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Enduring Effects of Infant Emotional Security on Preschooler Adaptation to Interparental Conflict

Olivia Dorn and Tina D. Du Rocher Schudlich

Abstract

Emotional security theory illustrates the significance of children's reactions to interparental conflict as a mediator of the associations between interparental conflict and children's well-being. Less is known about infants' emotional security. The current study assessed the stability of emotional security over infancy through preschool years. We also assessed whether infant emotional insecurity mediated between interparental conflict during infancy and preschooler adjustment. Seventy-four families with infants aged 6–14 months participated at Time 1. Parents engaged in a conflict resolution task with their infants present. Families returned when children were 3–5 years old (Time 2). Families engaged in the same conflict resolution task and parents additionally completed the Strengths and Difficulty Questionnaire to assess preschooler adjustment. Cluster analyses revealed two classes of infants based on conflict responses at Time 1: secure and insecure. The insecure group demonstrated higher levels of distress, frustration, physical frustration, and dysregulation compared to the secure group. These classifications remained relatively stable over Times 1 and 2. Infant emotional security mediated associations between Time 1 interparental conflict and preschooler adjustment, even when considering preschooler emotional security. Our results highlight the lasting legacy of destructive conflict on infants' still developing security systems.

Keywords: emotional security, interparental conflict, infants, preschoolers, child adjustment

1. Emotional security theory

Emotional security theory (EST) has illustrated the significance of children's reactions to interparental conflict as a mediator of the relationships between exposure to interparental conflict and children's later psychological and physiological well-being [1–3]. Although empirical support has been well documented for older children [4], less is known about younger children, specifically infants and toddlers, and their responses to interparental conflict. However, a cross-sectional study conducted by Du Rocher Schudlich et al. [5] found that infants aged 6–14 months showed differential responses to interparental conflict; depressive (i.e., avoidance and emotional distress) and destructive conflict (i.e., hostile verbal and nonverbal

behaviors) were associated with increased infant negative reactions, whereas constructive conflict (i.e., well-modulated conflict striving toward resolution) was associated with decreased infant negative reactions. This study was the first to highlight the significance of emotional security concerns in infancy. Others have since supported the role of emotional security concerns during this developmental period (e.g., [6, 7]). However, to date, there are no studies that have examined the longitudinal effects of interparental conflict and the stability of emotional security in infants through their preschool years. The dearth of studies is striking, as this developmental period is the one most commonly exposed to interparental conflict, and rates of interparental discord are highest during infant and early childhood years [8]. Guided by EST, the current study addresses the aforementioned gaps in the research literature by assessing the stability of emotional security over infancy through preschool years, determining if infant emotional insecurity mediates between interparental conflict during infancy and preschooler adjustment, and more stringently determining whether infant emotional insecurity continues to mediate between interparental conflict during infancy and preschooler adjustment, while simultaneously considering contemporaneous preschooler emotional insecurity.

EST [9] has demonstrated the significance of exposure to interparental conflict and children's following physiological and psychological well-being [3, 10]. According to EST, children react to the meaning of the conflict, ergo the threat to the safety and stability of their emotional life and the integrity of their family system [11]. As children grow and develop in response to their environment, an internal working model of conflict, based on previous exposure history, will progress and affect future responses and reactions to interparental conflict, which in turn may have deleterious effects on parent's conflict [12], thus feeding the negative cycle of insecurity. Children's emotional security is thus reflected in future emotional responding, effectiveness of coping, and emotion regulation skills [4, 11]. Observations of children's elevated emotional and behavioral dysregulation as a response to interparental conflict exposure provide the foundation for assessing children's emotional security [5].

Different types of interparental conflict will have different effects and outcomes on exposed children. EST posits that children are most negatively impacted by conflict perceived as threatening to the family system [9, 13]. Interparental conflict is most damaging to children's emotional security when it involves aggression [14], is unresolved with a negative emotional aftermath [15], when it is characterized by parental withdrawal [16], and when it is paired with harsh maternal parenting [17]. In contrast, conflict that is resolved and dealt with positively may enhance emotional security by reinforcing children's sense of stability in the family and providing a constructive model for dealing with difficult emotions [13, 18].

