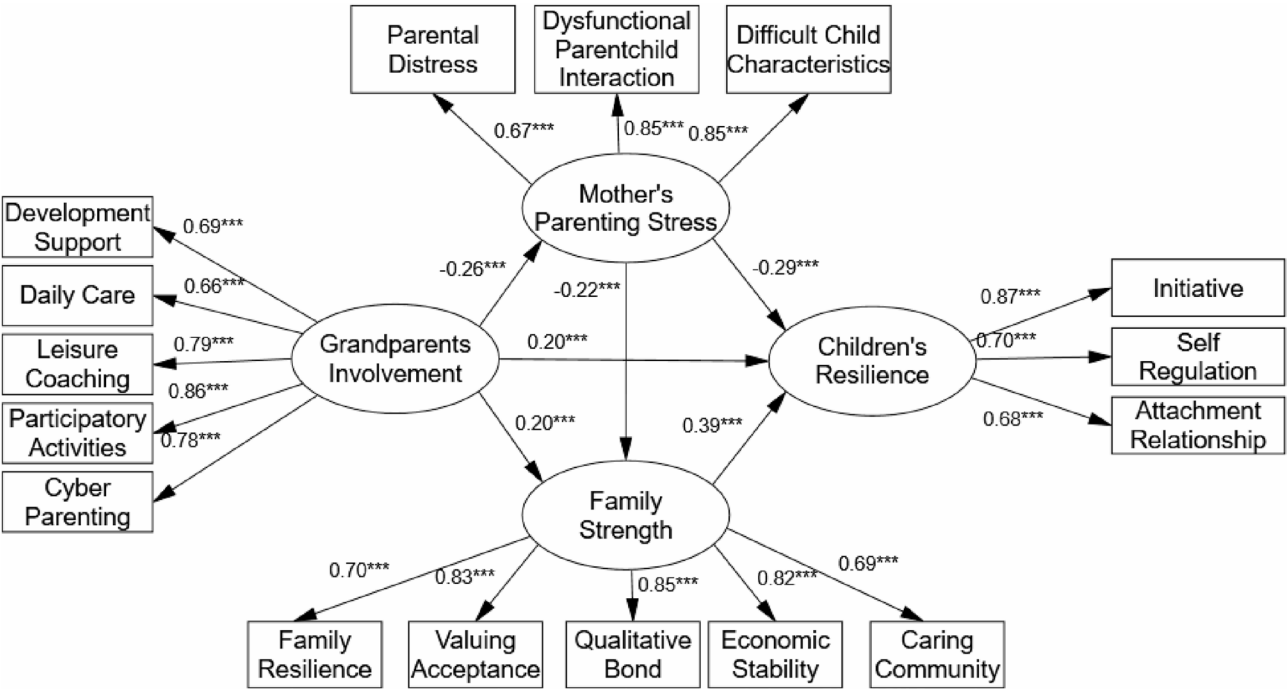


Fig. 2 Results of the mediating effect

Table 3 Mediated pathways and effect

Paths	Estimation	Bootstrapping 95% CI		Mediating effect proportion
		Lower	Upper	
M ₁ : GI→MPS→YCR	0.077	0.049	0.111	20.7%
M ₂ : GI→FS→YCR	0.077	0.048	0.108	20.7%
M ₃ : GI→MPS→FS→YCR	0.022	0.013	0.034	5.9%

YCR young children's resilience, GI grandparents' involvement, MPS mother's parenting stress, FS family strength

Discussion

This study investigated the relationship between grandparents' involvement and young children's resilience and elucidate the underlying processes. Drawing upon ecosystem theory, this study investigated the association between grandparents' involvement and young children's resilience by developing a chain mediation model to reveal a significant association between the two. Moreover, grandparents' involvement influenced young children's resilience partially through the independent mediating roles of maternal parenting stress and family strength, as well as the chain mediating role of maternal parenting stress and family strength. These findings not only imply that grandparents' involvement in parenting positively impacts young children's resilience, but also elucidate the internal processes of their interaction, contributing to a theoretical understanding and practical implications.

The role of grandparents' involvement in promoting young children's resilience

Drawing on family systems theory (Minuchin, 1985), this study examined the interplay among child, grandparents, parents, and family variables, demonstrated that grandparents' involvement could directly or indirectly enhance young children's resilience by alleviating mother's parenting stress and strengthening family strength.

