
AI translation · View original & related papers at
chinaxiv.org/items/chinaxiv-202011.00111

The Effects of Parental Marital Conflict on Child Development and Its Mechanisms

Authors: Wang Xuesi, Li Jingya, Wang Meifang, Wang Meifang

Date: 2020-11-23T00:00:00+00:00

Abstract

The marital relationship is the most central relationship within the family, and parental marital conflict influences child development. Numerous studies have found that parental marital conflict significantly impacts both children's cognitive development and emotional and social development, and that the influence of parental marital conflict on child development involves complex mechanisms (such as mediating and moderating mechanisms). The impact of parental marital conflict on child development is primarily mediated through children's cognitive-emotional processes and family processes, and this influence varies across different child factors and environmental factors. Future research should simultaneously examine the effects of parental marital conflict on children's cognitive development and emotional and social development, and further explore and integrate multiple mechanisms to provide robust support for the development of intervention programs.

Full Text

The Impact of Parental Marital Conflict on Child Development and Its Mechanisms

WANG Xuesi¹, **LI Jingya**¹, **WANG Meifang**²

(¹ School of Psychology, Shandong Normal University, Jinan 250014, China)

(² School of Elementary Education, Capital Normal University, Beijing 100048, China)

Received: May 16, 2020

Funding: National Natural Science Foundation of China (31571133); Capital Normal University Science and Technology Innovation Platform Project (Liberal Arts) (SK2020PT04)

Corresponding Author: Wang Meifang, E-mail: meifangw@hotmail.com

Abstract

The marital relationship is the core relationship within a family, and parental marital conflict in the family affects child development. Numerous studies have found that parental marital conflict has significant impacts on both children's cognitive development and socioemotional development, and that these effects operate through complex mechanisms (such as mediating and moderating mechanisms). The influence of parental marital conflict on child development is primarily realized through children's cognitive-emotional processes and family processes, and this influence varies depending on multiple child factors and environmental factors. Future research should simultaneously examine the effects of parental marital conflict on children's cognitive development and socioemotional development, further explore and integrate multiple mechanisms of action, and provide strong support for the development of intervention programs.

Keywords: parental marital conflict, child development, cognitive-emotional process, family process, autonomic nervous system

Classification Number: B844

Family is the primary context for children's socialization and is closely related to child development. In family life, every couple faces varying degrees of marital conflict. Extensive empirical research has demonstrated that parental marital conflict negatively affects children's cognitive development and socioemotional development (Chi, 2005; Cui et al., 2018; Gerard et al., 2006; Narayan et al., 2014). The impact is stronger when parental marital conflict is frequent and intense, when the conflict content is related to the child, or when the conflict remains unresolved (Davies & Cummings, 1994). Although the divorce rate among Chinese parents has increased over time, data from the 2010 baseline survey of the China Family Panel Studies showed that overall, Chinese parents' marriages remain highly stable, with over 93% of parents not divorcing (Xu, Qiu, & Li, 2015). Compared to divorce, frequent parental marital conflict is more likely to affect child development, with an impact approximately twice that of divorce (Grych & Fincham, 2001). Therefore, it is necessary to comprehensively elaborate on the effects of parental marital conflict on child development. Moreover, parental marital conflict not only directly affects child development but also indirectly influences it through children's cognitive-emotional processes and family processes (Chi, 2005; Chi & Wang, 2002; Cummings et al., 2012; Harold & Sellers, 2018; Zimet & Jacob, 2001). The effects of parental marital conflict on child development may also vary depending on different child factors and environmental factors (Fan et al., 2018; Cummings et al., 2009; van Eldik et al., 2020; Harold & Sellers, 2018; Zimet & Jacob, 2001). In summary, this article will comprehensively elaborate on the effects of parental marital conflict on child development and its underlying mechanisms.

1. Parental Marital Conflict and Child Development

Both theoretical and empirical studies have found that parental marital conflict has significant effects on two domains of child development: cognitive development and socioemotional development. In their reformulation of emotional security theory, Davies and Martin (2013) noted that frequent parental marital conflict significantly reduces children's emotional security, leading them to adopt avoidance strategies that reduce exploration of the external world, thereby affecting their cognitive development. According to social learning theory (Bandura, 1977), children who frequently experience parental marital conflict learn aggressive behaviors from their parents and tend to view these behaviors as reasonable and acceptable, subsequently exhibiting similar behaviors in their own interpersonal relationships (such as peer and sibling relationships) and developing maladaptive conflict resolution strategies. Thus, parental marital conflict also negatively affects children's socioemotional development. In light of this, this article will specifically elaborate on the effects of parental marital conflict on children's cognitive development and socioemotional development.

1.1 Parental Marital Conflict and Children's Cognitive Development

Parental marital conflict is generally detrimental to children's cognitive development. First, parental marital conflict may impair the development of children's executive function. Executive function comprises three core components: attention shifting, inhibitory control, and working memory (Gustafsson et al., 2015). Previous research has often examined the effect of parental marital conflict on a single component of executive function. For example, Gustafsson et al. (2013) found that children with more frequent parental physical conflict exhibited poorer working memory on the Digit Span Test. More recently, Gustafsson et al. (2015) combined the three components of executive function into a latent variable to examine the overall effect of parental marital conflict on children's executive function, finding that more frequent parental marital conflict was associated with poorer executive function development. Second, parental marital conflict may also lead to poorer academic achievement. Ghazarian and Buehler's (2010) cross-sectional study found that children who perceived more parental conflict had poorer performance in reading, language, mathematics, social studies, and science. King and Mrug's (2018) longitudinal study found that children's exposure to parental marital conflict significantly reduced their academic achievement two years later. Additionally, a meta-analysis on parental marital conflict and children's academic achievement also supported this negative effect (Supol et al., 2020).