2. Sensitization

Within EST, sensitization developed from repeated or heightened exposure to interparental conflict increases children's reactivity, including distress, anger, aggressiveness, and involvement in interparental conflict [13]. For children, preserving a sense of security and stability within the family is a salient goal [17]. Thus, habituation to interparental conflict does not occur, as the threat of harm from exposure to interparental conflict increases their reactivity. Furthermore, with repeated exposure to destructive or depressive interparental conflict, the child should progressively amplify the importance of protecting security and stability of their family system. This results in increases in the children's greater emotional, behavioral, cognitive, and physiological reactivity in the face of interparental conflict [13]. Eventually, the components of the emotional security system, emotional

reactivity, regulation of conflict exposure, and internal representations, should evidence stability and continuity over time [13]. Longitudinal studies have found moderate stability in individual differences in children's reactions to interparental conflict over time [11, 19, 20].

Consistent with sensitization, Davies et al. [21] found greater child reactivity over time was associated with higher levels of destructive interparental conflict. However, the link between threats to emotional security and children's mental and physical health does not occur immediately, but requires consistency and stability over time as the link gradually progresses, intensifies, and generalizes, into a broader pattern of the children's reactions and responses [13]. Based on EST, it is expected that individual differences in children's security responses to interparental conflict have long-term implications for adjustment and adaptation [13].

3. EST and infants

Although much less is known about the effects of interparental conflict on infants, compared to later periods of development, there is evidence that they are also sensitive to specific dimensions of interparental conflict. Cummings et al. [22] examination of parent reports of 10- to 20-month-old infants' responses to naturally occurring and simulated expressions of anger and affection found that infants differentially responded to affectionate versus angry demonstrations; anger elicited distress and negative emotional reactions, whereas affectionate interactions elicited affectionate behaviors and pleasure. Furthermore, infants' distress levels were later heightened when exposed to higher levels of destructive marital conflict. Their findings are congruent with sensitization, which suggests that differences in children's responses to conflict, particularly destructive, lead to different capabilities in the child's emotional regulation and the child's response to conflict [23, 24]. As for regulation of exposure to conflict, although infants and toddlers may not directly interject themselves into the conflict, avoidance and withdrawal as well as ameliorating behaviors, such as self-soothing or gaze aversion, were observed [22].

Looking at a slightly younger population, Du Rocher Schudlich et al. [5] examined infants' responses and reactions to interparental conflict live in a laboratory. Parents were videotaped discussing a disagreement with their infant present. Infants showed heightened discussion attending and negative reactions in response to destructive and depressive conflict. However, infants displayed diminished discussion attending and negative reactions in response to constructive conflict. Together, these studies establish infants' sensitivity and reactivity to interparental conflict behavior. Similarly, it has been found that preschool-aged children are predisposed to experience fear, self-blame, and threat in response to interparental conflict due in part to the regulatory processes underlying children's security in the interparental relationship [13]. In infancy through the preschool years, regulatory processes are more easily overwhelmed by exposure to interparental discord, suggesting that insecurity in the interparental relationship may be a significant mediator of pathways between interparental conflict and child adjustment.

These studies highlight the importance of determining how exposure to interparental conflict may affect early childhood and infancy and the longitudinal effects associated with child adjustment. Infancy is an especially important developmental period for studying emotional security. To date, we are aware of only one study examining interparental conflict's effects on infants' emotional insecurity longitudinally. Frankel et al. [6] found that elevated interparental conflict during infancy predicted greater flat/withdrawn and negative affect in toddlerhood. Paternal affect was particularly important in their study: preschooler's negative affect was highest

when both interparental conflict and fathers' distressed responses were high. Thus, effects of conflict may be long-lasting during this developmental period.

4. Current study

The current study attempts to address the gaps in the literature that have been outlined. Currently, there are no studies that have examined the longitudinal effects of interparental conflict and the stability of emotional security on infants through their preschool years. The results of this study have critical implications because infants and preschoolers are the age group most commonly exposed to interparental conflict and this may be a key stage for the development of emotional security.

Guided by EST framework, the current study will address the following aims: (1) Does emotional security observed in infants have longitudinal stability into the preschool years? (2) Does infant emotional insecurity mediate between interparental conflict during infancy and preschooler adjustment? (3) Finally, does infant emotional insecurity continue to mediate associations between interparental conflict and preschooler adjustment when simultaneously considering preschooler emotional insecurity? Based on previous literature, we hypothesized that emotional security would be a stable construct over the infancy to preschooler time points. Additionally, infant emotional insecurity would serve as a mediator between interparental conflict and preschooler adjustment. Lastly, infant emotional insecurity would continue to serve as a mediator and predict preschooler adjustment even when simultaneously considering preschooler emotional insecurity.