Research findings indicate that grandparents' involvement is positively related to young children's resilience. In grandparent-co-parenting models, young children also establish stable emotional bonds with their grandparents, forming grandparent-grandchild attachment (Poehlmann, 2003). They develop a sense of belonging to their grandparents' family and community, exhibit advanced cognitive skills, and demonstrate positive self-worth and family cohesion (Egeland et al., 1993). Furthermore, from a social learning perspective (Bandura, 1969), children acquire self-regulation and initiative by observing grandparents' behaviors, adopting similar actions in daily life. These findings align with studies affirming the benefits of grandparents' involvement (Rahmawati & Diana, 2016; Chen & Jiang, 2019), which indicate that grandparents enhance young children's resilience through positive interactions.

Compared to parents, grandparents, with their extensive life experience, provide greater warmth, care, and nurturing (Song et al., 2016), fostering stable grandparent-grandchild attachment that enhances young children's emotional regulation (Hayslip, 2019; Wen et al.,

2021), improve social adaptation, and reduce behavioral problems (Luo et al., 2020). These findings align with research in Western contexts on the influence of grandparents on young children's resilience in families affected by single parenthood, divorce, stepfamily dynamics, parental substance abuse, or violence (Downie et al., 2010; Minkler & Fuller-Thomson, 1999). This finding supplied empirical results for the theory of "Cha Xu Ge Ju" (Ma, 2007), which positions young children at the center of concentric interpersonal relationships in Chinese three-generation families, with grandparents playing an indispensable role through caregiving and attention. Grandparents' involvement not only promotes young children's resilience and compensates for parental absence in vulnerable families but also strengthens family strength. Moreover, grandparents transmit familial cultural values, fostering grandchildren's cultural identity and family unity (McAdoo & McWright, 1995; Wiscott & Kopera-Frye, 2000). By responding to family members' needs for stable, continuous, and communicative relationships, grandparents actively guide grandchildren in understanding contemporary family dynamics, thereby enhancing family identity and strength (Bates & Taylor, 2013a, b).

The mediating role of mother's parenting stress and family strength

Previous studies have identified the impact of mother's parenting stress and family strength on young children's resilience (Lee & Moon, 2011), as well as mother's parenting stress as mediator in the relationship between grandparents' involvement and young children's outcomes (Luo et al., 2020). However, few studies have delved into the mediating process between mother's parenting stress and young children's resilience, although the former can disrupt family systems and adversely affect children's development.

In today's rapidly changing society, mothers who are predominantly the primary caregivers and often independently juggle childcare responsibilities can encounter conflicts between work and early childhood parenting, leading to a myriad of stressors. This not only impacts the mothers themselves, but also undermines family cohesion, subsequently influencing young children's emotional and psychological well-being. Higher stress related to child characteristics among mothers contributes to lower family strength (Park & Moon, 2008). Maternal social support influences maternal parenting stress and behavioral indicators, consequently affecting family functioning and child development (Crnic & Greenberg, 1990). Grandparents' involvement provides significant social support for mothers by sharing a substantial portion of the parenting burden, thus positively mitigating maternal parenting stress (Noriega et al., 2017).

Psychological factors within the family environment are crucial variables for predicting children's future positive adjustment (Owens & Shaw, 2003). The closeness and rapport among family members demonstrate warm, cooperative, and supportive patterns of interaction, fostering strong bonds between young children and their family members (Mchale, 2007). In families characterized by high family strength, encountering a crisis or problem fosters democratic communication among family members. This fosters strong familial bonds, shared values, and effective crisis resolution through dialog. Viewing family crises as opportunities for growth positively impacts the development of increased resilience in young children (Lee et al., 2009). This strong sense of bonding and emotional closeness among family members, along with a successful family environment, positively impact family relationships as well as the development of resilience in young children (Kim et al., 2007).

Additionally, the results revealed a process model of "grandparents' involvement-mother's parenting stress-family strength-young children's resilience". Specifically, grandparents' involvement not only indirectly promotes young children's resilience by reducing mother's parenting stress and enhancing family strength, but it can also be seen that grandparents' involvement promotes young children's resilience through a dual mediation effect. These preliminary findings align with research on grandparents across diverse cultural and family contexts (Luo et al., 2020; Choi, 2006; Jo & Noh, 2015). As "stress-buffers" within the family (Botcheva & Feldman, 2004), grandparents can provide effective advice and assistance to mothers of young children facing stress (Li et al., 2016). Grandparents' involvement in childcare not only moderates maternal parenting stress but also helps transmit family culture, enhance intimacy among family members, and strengthen family cohesion (Sun & Mulvaney, 2021). Mothers with lower levels of parenting stress are better able to adopt appropriate parenting behaviors to respond to young children's needs, thereby promoting the development of children's social adaptation skills and resilience (Kim, 2005). This effect is particularly pronounced in Chinese three-generation families, where interdependent and closely interactive family dynamics prevail. Such families with grandparental involvement can cultivate positive symbiotic relationships (Luo et al., 2020).