1.2 Parental Marital Conflict and Children's Socioemotional Development

Children's problem behaviors and social relationships are important indicators of their socioemotional development (Thompson, 1988). Children's problem behaviors typically include internalizing problem behaviors and externalizing

problem behaviors. Both domestic and international studies have found that children who experience parental marital conflict are more likely to exhibit internalizing problem behaviors such as anxiety and depression (Cao et al., 2017; Cui et al., 2007) and externalizing problem behaviors such as aggression and delinquency (Chi, 2005; Philbrook et al., 2018). Compared to externalizing problem behaviors, parental marital conflict is more likely to lead to internalizing problem behaviors in children (Philbrook et al., 2018; Rhoades, 2008). Gerard et al.'s (2006) longitudinal study found that parental marital conflict has both immediate effects, causing children to exhibit more problem behaviors in the present, and long-term effects, leading to more problem behaviors five years later. Cummings et al.'s (2012) study also supported this long-term effect, finding that parental marital conflict experienced in kindergarten significantly increased problem behaviors exhibited in seventh grade. Similarly, parental marital conflict experienced before 64 months of age significantly predicted problem behaviors at age 16 (Narayan et al., 2014; Yates et al., 2003). Furthermore, Vu et al.'s (2016) meta-analysis of 74 longitudinal studies found that the longer the time interval between the measurement of parental marital conflict and children's problem behaviors, the stronger the relationship between them. This result may be due to a sleeper effect, whereby children who experience parental marital conflict may not exhibit obvious problem behaviors in the short term but show significant problem behaviors as time passes, or due to a cumulative effect, whereby the long-term accumulation of parental marital conflict leads to more problem behaviors in children. It should be noted that the aforementioned studies only reflect the effect of parental marital conflict on children's problem behaviors and cannot reflect how changes in parental marital conflict affect changes in children's problem behaviors. Madigan et al. (2017) measured parental marital conflict and children's disruptive behaviors at 18, 36, and 54 months of age and used growth mixture modeling to examine the relationship between their developmental changes. The results showed that parental marital conflict could be divided into three groups: high-increasing, high-decreasing, and low-stable. Compared to the high-decreasing and low-stable groups, children in the high-increasing group showed faster growth in disruptive behaviors from 18 to 54 months and exhibited more disruptive behaviors at 54 months. In summary, parental marital conflict not only has immediate negative effects on children's problem behaviors but also long-term negative effects, and increasingly frequent parental marital conflict produces more significant negative effects.

Children's social relationships primarily include parent-child relationships, peer relationships, and teacher-child relationships (Ye & Pang, 1999). First, parental marital conflict often disrupts parent-child relationships. Li et al.'s (2020) cross-sectional study found that more frequent parental marital conflict was associated with lower levels of parent-child attachment. Gerard et al.'s (2006) longitudinal study found that parental marital conflict increased parent-child conflict during both childhood and adolescence. Second, parental marital conflict may hinder the development of children's peer relationships. Domestic

studies have found that more frequent parental marital conflict is associated with poorer peer relationships (Cui et al., 2018) and more negative peer interactions (Su et al., 2017). Similarly, international studies have found that parental marital conflict experienced before age 2 significantly reduced children's social competence in kindergarten (Finger et al., 2010). Narayan et al.'s (2014) longitudinal study found that parental marital conflict experienced before 64 months of age significantly increased conflict with best friends at age 16. Thus, parental marital conflict may have relatively lasting negative effects on peer relationships. Third, parental marital conflict may negatively affect teacher-child relationships. Parental marital conflict may affect teacher-child relationships by undermining children's sense of security regarding their parents' marital relationship and their parent-child relationship, leading to more teacher-child conflict (Coe et al., 2017). However, current research has focused more on how school structure, teacher characteristics, and student characteristics affect teacher-child relationships (Tao & Li, 2016), with few studies examining the effect of parental marital conflict on teacher-child relationships. Additionally, parental marital conflict may affect other social relationships in children. For example, parental marital conflict is detrimental to adolescents' romantic relationships (Li et al., 2020) and has intergenerational effects, influencing children's marital relationships or intimate partner relationships in adulthood (Narayan et al., 2017). For children with siblings, sibling relationships are also an important social relationship. Yu and Gamble's (2008) study found that parental marital conflict led children to exhibit less warmth and more aggression and competition in sibling relationships.

2. Mechanisms Through Which Parental Marital Conflict Affects Child Development

To comprehensively clarify how parental marital conflict affects child development (mediating mechanisms) and when this effect is strong or weak, present or absent (moderating mechanisms), this article also reviews the mechanisms through which parental marital conflict influences child development. Based on the cognitive-contextual framework (Grych & Fincham, 1990), emotional security theory (Davies & Cummings, 1994; Davies & Martin, 2013), and family systems theory (Cox & Paley, 2003), this article reviews children's cognitive-emotional processes and family processes in the context of parental marital conflict effects. Second, not all children who experience parental marital conflict exhibit maladaptive problems. Some variables may play important moderating roles in the effect of parental marital conflict on child development. According to the biopsychosocial model of parental marital conflict and child development (Cummings et al., 2009) and ecological systems theory (Bronfenbrenner, 2005), this article also reviews the moderating effects of child factors and environmental factors on the relationship between parental marital conflict and child development.