5. Method

5.1 Participants

This study was a part of a larger investigation concerning family relationships and child development (e.g., see also Du Rocher Schudlich et al., [13, 25]). Data were collected during the years 2007–2009. Participants were recruited by contacting families listed in local birth records from a county in the Pacific Northwest of the United States, as well as families recommended by previous participants. Inclusion criteria included the following: (1) primary caregivers who were comfortable speaking and reading in English, (2) families who had an infant between the ages of 6 and 14 months, and (3) families who had been living together since the birth of the child, regardless of interparental marital status. Families were excluded if they did not meet all of the inclusion criteria or their child was diagnosed with a developmental disorder. Families were invited back when their children were between the ages of 3 and 5 years. This was an unplanned longitudinal study that developed out of a graduate student's thesis and thus our retention rate of 54% is lower than that which is typically seen in planned longitudinal studies.

At time one (T1), participants were 74 nuclear families (mothers' M age = 29.56 years, SD = 5.54; fathers' M age = 31.62 years, SD = 5.87) with 33 male and 41 female infants aged 6.20–14.48 months (M age = 10.07 months, SD = 2.10). Sixty-four of the parent couples (85%) were married, (M length of marriage = 4.83 years, SD = 3.15 years) and couples had been living together for an average of 5.78 years (SD = 3.34). All parents reported being the biological parents of the target child in the study. Parents indicated a modal family income of \$40,001–\$65,000 per year. In this sample, 88% of fathers and 85.3% of mothers were Caucasian, 1.3% of fathers and mothers were Asian American or Pacific

Islander, 1.3% of fathers and mothers were Hispanic, 5.4% of fathers and 8% of mothers were biracial, and 3% of parents did not report ethnicity.

Thirty-eight families returned at Time 2 (T2). To test for differences between families who participated at both time points versus those who did not, we conducted statistical comparisons among our primary study variables and family demographics (child sex, parents' education, parents' income, parents' and child race, parents' age, and interparental status). Out of the 15 variables assessed, only 2 yielded significant differences: parents who participated at both time points had fathers who reported higher incomes and mothers with older ages.

5.2 Procedures and measures

5.2.1 Time 1 and 2 (T1, T2)

For both Time 1 and 2, parents consenting to participate received mailed packets containing consent forms and questionnaires to be completed at home prior to the laboratory visit. Upon arrival at the laboratory, parents engaged in three interactions: a conflict resolution task with their infant absent, a conflict resolution task with their infant or preschooler present, and a triadic play interaction. The order of conflict interactions was randomly counterbalanced across families when possible. The triadic play interaction always occurred last to reduce any emotional distress families may have experienced while engaging in the conflict and challenge tasks. In the current study, we only utilized the conflict tasks.

Both parents completed parent-report versions of The Strengths and Difficulties Questionnaire (SDQ; [26]) at T2 regarding their child, which is a brief behavioral questionnaire about children 3–16 years of age. Parents are provided with a list of behavioral descriptions and asked to rate the extent to which they are true of their child on a scale from 0 (*Not True*), 1 (*Somewhat True*), to 2 (*Certainly True*). We used three subscales: emotional problems, conduct problems, and prosocial behavior. Mother and father reports were highly correlated and thus their scores were averaged. Cronbach's α 's were 0.72 for emotional problems, 0.86 for conduct problems, and 0.74 for prosocial behavior.

5.2.2 Conflict

Following similar procedures in previous research (i.e., [27]), parents deliberated to select three topics that were most typically problematic for their relationship and then chose a topic that they were both comfortable discussing. Parents chose a different topic for their second interaction than what they discussed in their first interaction. We instructed parents to not discuss a child-related issue with the child present because previous research has indicated that children are especially sensitive to children-related topics [28]. We asked parents to attempt to reach a resolution and to share their emotions and perspectives on the issues. We asked parents to interact with their baby as they would normally if they were at home discussing the issue. Families were left alone during their interactions, which were videotaped. After 7.5 minutes, we offered parents additional time and those who accepted were given an additional 2.5 minutes. Following procedures developed by the Cummings lab, immediately following each of the interactions, parents independently completed ratings of how strongly they felt each of the following emotions during their interactions: loving feelings, happiness, anger, worry, scared, sadness, helplessness, and hopelessness. The emotions scale ranged from 1 to 9, with 1 = *absence of the emotion*, 5 = *mid-range level of feeling*, and 9 = *most intense feeling*.