Implications, limitations, and conclusions

Practical implications

First, the influence of grandparents' support on young children and families warrants careful consideration in the ongoing enhancement of future childcare welfare systems and retirement pension schemes. Grandparents' engagement in early childhood parenting serves

as a valuable resource by aiding mothers in cultivating positive family dynamics amid adversity, navigating the challenges of motherhood, and enhancing the family's cohesion. However, relying solely on grandparents to address familistic caregiving is unsustainable, child-rearing responsibilities should be shared among families, society, and the state. To support low-fertility and aging societies, families, society, and the state must collaboratively foster a caregiving culture and establish compensatory mechanisms for child-rearing.

Second, in the realm of social education, mothers should receive guidance on not only parenting and fostering mental resilience in young children, but also nurturing improved interactions with grandparents to facilitate their constructive involvement in early childhood caregiving. In addition, care must be taken to prevent the caregiving demands of grandchildren from translating into stress for grandparents, with families and society prioritizing the physical and psychological well-being of grandparents.

Moreover, educational initiatives highlighting intrinsically healthy family dynamics can promote active family engagement in resolving issues through fostering constructive dialogs, either through counseling, intervention, or educational platforms. In such nurturing environments, young children can experience both physical and psychological security.

Finally, grandparents' active participation in early childhood caregiving fosters heightened interactions with their grandchildren, leading to affection from their grandchildren. Consequently, enhancing positive sentiments toward grandparents and the elderly during early childhood is a foundational approach in tackling both early childhood parenting and elder-related concerns. Furthermore, grandparents' involvement in parenting behaviors has multifaceted effects on young children and holds implications for the future of society, warranting its promotion.

Limitations and implications for future research

Future research should account for pronounced cultural differences in gender roles and the historical caregiving roles of women, examining the influence of grandmothers (women) and grandfathers (men) on childcare.

Secondly, beyond exploring the relationships between grandparents and young children, as well as grandparents and parents, studies should incorporate the effects of these intergenerational dynamics on young children's resilience. Furthermore, integrating diverse social-environmental variables associated with young children's resilience will enable more comprehensive and ecologically informed investigations.

Third, although this study established the impacts of grandparents' involvement on young children's resilience and its pathways of action, it inherently remains a

correlational study, precluding definitive causal inferences. Subsequent research endeavors should validate the causal relationship between grandparents' involvement and young children's resilience through longitudinal or experimental studies.

Fourth, strategies should be developed to address the limitations of maternal self-report questionnaires. For instance, grandparents' self-assessments of their caregiving involvement or fathers' observations of grandparental participation could provide more objective insights. Similarly, young children's resilience could be evaluated through objective measures, such as teacher assessments, high-quality observational methods, or interviews.

Finally, future research should conduct studies across diverse regions to overcome the geographical limitations of current samples.

Conclusions

This study ultimately highlights the following two points. First, grandparents' involvement positively predicts resilience in young children. Second, grandparents' involvement influences young children's resilience partly through independent mediating effects, including the mother's parenting stress and family strength, as well as the chain mediating effect of mother's parenting stress and family strength.

Acknowledgements

Four authors would like to thank the mothers of young children for their cooperation.

Authors' contributions

Jinjing Wu: Conceptualization, Methodology, Software, Writing - Original Draft. Junyi Zhu: Investigation, Data Curation. Yan Lei: Investigation. Leishan Shi: Software, Writing- Reviewing and Editing, Funding acquisition.

Funding

This study was funded by National Education Sciences Planing of China (BHA230157) and Zhejiang Office of Philosophy and Social Science (24SSHZ207YB).

Data availability

The data that support the findings of this study are available from the corresponding author, Leishan Shi, upon reasonable request.

Declarations

Ethics approval and consent to participate

This study obtained ethical approval from the Research Ethics Committee of Lishui University. Informed consent was obtained from all individual participants included in the study.

Consent for publication

All the authors of the manuscript approved the final version, and it has been authorized for publication.

Competing interests

The authors declare that they have no competing interests.