2.1 Mediating Mechanisms in the Effect of Parental Marital Conflict on Child Development

Driven by process-oriented research, studies on parental marital conflict and child development have shifted from focusing on whether parental marital conflict affects child development to how it does so. Researchers have proposed that children's cognitive-emotional processes play an important role in the effect of parental marital conflict on child development (Davies & Cummings, 1994; Davies & Martin, 2013; Grych & Fincham, 1990), meaning that parental marital conflict affects child development by influencing children's cognitive appraisals of parental marital conflict and their emotional security after witnessing such conflict. Additionally, based on family systems theory (Cox & Paley, 2003), researchers have noted that family processes in the context of parental marital conflict cannot be ignored. For example, negative emotions and behaviors in the parental subsystem caused by marital conflict may spill over into the parent-child subsystem, thereby affecting child development. In light of this, this article further reviews children's cognitive-emotional processes and family processes in the context of parental marital conflict effects.

2.1.1 Children's Cognitive-Emotional Processes The cognitive-contextual framework emphasizes the important role of children's cognitive appraisals of parental marital conflict (e.g., perceived threat) in the effect of parental marital conflict on child development (Grych & Fincham, 1990). When children believe that parental marital conflict may threaten them or undermine family happiness (threat), or when they believe that the conflict is related to them and that they should be responsible for it (self-blame), or when they believe they cannot appropriately cope with parental marital conflict (poor coping ability), children may develop more adjustment problems (Grych & Fincham, 1990). Both domestic and international studies have found that parental marital conflict increases children's negative cognitive appraisals (e.g., perceived threat, self-blame), which in turn increases internalizing problem behaviors (Chi, 2005; Wang et al., 2014; Buehler et al., 2007; Fosco & Feinberg, 2015). Although Chinese scholar Chi's (2005) study found that parental marital conflict did not lead to more externalizing problem behaviors in children by increasing their perceived threat and self-blame, studies by Buehler et al. (2007) and Fosco and Feinberg (2015) both supported this mediating effect. Other studies have also found that parental marital conflict affects children's academic achievement and peer relationships through perceived threat and self-blame (Ghazarian & Buehler, 2010; Harold et al., 2007; Weymouth et al., 2019). Additionally, Chi (2005) and Grych et al. (2000) simultaneously examined the mediating and moderating roles of perceived threat and self-blame in the effect of parental marital conflict on children's problem behaviors. The results only supported the mediating role of perceived threat and self-blame, with no significant moderating effects found. Therefore, children's cognitive appraisals of parental marital conflict are more likely to play a mediating role in the effect of parental marital conflict on child development.

Building on the cognitive-contextual framework, emotional security theory emphasizes the important role of children's emotional security in the effect of parental marital conflict on child development (Davies & Cummings, 1994; Davies & Martin, 2013). Parental marital conflict increases children's emotional insecurity. This emotional insecurity keeps children in a state of high vigilance and arousal, consuming considerable psychological resources and thereby reducing the resources needed for cognitive processing and effective emotion and behavior regulation, which in turn impairs cognitive development and leads to more problem behaviors. Cummings et al.'s (2012) study found that parental marital conflict experienced in kindergarten increased emotional insecurity in second grade, which subsequently led to problem behaviors in seventh grade. Additionally, emotionally insecure children exhibit poorer sleep quality, which leads to poorer academic achievement (El-Sheikh et al., 2007), and reduce interactions with friends, leading to poorer social competence (Davies et al., 2018), thereby affecting children's social relationships.

Furthermore, studies that comprehensively examine children's cognitive and emotional processing have found that children's cognitive appraisals and emotional insecurity may play a chain mediating role in the effect of parental marital conflict on child development. For example, parental marital conflict increases adolescents' negative cognitive appraisals, leading to emotional insecurity, which in turn results in more internalizing problem behaviors (Wang et al., 2014). Davies and Cummings (1994) also noted that children's emotional insecurity may affect their cognitive appraisals. For instance, emotionally insecure children are more likely to perceive more threat when experiencing parental marital conflict. Future research should employ long-term longitudinal studies to further reveal the complex roles of children's cognitive appraisals and emotional security in the effect of parental marital conflict on child development.

2.1.2 Family Processes According to family systems theory, negative emotions and behaviors in the marital relationship may spill over into parent-child interactions, affecting parenting behaviors, coparenting, and parent-child triangulation, thereby influencing child development (Cox & Paley, 2003). First, parental marital conflict leads parents to exhibit low levels of positive parenting and high levels of negative parenting during the parenting process, which hinders child development. Empirical studies have found that parental marital conflict reduces fathers' or mothers' sensitive parenting (e.g., positive attention, warmth), which in turn affects children's executive function and social competence (Finger et al., 2010; Gustafsson et al., 2015), and increases parents' negative parenting behaviors (e.g., rejection, harsh discipline, hostile parenting), leading to poorer academic achievement and more externalizing problem behaviors in children (Gerard et al., 2006; Harold et al., 2007). Second, parental marital conflict may also affect coparenting patterns, thereby influencing child development. Parental marital conflict may reduce cohesive and supportive coparenting, leading to more problem behaviors and poorer parent-child relationships in children (Lu et al., 2019; Holland & McElwain, 2013), and may increase

conflictual and undermining coparenting, leading to more problem behaviors in children (Lu et al., 2019; Cui et al., 2007). Additionally, during marital conflict, one parent may involve the child in the conflict to maintain balance in the marital relationship or prevent escalation, thus forming a parent-child triadic relationship (Cox & Paley, 2003). However, involving children in parental marital conflict not only may not effectively resolve the conflict but also largely leads to more problem behaviors in children (Gao et al., 2019).

2.2 Moderating Mechanisms in the Effect of Parental Marital Conflict on Child Development

After experiencing parental marital conflict, some children exhibit developmental problems such as decreased academic performance, increased problem behaviors, and poorer peer relationships, while others adapt well. Previous studies have found that child factors (e.g., gender, age) play important moderating roles in the effect of parental marital conflict on child development (Cummings et al., 2009). Based on ecological systems theory (Bronfenbrenner, 2005), the moderating role of environmental factors (e.g., social support) in the effect of parental marital conflict on child development cannot be ignored. In light of this, this article further reviews the moderating effects of child factors and environmental factors on the relationship between parental marital conflict and child development.