Received: 2 January 2025 / Accepted: 21 October 2025

Published online: 19 November 2025

References

- Abidin, R. R. (1990). Introduction to the special issue: The stresses of parenting. *Journal of Clinical Child Psychology*, 19, 298–301. https://doi.org/10.1207/s15374424jccp1904_1
- Abidin, R. R. (1992). The determinants of parenting behavior. *Journal of Clinical Child Psychology*, 21, 407–412. https://doi.org/10.1207/s15374424jccp2104_12
- Bandura, A. (1969). Social-learning theory of identificatory processes. *Handbook of Socialization Theory and Research*. <https://doi.org/10.1080/19371918.2011.591629>
- Bates, J. S., & Taylor, A. C. (2013a). Grandfather involvement: Contact frequency, participation in activities, and commitment. *The Journal of Men's Studies*, 21(3), 305–322. <https://doi.org/10.3149/jms.2103.305>
- Bates, J. S., & Taylor, A. C. (2013b). Grandfather involvement: Contact frequency, participation in activities, and commitment. *The Journal of Men's Studies*, 21, 305–322. <https://doi.org/10.3149/jms.2103.305>
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25(24), 3186–3191.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development*, 55, 83–96. <https://doi.org/10.1111/j.1467-8624.1984.tb00275.x>
- Botcheva, L. B., & Feldman, S. S. (2004). Grandparents as family stabilizers during economic hardship in Bulgaria. *International Journal of Psychology*, 39(3), 157–168. <https://doi.org/10.1080/00207590344000321>
- Bowers, B. F., & Myers, B. J. (1999). Grandmothers providing care for grandchildren: Consequences of various levels of caregiving. *Family Relations*, 48, 303–311. <https://doi.org/10.2307/585641>
- Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist*, 34, 844–850. <https://doi.org/10.1037/0003-066X.34.1.0.844>
- Bruno, W., Dehnel, R., & Al-Delaimy, W. (2023). The impact of family income and parental factors on children's resilience and mental well-being. *Journal of Community Psychology*, 51, 2052–2064. <https://doi.org/10.1002/jcop.22995>
- Byrne, B. M. (2001). Structural equation modeling with AMOS, EQS, and LISREL: Comparative approaches to testing for the factorial validity of a measuring instrument. *International Journal of Testing*, 1, 55–86. https://doi.org/10.1207/S15327574IJT0101_4
- Chen, J., & Du, P. (2023). Coparenting relationship in Chinese urban families: Differences between maternal and paternal grandparents. *Society: Chinese Journal of Sociology/Shehui*, 43(6). <https://doi.org/10.15992/j.cnki.31-1123/c.2023.06.007>
- Chen, X., & Jiang, X. (2019). Are grandparents better caretakers? Parental migration, caretaking arrangements, children's self-control, and delinquency in rural China. *Crime & Delinquency*, 65, 1123–1148. <https://doi.org/10.1177/0011128718788051>
- Chen, F., Liu, G., & Mair, C. A. (2011a). Intergenerational ties in context: Grandparents caring for grandchildren in China. *Social Forces*, 90(2), 571–594. <https://doi.org/10.1093/sf/sor012>
- Chen, F., Liu, G., & Mair, C. A. (2011b). Intergenerational ties in context: Grandparents caring for grandchildren in China. *Social Forces*, 90, 571–594. <https://doi.org/10.1093/sf/sor012>
- Chen, H., Hong, Q., Xu, J., Liu, F., Wen, Y., & Gu, X. (2021). Resilience coping in pre-school children: The role of emotional ability, age, and gender. *International Journal of Environmental Research and Public Health*, 18, Article 5027. <https://doi.org/10.3390/ijerph18095027>
- Choi, J. H. (2006). Family stress and family strengths in double-income couples. *Family and Environment Research*, 44(6), 47–58.
- Choi, H. S. (2016). *The relationship between parenting participation of grandparents and basic living habits of children* (Unpublished Master's Dissertation). Ajou University, University location. <http://www.riss.kr/link?id=T14244250&outLink=K>
- Choi, N., & Lee, W. (2011). Influences of mothers' optimism on children's resilience: Mediator effects of mothers' parenting stress. *Family and Quality of Life Society Academic Presentation Collection*, 307–308. <https://www.dbpia.co.kr/Journal/articleDetail?nodeId=NODE01694060>
- Crnic, K. A., & Greenberg, M. T. (1990). Minor parenting stresses with young children. *Child Development*, 61, 1628–1637. <https://doi.org/10.1111/j.1467-8624.1990.tb02889.x>
- Daundasekara, S. S., Beauchamp, J. E., & Hernandez, D. C. (2021). Parenting stress mediates the longitudinal effect of maternal depression on child anxiety/depressive symptoms. *Journal of Affective Disorders*, 295, 33–39. <https://doi.org/10.1016/j.jad.2021.08.002>
- Downie, J. M., Hay, D. A., Horner, B. J., Wichmann, H., & Hislop, A. L. (2010). Children living with their grandparents: Resilience and wellbeing. *International Journal of Social Welfare*, 19, 8–22. <https://doi.org/10.1111/j.1468-2397.2009.00654.x>