2.2.1 Child Factors Based on the biopsychosocial model of parental marital conflict and child development, child age and gender may play important moderating roles in the effect of parental marital conflict on child development (Cummings et al., 2009). Davies et al.'s (2016) study found that parental marital conflict indirectly affected adolescents' problem behaviors by reducing their emotional security but did not affect children's problem behaviors in childhood. However, Evans et al.'s (2008) meta-analysis did not find age differences in the effects of family conflict on child development. Van Eldik et al.'s (2020) meta-analysis more comprehensively examined the effects of multiple types of parental marital conflict on child development. The results showed that the role of child age varied depending on the type of parental conflict and the specific aspect of child development. The gender intensification hypothesis posits that pressure on boys and girls to conform to traditional gender roles increases with age, with boys becoming increasingly independent and girls becoming increasingly concerned with maintaining interpersonal relationships. Therefore, as age increases, girls may be more sensitive to parental conflict and more vulnerable to its negative effects (Vu et al., 2016). Cao et al.'s (2017) study found that, compared to boys, the mediating effect of parental marital conflict on children's internalizing problem behaviors through the frustration of basic psychological needs was stronger in girls. However, other studies have found that both boys and girls are vulnerable after experiencing parental marital conflict, but their vulnerability manifests differently. Yates et al.'s (2003) study found that parental marital violence was more likely to lead to externalizing problem be-

haviors in boys and internalizing problem behaviors in girls. Additionally, some studies (e.g., Davies et al., 2016; Vu et al., 2016) have not supported gender differences in the effects of parental marital conflict on child development.

As research has progressed, studies on parental marital conflict and child development have gradually focused on the important role of children's physiological factors. Parental marital conflict is one of the main stressors in children's family environments. Therefore, the autonomic nervous system (ANS), which is related to stress, may play an important role in the effect of parental marital conflict on child development. The ANS primarily comprises two branches: the parasympathetic nervous system (PNS) and the sympathetic nervous system (SNS). The PNS mobilizes sufficient physiological energy to cope with stressful situations by reducing its inhibitory effect on human organs (e.g., the heart). The SNS generates sufficient physiological energy to cope with stressful situations by enhancing metabolism. Common indicators of PNS and SNS activity are respiratory sinus arrhythmia (RSA) and skin conductance level (SCL), respectively (Philbrook et al., 2018).

The biopsychosocial model of parental marital conflict and child development suggests that the ANS may moderate the effect of parental marital conflict on child development (Cummings et al., 2009). Previous studies have only examined the roles of PNS and SNS separately. As research has deepened, researchers have suggested that the combined effects of PNS and SNS may better clarify the role of the ANS in the effect of parental marital conflict on child development (El-Sheikh & Erath, 2011). Studies have found that co-activation and co-inhibition of children's PNS and SNS exacerbate the effects of parental marital conflict on child development, whereas PNS activation with SNS inhibition or PNS inhibition with SNS activation buffer the effects of parental marital conflict on child development (El-Sheikh & Erath, 2011). For example, Philbrook et al.'s (2018) study found that in the high parental marital conflict group, adolescents who showed both increased and decreased RSA and SCL during challenging tasks were more likely to exhibit increased internalizing or externalizing problem behaviors, whereas adolescents who showed decreased RSA and increased SCL were more likely to show reduced internalizing problem behaviors. However, research on PNS activation with SNS inhibition has not consistently supported its protective effect. El-Sheikh et al.'s (2013) study found that PNS activation with SNS inhibition exacerbated the effect of parental marital conflict on depression and anxiety in girls. This inconsistency may be due to different studies focusing on different child developmental outcomes (El-Sheikh et al., 2013). Future research should further explore the role of PNS activation with SNS inhibition in the effects of parental marital conflict on children's cognitive development and socioemotional development. Additionally, a few studies have examined the mediating role of the ANS, but the results have largely not supported this mediating effect (El-Sheikh, 2005). Overall, the ANS is more likely to moderate the effect of parental marital conflict on child development. It should be noted that current research has focused on examining the role of the ANS in the effect of parental marital conflict on children's problem behaviors,

while its role in the effects of parental marital conflict on children's executive function, academic achievement, and social relationships remains to be further clarified.

2.2.2 Environmental Factors According to ecological systems theory (Bronfenbrenner, 2005), the effects of parental marital conflict on child development may vary depending on children's surrounding environments and sociocultural contexts. First, family socioeconomic status (SES) may moderate the effect of parental marital conflict on child development. Lower family SES and more frequent parental marital conflict create a double risk for children, leading to more developmental problems. Empirical studies have also found that, compared to high-SES families, parental marital conflict is more likely to lead to problem behaviors in children from low-SES families (Garriga et al., 2019). However, other studies have not supported the moderating role of family SES in the effect of parental marital conflict on child development (van Eldik et al., 2020). Second, Yule et al.'s (2019) meta-analysis showed that social support plays an important role in the effect of parental marital conflict on child development. Chinese scholar Fan et al.'s (2018) study found that social support (parent, teacher, and peer support) moderated the effect of parental marital conflict on adolescent depression through psychological resilience. Specifically, high social support buffered the effect of parental marital conflict on adolescents' psychological resilience and enhanced the effect of psychological resilience on depression. Davies et al.'s (2019) study found that, compared to children with good sibling relationships, parental marital conflict was more likely to lead to emotional insecurity in children with poor sibling relationships, which in turn led to more problem behaviors. Finally, cultural values may also play an important role in the effect of parental marital conflict on child development. Li et al.'s (2016) study found that cultural values significantly moderated the effect of parental marital conflict on adolescents' emotional security. Specifically, adolescents who valued social harmony more were more vulnerable to parental marital conflict and showed lower emotional security. Influenced by Confucianism, Chinese culture emphasizes "harmony is precious" and "harmony in the family leads to prosperity in all affairs," stressing social harmony and family harmony (Cheung, 2020). In this cultural context, parental marital conflict is more likely to disrupt family relationships, reduce children's well-being, cause children to exhibit lower emotional security, and thus have more significant negative effects on Chinese children's development.

3. Limitations of Previous Research and Future Directions

Previous research has thoroughly examined the effects of parental marital conflict on child development and its mechanisms. Studies have found that parental marital conflict not only has immediate negative effects on children's cognitive development and socioemotional development but also long-term negative effects, and increasingly frequent parental marital conflict may produce more significant negative effects. The effects of parental marital conflict on child

development may be realized through children' s cognitive-emotional processes and family processes and may also vary depending on child factors (gender, age, and ANS) and environmental factors (family SES, social support, and cultural values). Based on the current state of research in this field, this article suggests that future research on parental marital conflict and child development can be expanded and improved in the following six aspects.

First, the effects of parental marital conflict on child development are, to some extent, related to the type of parental marital conflict. Destructive marital conflict (e.g., physical violence, verbal aggression) has negative effects on child development, whereas constructive marital conflict (e.g., successfully resolved conflict, positive interpretation of unresolved conflict) not only does not have negative effects but may also have positive effects on child development (Harold & Sellers, 2018; Warmuth et al., 2020). Compared to parental hostility, parental irritability is more likely to cause children to develop negative conjectures about their parents' relationship and long-term family stability, thereby affecting child development (Davies et al., 2016). Additionally, Gottman' s (1993) balance theory of marriage suggests that the ratio of positive to negative interactions in marital relationships (e.g., the ratio of parental support to parental conflict) also affects child development. Zemp et al. (2019) used latent class analysis to examine the effect of the ratio of parental positive-negative interactions on children' s problem behaviors. The results showed that children in families with low-positive-high-negative interaction patterns were more likely to exhibit internalizing problem behaviors. Therefore, future research should further clarify the specific effects of different types of parental marital conflict on child development and comprehensively examine the effects of both positive interactions and parental conflict in marital relationships on child development.

Second, current research has mainly focused on examining the effect of parental marital conflict on a single domain of child development, with few studies simultaneously examining its effects on multiple domains of child development. Multiple domains of child development are closely related; for example, children' s externalizing problem behaviors and academic achievement influence each other (Moilanen et al., 2010). Additionally, the degree to which parental marital conflict affects different domains of child development may vary (van Eldik et al., 2020). Therefore, future research should simultaneously examine the effects of parental marital conflict on multiple domains of child development to further clarify its unique effects and the degree of influence on different domains.

Third, in addition to children' s ANS, researchers have begun to focus on other neurobiological mechanisms underlying the effects of parental marital conflict on child development. The hypothalamic-pituitary-adrenal (HPA) axis is an important neuroendocrine system for coping with stress, and its activity indicator is cortisol (Nie, Xu, & Han, 2015). Lucas-Thompson et al.' s (2017) study found that adolescents' self-blame resulting from parental marital conflict led to flatter daily cortisol slopes, which in turn resulted in more internalizing problem behaviors. Electrophysiological studies of parental marital conflict have found

that parental marital conflict affects children's attention to threat information, which in turn affects their adaptive development (Schermerhorn et al., 2015; Schermerhorn, 2018). Schermerhorn et al.'s (2015) study found that in the high parental marital conflict group, angry faces elicited significantly larger P3 amplitudes than happy and neutral faces, whereas in the low parental marital conflict group, there were no differences in P3 amplitudes elicited by the three types of faces. This indicates that children who experience more parental marital conflict are more sensitive to threat information. However, this sensitivity often consumes more attentional resources, which is detrimental to child development. Additionally, long-term exposure to parental marital conflict affects children's brain development, such as the visual cortex (Tomoda et al., 2012), limbic system (Tsavoussis et al., 2014; van Rooij et al., 2020), and connections between the visual cortex and limbic system (Mueller & Tronick, 2019). Overall, researchers' understanding of neurobiological mechanisms is still very limited. Future research should further explore the neurobiological mechanisms underlying the effects of parental marital conflict on child development. It is worth noting that the multiple mechanisms through which parental marital conflict affects child development are not independent but interconnected (Wang et al., 2014; Harold & Sellers, 2018). Therefore, future research should also further explore and integrate the mechanisms of parental marital conflict effects on child development to provide a solid empirical foundation for intervention research.

Fourth, current research on parental marital conflict and child development has mainly used cross-sectional or short-term longitudinal designs. According to family systems theory (Cox & Paley, 2003), the effects of parental marital conflict on child development may change over time. Research suggests that there may be sleeper effects or cumulative effects in the influence of parental marital conflict on child development (Vu et al., 2016). Therefore, using only cross-sectional or short-term longitudinal designs cannot capture the dynamic effects of parental marital conflict on child development and may overlook potential effects. Both parental marital conflict and child development change over time (Madigan et al., 2017). However, only a few studies have begun to explore how changes in parental marital conflict affect changes in child development. Moreover, although researchers are often concerned with whether changes in parental marital conflict in a particular family lead to changes in child development, previous variable-centered approaches cannot truly reflect this relationship but only show that child development differs across families with different levels of parental marital conflict (Zemp et al., 2018). Therefore, future research should adopt longer-term longitudinal designs and use person-centered approaches to more accurately depict the process of parental marital conflict effects on child development and the relationship between changes in parental marital conflict and changes in child development.