- Dunifon, R. E., Near, C. E., & Ziolo-Guest, K. M. (2018). Backup parents, playmates, friends: Grandparents' time with grandchildren. *Journal of Marriage and Family*, 80, 752–767. <https://doi.org/10.1111/jomf.12472>
- Egeland, B., Carlson, E., & Sroufe, L. A. (1993). Resilience as process. *Development and Psychopathology*, 5, 517–528. <https://doi.org/10.1017/S0954579400006131>
- Ernst, J., & Burcak, F. (2019). Young children's contributions to sustainability: The influence of nature play on curiosity, executive function skills, creative thinking, and resilience. *Sustainability*, 11, Article 4212. <https://doi.org/10.3390/su11154212>
- Even-Zohar, A., & Garby, A. (2016). Great-grandparents' role perception and its contribution to their quality of life. *Journal of Intergenerational Relationships*, 14, 197–219. <https://doi.org/10.1080/15350770.2016.1195246>
- Fadzil, A. N., & Maulidiyah, E. C. (2023). The effect of mother's parenting stress on socio-emotional development in early childhood. *Martabat: Jurnal Perempuan Dan Anak*, 7, 83–96. <https://doi.org/10.21274/martabat.2023.7.1.83-96>
- Goh, E. C., & Kuczynski, L. (2010). Only children and their coalition of parents: Considering grandparents and parents as joint caregivers in urban Xiamen, China. *Asian Journal of Social Psychology*, 13, 221–231. <https://doi.org/10.1111/j.1467-839X.2010.01314.x>
- Gong, Y., Jiang, L., & Qin, W. W. (2021). The relationship between grandparents' involvement and children's social competence: Chain mediating effect of maternal parenting stress and maternal parenting self-efficacy. *Studies of Psychology and Behavior*, 19(3), 348–353. <https://psysbeh.tjnu.edu.cn/CN/Y2021/V19/I3/348>
- Han, X., & Lyu, Y. J. (2025). The impact of grandchild care on grandparents' labor supply: Evidence from the China urban labor survey. *Studies in Labor Economics*, 13(03), 139–168. <https://sle.ajcass.com/Magazine/show?id=118909>
- Hayslip Jr, B., Fruhauf, C. A., & Dolbin-MacNab, M. L. (2019). Grandparents Raising grandchildren: What have we learned over the past decade? *The Gerontologist*, 59, e152–e163. <https://doi.org/10.1093/geront/gnx106>
- He, Q. H., Tan, Y. F., & Peng, Z. C. (2021). How does grandchild care affect the health of grandparents?—new evidence from CHARLS. *Population & Development*, 27(2), 52–64. <https://d.wanfangdata.com.cn/periodical/scyrfkx202102005>
- Hong, H. J., & Kim, K. S. (2020). The effects of mothers' parenting stresses on young children's social competence: The mediated effect of family strengths. *The Korean Society for Child Education*, 29, 197–217. <https://doi.org/10.17643/KJCE.2020.29.4.11>
- Ji, Y. C., Wang, H. G., Liu, Y., Xu, R. N., & Zheng, Z. Z. (2020). Young women's fertility intentions and the emerging bilateral family system under china's two-child family planning policy. *China Review*, 20(2), 113–142. <https://www.jstor.org/stable/26915623>
- Jo, H. Y., & Noh, H. J. (2015). The relationship between North Korean refugee mothers' perceived home psychological characteristics and ego-resilience of young children: The moderating effect of social support. *Korean Journal of Child Care and Education*, 11(6), 59–78. <https://doi.org/10.14698/JKCE.2015.11.059>
- Kang, M. S., & Kim, H. S. (2017). The mediation effects of young children's happiness on the relationships between paternal involvement and their young children's ego-resilience. *The Journal of Future Early Childhood Education*, 24, 71–95. <https://doi.org/10.22155/JFCE.24.4.71.95>
- Kang, Y. J., & Lee, J. H. (2014). The effects of children's resilience, mothers' parenting style, and family strength on the children's school adjustment. *Journal of Fisheries and Marine Sciences Education*, 26(1), 59–71. <https://doi.org/10.13000/JFMSE.2014.26.1.59>
- Karremman, A., & Vingerhoets, A. J. (2012). Attachment and well-being: The mediating role of emotion regulation and resilience. *Personality and Individual Differences*, 53, 821–826. <https://doi.org/10.1016/j.paid.2012.06.014>
- Kim, S. H. (2005). The effects of maternal parenting stress, parenting efficacy, and parenting behavior on young children's resilience. *Korean Journal of Early Childhood Education*, 25(4), 191–209. <https://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE08781585>
- Kim, S. W., Jang, M. K., & Kim, Y. J. (2007). The influence of mother's depression, parenting stress, infant cry, and infant temperament on family function. *Korean Journal of Human Ecology*, 16, 251–257. <https://doi.org/10.5934/KJHE.2007.16.2.251>
- Kim, M. O., Seung, M. S., & Isara, A. (2015). Phenomenological study on the child-rearing experience and conflict of grandmothers in dual-income families: From the grandmother's and working moms' point of view. *Journal of the*