Fifth, the degree to which parental marital conflict affects child development may vary across cultures (Cummings & Davies, 2010). In cultural contexts that emphasize social and family harmony, parental marital conflict is more likely to significantly reduce children's emotional security (Li et al., 2016),

thereby affecting child development. However, few studies have examined the effects of parental marital conflict on child development in different cultural contexts. Future research should further examine the role of culture in the effects of parental marital conflict on child development.

Sixth, child development may also affect parental marital conflict (Cui et al., 2007; Davies et al., 2016). Parental marital conflict leads to child developmental problems, which in turn further exacerbate parental marital conflict, creating a vicious cycle of “parental marital conflict → child developmental problems.” Therefore, future research should further examine the reciprocal, bidirectional relationship between parental marital conflict and child development to more comprehensively understand their relationship.

References

- Cao, Y., Yang, P., Liu, J., & Zhou, Y. (2017). The relationship between marital conflict and children's internalizing problem behaviors: A moderated mediation model. *Chinese Journal of Clinical Psychology* [中国临床心理学杂志], 25, 897-901.
- Chi, L. (2005). The role of cognitive appraisal between marital conflict and children's problem behaviors: Mediation or moderation. *Psychological Development and Education* [心理发展与教育], 21, 30-35.
- Chi, L., & Wang, Y. (2002). Theoretical advances in research on the relationship between marital conflict and children's problem behaviors. *Advances in Psychological Science* [心理科学进展], 10, 411-417.
- Cui, Y., Han, X., Zhou, Y., Liu, J., & Ming, L. (2018). The relationship between parental marital conflict and children's poor peer relationships: A moderated mediation model. *Chinese Journal of Clinical Psychology* [中国临床心理学杂志], 26, 992-996.
- Fan, H., Zhu, Z., Miao, L., Liu, S., & Zhang, L. (2018). The effect of parental marital conflict on adolescent depression: A moderated mediation model. *Psychological Development and Education* [心理发展与教育], 34, 481-488.
- Gao, W., Wang, Y., Fang, Z., & Liu, M. (2019). The roles of parent-child triangulation and psychological resilience in the relationship between parental conflict and adolescent problem behaviors: A moderated mediation model. *Psychological Development and Education* [心理发展与教育], 35, 729-739.
- Lu, F., Zhang, C., & Liu, D. (2019). The effects of parental marital quality and coparenting on adolescent problem behaviors: Simultaneous or lagged spillover? *Psychological Development and Education* [心理发展与教育], 35, 740-748.
- Nie, R., Xu, Y., & Han, Z. (2015). The relationship between daily cortisol rhythm and children's problem behaviors and psychosocial factors. *Advances in Psychological Science* [心理科学进展], 23, 591-601.
- Su, P., Zhang, W., Yu, C., Liu, S., Xu, Y., & Zhen, S. (2017). The effects

of parental marital conflict and negative peer affiliation on aggressive behavior in junior high school students: A moderated mediation model. *Journal of Psychological Science* [心理科学], 40, 1392-1398.

Tao, L., & Li, Z. (2016). A review of research progress on teacher-child relationships abroad. *Comparative Education Review* [比较教育研究], 38, 61-68.

Wang, M., Fan, C., Zhou, Z., & Chen, W. (2014). The influence of parental conflict on adolescent depression and social anxiety: Based on cognitive-contextual theory and emotional security theory. *Acta Psychologica Sinica* [心理学报], 46, 90-100.

Xu, Q., Qiu, Z., & Li, J. (2015). Is there really a “seven-year itch” ? A study on divorce patterns and changing trends among Chinese couples. *Sociological Studies* [社会学研究], 216-

Ye, Z., & Pang, L. (1999). On the interrelationships among parent-child relationships, peer relationships, and teacher-child relationships in children. *Psychological Development and Education* [心理发展与教育], 15, 50-53.

Bandura, A. (1977). *Social learning theory*. Englewood, NJ: Prentice-Hall.

Bronfenbrenner, U. (2005). *Making human beings human: Bioecological perspectives on human development*. Thousand Oaks: Sage.

Cheung, R. Y. M. (2020). Constructive interparental conflict and child adjustment in the Chinese context: A moderated mediation model of emotional security and disintegration avoidance. *Journal of Child and Family Studies*. Advance online publication. <https://doi.org/10.1007/s10826-020-01851-w>

Coe, J. L., Davies, P. T., & Sturge-Apple, M. L. (2017). The multivariate roles of family instability and interparental conflict in predicting children's representations of insecurity in the family system and early school adjustment problems. *Journal of Abnormal Child Psychology*, 45, 211-224.

Cox, M. J., & Paley, B. (2003). Understanding families as systems. *Current Directions in Psychological Science*, 12, 193-

Cui, M., Donnellan, M. B., & Conger, R. D. (2007). Reciprocal influences between parents' marital problems and adolescent internalizing and externalizing behavior. *Developmental Psychology*, 43, 1544-1552.

Cummings, E. M., & Davies, P. T. (2010). *Marital conflict and children: An emotional security perspective*. New York, NY: Guilford Press.

Cummings, E. M., El-Sheikh, M., Kouros, C. D., & Buckhalt, J. A. (2009). Children and violence: The role of children's regulation in the marital aggression-child adjustment link. *Clinical Child and Family Psychology Review*, 12, 3-15.

Cummings, E. M., George, M. R., McCoy, K. P., & Davies, P. T. (2012). Interparental conflict in kindergarten and adolescent adjustment: Prospective inves-

tigation of emotional security as an explanatory mechanism. *Child Development*, 83,

Davies, P., & Cummings, E. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*, 116, 387-411.

Davies, P. T., & Martin, M. J. (2013). The reformulation of emotional security theory: The role of children's social defense in developmental psychopathology. *Development and Psychopathology*, 25, 1435-1454.

Davies, P. T., Martin, M. J., Coe, J. L., & Cummings, E. M. (2016). Transactional cascades of destructive interparental conflict, children's emotional insecurity, and psychological problems across childhood and adolescence. *Development and Psychopathology*, 28, 653-671.

Davies, P. T., Martin, M. J., & Cummings, E. M. (2018). Interparental conflict and children's social problems: Insecurity and friendship affiliation as cascading mediators. *Developmental Psychology*, 54, 83-97.

Davies, P. T., Parry, L. Q., Bascoe, S. M., Martin, M. J., & Cummings, E. M. (2019). Children's vulnerability to interparental conflict: The protective role of sibling relationship quality. *Child Development*, 90, 2118-2134.

El-Sheikh, M. (2005). The role of emotional responses and physiological reactivity in the marital conflict-child functioning link. *Journal of Child Psychology and Psychiatry*, 46, 1191-1199.

El-Sheikh, M., Buckhalt, J. A., Keller, P. S., Cummings, E. M., & Acebo, C. (2007). Child emotional insecurity and academic achievement: The role of sleep disruptions. *Journal of Family Psychology*, 21, 29-38.

El-Sheikh, M., & Erath, S. A. (2011). Family conflict, autonomic nervous system functioning, and child adaptation: State of the science and future directions. *Development and Psychopathology*, 23, 703-721.

El-Sheikh, M., Keiley, M., Erath, S., & Dyer, W. J. (2013). Marital conflict and growth in children's internalizing symptoms: The role of autonomic nervous system activity. *Developmental Psychology*, 49, 92-108.

Evans, S. E., Davies, C. A., & DiLillo, D. (2008). Exposure to domestic violence: A meta-analysis of child and adolescent outcomes. *Aggression and Violent Behavior*, 13, 131-140.

Finger, B., Eiden, R. D., Edwards, E. P., Leonard, K. E., & Kachadourian, L. (2010). Marital aggression and child peer competence: A comparison of three conceptual models. *Personal Relationships*, 17, 357-376.

Fosco, G. M., & Feinberg, M. E. (2015). Cascading effects of interparental conflict in adolescence: Linking threat appraisals, self-efficacy, and adjustment. *Development and Psychopathology*, 27, 239-252.

- Garriga, A., Martinezlucena, J., & Moreno, A. (2019). Parents' relationship quality and children' s externalizing problems: The moderating role of mother-child relations and family socio-demographic background. *Child and Adolescent Social Work Journal*, 36, 137-154.
- Gerard, J. M., Krishnakumar, A., & Buehler, C. (2006). Marital conflict, parent-child relations, and youth maladjustment: A longitudinal investigation of spillover effects. *Journal of Family Issues*, 27, 951-975.
- Ghazarian, S. R., & Buehler, C. (2010). Interparental conflict and academic achievement: An examination of mediating and moderating factors. *Journal of Youth and Adolescence*, 39, 23-35.
- Gottman, J. M. (1993). The roles of conflict engagement, escalation, and avoidance in marital interaction: A longitudinal view of five types of couples. *Journal of Consulting and Clinical Psychology*, 61, 6-15.
- Grych, J., & Fincham, F. (1990). Marital conflict and children' s adjustment: A cognitive-contextual framework. *Psychological Bulletin*, 108, 267-290.
- Grych, H., & Fincham, F. D. (2001). *Interparental conflict and child development: Theory, research, and applications*. New York: Cambridge University Press.
- Grych, J. H., Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development*, 71, 1648-1661.
- Gustafsson, H. C., Coffman, J. L., & Cox, M. J. (2015). Intimate partner violence, maternal sensitive parenting behaviors, and children' s executive functioning. *Psychology of Violence*, 5, 266-274.
- Gustafsson, H. C., Coffman, J. L., Harris, L. S., Langley, H. A., Ornstein, P. A., & Cox, M. J. (2013). Intimate partner violence and children' s memory. *Journal of Family Psychology*, 27, 937-944.
- Harold, G. T., Aitken, J. J., & Shelton, K. H. (2007). Inter-parental conflict and children' s academic attainment: A longitudinal analysis. *Journal of Child Psychology and Psychiatry*, 48, 1223-1232.
- Harold, G. T., & Sellers, R. (2018). Annual research review: Interparental conflict and youth psychopathology: An evidence review and practice focused update. *Journal of Child Psychology and Psychiatry*, 59, 374-402.
- Holland, A. S., & Mcelwain, N. L. (2013). Maternal and paternal perceptions of coparenting as a link between marital quality and the parent-toddler relationship. *Journal of Family Psychology*, 27, 117-126.
- King, V. L., & Mrug, S. (2018). The relationship between violence exposure and academic achievement in African American adolescents is moderated by emotion regulation. *Journal of Early Adolescence*, 38, 497-512.

Li, Y., Cheung, R. Y., & Cummings, E. M. (2016). Marital conflict and emotional insecurity among Chinese adolescents: Cultural value moderation. *Journal of Research on Adolescence*, 26, 316-333.

Li, D., Li, D., & Yang, K. (2020). Interparental conflict and Chinese emerging adults' romantic relationship quality: Indirect pathways through attachment to parents and interpersonal security. *Journal of Social and Personal Relationships*, 37,

Lucas-Thompson, R. G., Lunkenheimer, E. S., & Dumitrache, A. (2017). Associations between marital conflict and adolescent conflict appraisals, stress physiology, and mental health. *Journal of Clinical Child and Adolescent Psychology*, 46, 379-393.