- Korean Society for Childcare Support, 11, 239–269. <https://doi.org/10.14698/jkcce.2015.11.239>
- Kour, J. (2022). Birth order and its relation to achievement motive and resilience. *Mind and Society*, 11, 91–96. <https://mindandsociety.in/index.php/MAS/article/view/477>
- Lee, Z. L. (2008). Model analysis on factors affecting maternal acceptance-rejection -Mediating effects of parenting stress. *Korean Journal of Child Studies*, 29, 57–71. Retrieved from <https://www.dbpia.co.kr/Journal/articleDetail?nodeId=NODE07084190>. Accessed January 6, 2016.
- Lee, Y. S. (2018). A study on differences among preschoolers in multidimensional resilience according to family, environmental and personal background variables. *Korean Journal of Local Government & Administration Studies*, 32, 341–360. <https://doi.org/10.18398/kjlgas.2018.32.4.341>
- Lee, H. J., & Moon, H. J. (2011). The effects of the mother's psychological well-being and the family strength on the young children's ego-resiliency. *Journal of the Korean Society for Childcare Support*, 7, 184–203.
- Lee, S. K., & Mun, B. H. (2011). The effects of parenting attitude on children's ego-resilience: the meditating effect of parenting stress. *Early Childhood Education Research & Review*, 15, 259–274. <http://uci.or.kr/G704-000814.2011.15.6.005>
- Lee, S. H., Park, J. Y., Kim, Y. H., Chang, Y. E., & Auh, S. Y. (2009). The effects of perceived family strength and ego-resilience on the adjustment of children from low-income families to school. *Journal of Families and Better Life*, 27, 305–316.
- Lee, K. M., Yoo, G. J., & Kim, E. A. (2015). Children's prosocial behaviors: The effect of grandparents' traditional storytelling program based on concept learning situation model. *Journal of Korea Open Association for Early Childhood Education*, 20, 657–695. <https://api.semanticscholar.org/CorpusID:75014476>
- Leeson, G. W. (2018). Global demographic change and grandparenthood. *Contemporary Social Science*, 13, 145–158. <https://doi.org/10.1080/21582041.2018.1433316>
- Li, X. W., Xie, J., & Song, Y. T. (2016). Grandparents-Parents Co-parenting and its relationship with maternal parenting stress and children's behavioral problems. *Chinese Journal of Special Education*, 4, 71–78. <https://doi.org/10.3969/j.issn.1007-3728.2016.04.011>
- Liu, H. J., & Wang, H. (2022). How does The number of young grandchildren affect grandparents' psychological well-being under The three-child policy in china: The mediating effect of inter-generational allocation of family resources. *Population Journal*, 44(2), 57–71. <https://doi.org/10.16405/j.cnki.1004-129X.2022.02.005>
- Lockwood, M., Raymond, C. M., Oczkowski, E., & Morrison, M. (2015). Measuring the dimensions of adaptive capacity: A psychometric approach. *Ecology and Society*. <https://doi.org/10.5751/ES-07203-200137>
- Lou, S. P., & Wang, D. L. (2016). The transformation of East Asia Familialism in an era of aging: Case study of social welfare policy for the elderly in Japan and South Korea. *Journal of Public Administration*, 04, 88–103. <https://doi.org/10.3969/j.issn.1674-2486.2016.04.007>
- Luo, Y., Qi, M., Huntsinger, C. S., Zhang, Q., Xuan, X., & Wang, Y. (2020). Grandparent involvement and preschoolers' social adjustment in Chinese three-generation families: Examining moderating and mediating effects. *Children and Youth Services Review*, 114, Article 105057. <https://doi.org/10.1016/j.childyouth.2020.105057>
- Luo, J., Wang, M. C., Gao, Y., Zeng, H., Yang, W., Chen, W., Zhao, S., & Qi, S. (2021). Refining the parenting stress index–short form (PSI-SF) in Chinese parents. *Assessment*, 28, 551–566. <https://doi.org/10.1177/1073191119847757>
- Ma, R. (2007). The differential Dode of association: Understanding of traditional Chinese social structure and the behaviors of the Chinese people. *Journal of Peking University (Philosophy and Social Sciences)*, 2, 133–144. <https://ccj.pku.edu.cn/article/info?aid=271012054>
- Ma, L., Zhang, Y., Huang, C., & Cui, Z. (2020). Resilience-oriented cognitive behavioral interventions for depressive symptoms in children and adolescents: A meta-analytic review. *Journal of Affective Disorders*, 270, 150–164. <https://doi.org/10.1016/j.jad.2020.03.051>
- MacKinnon, J. G. (2009). Bootstrap hypothesis testing. In D. A. Belsley, & E. J. Kon-toghiorghe (Eds.), *Handbook of computational econometrics* (pp. 183–213). Wiley.
- Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling: A Multidisciplinary Journal*, 11, 320–341. https://doi.org/10.1207/s15328007sem1103_2
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56, 227–238. <https://doi.org/10.1037/0003-066x.56.3.227>