Madigan, S., Plamondon, A., & Jenkins, J. M. (2017). Marital conflict trajectories and associations with children's disruptive behavior. *Journal of Marriage and Family*, 79, 437-450.

Moilanen, K. L., Shaw, D. S., & Maxwell, K. L. (2010). Developmental cascades: Externalizing, internalizing, and academic competence from middle childhood to early adolescence. *Development and Psychopathology*, 22, 635-653.

Mueller, I., & Tronick, E. (2019). Early life exposure to violence: Developmental consequences on brain and behavior. *Frontiers in Behavioral Neuroscience*, 13, Article 156. <https://doi.org/10.3389/fnbeh.2019.00156>

Narayan, A. J., Englund, M. M., Carlson, E. A., & Egeland, B. (2014). Adolescent conflict as a developmental process in the prospective pathway from exposure to interparental violence to dating violence. *Journal of Abnormal Child Psychology*, 42, 239-250.

Narayan, A. J., Labella, M. H., Englund, M. M., Carlson, E. A., & Egeland, B. (2017). The legacy of early childhood violence exposure to adulthood intimate partner violence: Variable-and person-oriented evidence. *Journal of Family Psychology*, 31, 833-843.

Philbrook, L. E., Erath, S. A., Hinnant, J. B., & El-Sheikh, M. (2018). Marital conflict and trajectories of adolescent adjustment: The role of autonomic nervous system coordination. *Developmental Psychology*, 54, 1687-1696.

Rhoades, K. A. (2008). Children's responses to interparental conflict: A meta-analysis of their associations with child adjustment. *Child Development*, 79, 1942-1956.

Thompson, R. A. (1988). Introduction. In R. A. Thompson (Eds.), *Socioemotional development* (pp. ix-xv). Nebraska: University of Nebraska Press.

Tomoda, A., Polcari, A., Anderson, C. M., & Teicher, M. H. (2012). Reduced visual cortex gray matter volume and thickness in young adults who witnessed domestic violence during childhood. *Plos One*, 7, Article e52528. <https://doi.org/10.1371/journal.pone.0052528>

Tsavoussis, A., Stawicki, S. P. A., Stoicea, N., & Papadimos, T. J. (2014). Child-witnessed domestic violence and its adverse effects on brain development: A call for societal self-examination and awareness. *Frontiers in Public Health*, 2, Article 178. <https://doi.org/10.3389/fpubh.2014.00178>

Schermerhorn, A. C., Bates, J. E., Puce, A., & Molfese, D. L. (2015). Neurophysiological correlates of children's processing of interparental conflict cues. *Journal of Family Psychology*, 29, 518-527.

Schermerhorn, A. C. (2018). Children's appraisals of interparental conflict predict event-related potential components. *Developmental Neuropsychology*, 43, 235-255.

Supol, M., Satyen, L., Ghayourminaie, M., & Toumbourou, J. W. (2020). Effects of family violence exposure on adolescent academic achievement: A systematic review. *Trauma, Violence, & Abuse*, Article 1524838019899486. <https://doi.org/10.1177/1524838019899486>

van Eldik, W. M., de Haan, A. D., Parry, L. Q., Davies, P. T., Luijk, M. P. C. M., Arends, L. R., & Prinzie, P. (2020). The interparental relationship: Meta-analytic associations with children's maladjustment and responses to interparental conflict. *Psychological Bulletin*, 146, 553-594.

van Rooij, S. J., Smith, R. D., Stenson, A. F., Ely, T. D., Yang, X., Tottenham, N., ...& Jovanovic, T. (2020). Increased activation of the fear neurocircuitry in children exposed to violence. *Depression and Anxiety*, 37, 303-312.

Vu, N. L., Jouriles, E. N., McDonald, R., & Rosenfield, D. (2016). Children's exposure to intimate partner violence: A meta-analysis of longitudinal associations with child adjustment problems. *Clinical Psychology Review*, 46, 25-33.

Warmuth, K. A., Cummings, E. M., & Davies, P. T. (2020). Constructive and destructive interparental conflict, problematic parenting practices, and children's symptoms of psychopathology. *Journal of Family Psychology*, 34, 301-311.

Weymouth, B. B., Fosco, G. M., Mak, H. W., Mayfield, K., LoBraico, E. J., & Feinberg, M. E. (2019). Implications of interparental conflict for adolescents' peer relationships: A longitudinal pathway through threat appraisals and social anxiety symptoms. *Developmental Psychology*, 55, 1509-1522.

Yates, T. M., Dodds, M. F., Sroufe, L. A., & Egeland, B. (2003). Exposure to partner violence and child behavior problems: A prospective study controlling for child physical abuse and neglect, child cognitive ability, socioeconomic status, and life stress. *Development and Psychopathology*, 15, 199-218.

Yu, J. J., & Gamble, W. C. (2008). Pathways of influence: Marital relationships and their association with parenting styles and sibling relationship quality. *Journal of Child and Family Studies*, 17, 757-778.

Yule, K., Houston, J., & Grych, J. (2019). Resilience in children exposed to violence: A meta-analysis of protective factors across ecological contexts. *Clinical Child and Family Psychology Review*, 22, 406-431.

Zemp, M., Johnson, M. D., & Bodenmann, G. (2018). Within-family processes: Interparental and coparenting conflict and child adjustment. *Journal of Family Psychology*, 32, 299-309.

Zemp, M., Johnson, M. D., & Bodenmann, G. (2019). Out of balance? Positivity-negativity ratios in couples' interaction impact child adjustment. *Developmental Psychology*, 55, 135-147.

Zimet, D. M., & Jacob, T. (2001). Influences of marital conflict on child adjustment: Review of theory and research. *Clinical Child and Family Psychology Review*, 4, 319-335.

Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv –Machine translation. Verify with original.