- McAdoo, H. P., & McWright, L. A. (1995). The roles of grandparents: The use of proverbs in value transmission. *Activities. Adaptation & Aging*, 19(2), 27–38. https://doi.org/10.1300/J016v19n02_04
- Mchale, J. P. (2007). When infants grow up in multiperson relationship systems. *Infant Mental Health Journal*, 28, 370–392. <https://doi.org/10.1002/imhj.20142>
- Minkler, M., & Fuller-Thomson, E. (1999). The health of grandparents raising grandchildren: Results of a national study. *American Journal of Public Health*, 89, 1384–1389. <https://doi.org/10.2105/ajph.89.9.1384>
- Minuchin, P. (1985). Families and individual development: Provocations from the field of family therapy. *Child Development*, 56, 289–302. <https://doi.org/10.2307/1129720>
- Naglieri, J. A., LeBuffe, P. A., & Shapiro, V. B. (2013). Assessment of social-emotional competencies related to resilience. *Handbook of resilience in children* (pp. 237–249). Springer.
- Niu, Y., Zhang, L., Hao, Z., & Ji, Y. (2019). Relationship between temperament, parenting style and resilience of children aged 3–5 years. *Zhejiang Da Xue Xue Bao Yi Xue Ban = Journal of Zhejiang University Medical Sciences*, 48, 75–82. <http://doi.org/10.3785/j.issn.1008-9292.2019.02.12>
- Noriega, C., López, J., Domínguez, R., & Velasco, C. (2017). Perceptions of grandparents who provide auxiliary care: Value transmission and child-rearing practices. *Child and Family Social Work*, 22, 1227–1236. <https://doi.org/10.1111/cfs.12339>
- Owens, E. B., & Shaw, D. S. (2003). Predicting growth curves of externalizing behavior across the preschool years. *Journal of Abnormal Child Psychology*, 31, 575–590. <https://doi.org/10.1023/A:1026254005632>
- Park, B. M., & Moon, H. J. (2008). The influence of parenting stress, communication strategy and socio-demographic variables on family strengths. *Family and Environment Research*, 46, 11–22.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Poehlmann, J. (2003). An attachment perspective on grandparents raising their very young grandchildren: Implications for intervention and research. *Infant Mental Health Journal: Official Publication of the World Association for Infant Mental Health*, 24(2), 149–173. <https://doi.org/10.1002/imhj.10047>
- Polenick, C. A., Zarit, S. H., Birditt, K. S., Bangerter, L. R., Seidel, A. J., & Fingerman, K. L. (2017). Intergenerational support and marital satisfaction: Implications of beliefs about helping aging parents. *Journal of Marriage and Family*, 79(1), 131–146. <https://doi.org/10.1111/jomf.12334>
- Rahmawati, E., & Diana, D. (2016). Difference of children ages 5–6 years of independence viewed from the caregiver (parents and grandparents) in kindergarten Kartini 1 and Kartini 2. *Early Childhood Education Papers*, 5, 13–17. <https://doi.org/10.15294/BELIA.V5i1.10836>
- Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis. *Journal of Social and Personal Relationships*, 10(2), 175–204. <https://doi.org/10.1177/026540759301000202>
- Shen, Y. F. (2023). A review of empirical research on the impact of grand-parental care on child development. *Journal of Chinese Women's Studies*, 113–128. <https://doi.org/d.wanfangdata.com.cn/periodical/fnyjlc202303010>
- Sivak, E. (2018). Managing grandparental involvement in child-rearing in the context of intensive parenting. *Sociological Research Online*, 23, 830–846. <https://doi.org/10.1177/1360780418787201>
- Skreden, M., Skari, H., Malt, U. F., Pripp, A. H., Björk, M. D., Faugli, A., & Emblem, R. (2012). Parenting stress and emotional wellbeing in mothers and fathers of preschool children. *Scandinavian Journal of Public Health*, 40(7), 596–604. <https://doi.org/10.1177/1403494812460347>
- Song, Y. J., Deng, L. H., Shen, M. L., Cai, S., & Wang, B. (2016). The relationship between grand parenting and children's social competence with peers. *Studies in Early Childhood Education*, (11), 17–23. <https://cstj.cqvip.com/Qikan/Article/Detail?id=670310518>
- Southwick, S. M., & Charney, D. S. (2012). The science of resilience: Implications for the prevention and treatment of depression. *Science*, 338, 79–82. <https://doi.org/10.1126/science.1222942>
- Sun, Y., & Jiang, N. (2017). The effect of grandparents' co-parenting on young children's personality and adaptation: Chinese three-generation families. *Asian Social Science*, 13, 7–15. <https://doi.org/10.5539/ass.v13n5p7>
- Sun, K., & Mulvaney, M. K. (2021). Intergenerational support in Chinese immigrant families: The influences of grandparent support, cultural values, and orientations on parenting stress. *Journal of Intergenerational Relationships*(1). <https://doi.org/10.1080/15350770.2021.1930622>

- Wang, J., Wang, Z., Liang, A. M., Zhu, X. N., Li, D. Y., & Pan, Y. (2015). Analysis on self-efficacy of maternal parenting in communities of Beijing. *Maternal and Child Health Care of China*, 30(15), 2403–2406. <https://doi.org/10.7620/zgfybj.j.issn.1001-4411.2015.15.41>
- Wang, Y. J., Zhang, M. X., & Li, Y. (2020). The relationship between peer acceptance and social adjustment in early childhood: A cross-lag regression analysis. *Journal of Psychological Science*, 3, 622. <https://doi.org/10.16719/j.cnki.1671-6981.20200316>
- Wen, M. J., Teng, S. Y., & Li, L. (2021). The effect of children's grandparent-grandchild attachment on problem behavior under The model of grandparents co-parenting: The mediating role of emotion regulation. *Journal of Northeast Normal University (Social Science)*, 4, 84–91. <https://doi.org/10.16164/j.cnki.22-1062/c.2021.04.011>
- Werner, E. E. (1989). Children of the garden island. *Scientific American*, 260, 106–111. <https://doi.org/10.1038/scientificamerican0489-106>
- Westphal, K. K., Lee, E., Fry-Bowers, E. K., Kleinman, L. C., & Ronis, S. D. (2022). Examining child flourishing, family resilience, and adversity in the 2016 National Survey of children's health. *Journal of Pediatric Nursing*, 66, 57–63. <https://doi.org/10.1016/j.pedn.2022.05.014>
- Wiscott, R., & Kopera-Frye, K. (2000). Sharing of culture: Adult grandchildren's perceptions of intergenerational relations. *The International Journal of Aging and Human Development*, 51, 199–215. <https://doi.org/10.2190/OUY5-MXXP-W81K-VXCU>
- Xiang, Z. N., Zhang, X. H., Li, Y. J., Wang, Y., & Li, Y. F. (2014). Classes of mothers' parenting stress with children aged 3–5 and their predictors. *Psychological Development and Education*, 4, 427–434. <https://doi.org/10.16187/j.cnki.issn1001-4918.2014.04.026>
- Xu, A., Xie, X., Liu, W., Xia, Y., & Liu, D. (2007). Chinese family strengths and resiliency. *Marriage and Family Review*, 41, 143–164. https://doi.org/10.1300/J002v41n01_08
- Yang, J. J., Qi, Y. A., Tang, L., & Nie, J. C. (2019). Effects of caregiver depression on parenting behaviors in poor rural China. *Journal of East China Normal University (Education Sciences)*, 37, 97–106. <https://doi.org/10.16382/j.cnki.1000-5560.2019.03.008>
- Yoo, Y. J., Lee, I. S., Kim, S., & Choi, H. (2013). Development of Korea family strengths scale (KFSS- II). *Journal of Korean Home Management Association*, 31, 113–129. <https://doi.org/10.7466/2013.31.4.113>
- Yoon, N. H., Jang, S. Y., & Lee, J. Y. (2018). The effects of multicultural family mothers' family healthiness on relationship between parents and children: Focusing on the mediating effects of ego resilience. *The Korea Association for Early Childhood Education and Educare Welfare*. <https://doi.org/10.22590/ecee.2018.22.1.313>
- Yu, H., & Choi, Y. M. (2022). Effects of mother's parenting stress, family health, and parenting efficacy on the prosocial behavior of infants: The moderating effect of participating in family-cooperative activities (Pumasi). *Journal of Humanities and Social Sciences*, 21, 279–294. <https://doi.org/10.22143/HSS21.13.3.21>
- Zhao, Y. H., & Bi, R. D. (2025). The decline in female labor force participation in China from a family perspective. *Wuhan University Journal (Philosophy & Social Sciences)*, 78(01), 133–145. <https://doi.org/10.14086/j.cnki.wujss.2025.01.012>

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.