We coded interparental interactions using an adapted version of The Marital Daily Records (MDR) protocol [29]. The MDR has good convergent validity with self-report measures of interparental conflict and relations [23]. Our adaptation included coding behaviors on a 1–9 scale based on the Couples' Interaction Global Coding System, rather than the original 0–2 scale on the MDR [30], allowing us to capture more variability in the behaviors. Global ratings of the entire interaction were applied (see [5, 25] for more coding details). We coded the conflict behaviors on a scale from 1 to 9, with 1 = *absence of the expression*, 5 = *mid-range level*, and 9 = *most intense expressions*. Coded behaviors included conflict, defensiveness, contempt, withdrawal, demand, communication skills, support-validation, problem-solving, and humor. The degree of emotional intensity was also coded on a 1–9 scale for each of four emotions (positivity, anger, sadness, and anxiousness), as well the overall degree (1–9) of conflict resolution for each partner. To minimize potential coding bias or carry-over effects, coders coded only one type of conflict interaction (triadic or dyadic) for each family. Coders received extensive training by the principal investigator, achieving adequate reliabilities on all coding categories (i.e., intra-class correlation coefficients ranged from 0.60 to 0.98, with a mean coefficient score of 0.91).

5.2.3 Emotional security

We recorded infants' reactions during actual interparental disagreements (see [5] for more details on procedures and coding). We adapted coding procedures from infants' responses to angry interparental interactions in the home environment, which were previously utilized to code infants' behavior from a wide developmental spectrum, 10 months to 2.5 years of age [31]. We considered intensity as well as frequency of behaviors and emotions, and scored them from 0 (*absence of the behavior*) to 4 (*strong intensity and frequency of the behavior*). Codes included frustration, self-soothing, sadness, physical frustration, and dysregulation. Infant location during the interaction was also coded, with 1 (*on floor*) and 2 (*in a parent's lap*). A group of raters blind to other study and coding information coded infant behaviors. The coders received extensive training by the principal investigator, achieving adequate reliabilities on all coding categories. Intra-class correlation coefficients ranged from 0.84 to 1.00, with a mean coefficient score of 0.95.

To assess preschoolers' reactions during actual interparental interactions, preschoolers were present during their parents' interparental disagreement and were videotaped for later coding. Coding procedures were adapted from the coding system utilized for infants [5]. Intensity and frequency of behaviors and emotions were both considered. Codes were scored from 0 (*absence of the behavior*) to 4 (*strong intensity and frequency of the behavior*), and included frustration (e.g., scowl, huffing, yelling, or stomping); self-soothing (e.g., sucking thumb, rocking); distress (e.g., whining, tears, pouting, or hanging head); aggression (e.g., throwing objects, hitting, kicking, or biting); dysregulation (e.g., intense, multiple, and potentially contradictory emotions, behaviors, and strategies in attempts to cope with conflict); avoidance (e.g., asking to leave, walking away from parents); and mediation (e.g., offering solutions to conflict, telling parents what to do, or comforting parents). A group of raters blind to other study and coding information coded preschooler behaviors. The coders received extensive training by the principal investigator, achieving adequate reliabilities on all coding categories. Intra-class correlation coefficients ranged from 0.78 to 0.98, with a mean coefficient score of 0.87.

6. Results

6.1 Data reduction and preliminary analyses

We used SPSS v25 and AMOS v25 to analyze our data. Mothers' and fathers' conflict scores within T1 and T2 were highly correlated in expected directions and thus we averaged their scores together. Based on previous research, we created a global interparental conflict composite for T1 and T2 by summing the negative behaviors and emotions together and subtracting the positive ones. Based on previous research and supported by a factor analysis, we created a global emotional insecurity composite for T1 and T2 by summing scores for negative infant reactions and subtracting scores from the positive reactions.

We examined whether the average scores on any of the outcomes were associated with child gender and socioeconomic status (SES) independent of interparental conflict. Very few significant associations were found. Girls demonstrated higher levels of mediation at Time 2 than boys, $t(32) = -2.09, p = 0.048$, and SES was negatively correlated with self-soothing at Time 1, $r = -0.28, p = 0.02$. Given the minimal significant findings for these variables and in order to preserve power, we did not control for any of them in the rest of the analyses.

Utilizing a person-centered approach to assess Aim 1, the stability of ES over time, we conducted a cluster analysis of the T1 ES variables to determine the infants' patterns of responding to conflict. We compared the different clusters that emerged and used independent sample t-tests to determine their differential patterns of responding to conflict based on key T1 emotional security variables. Finally, to assess whether this remained stable over time, independent sample t-tests were conducted on key T2 emotional security variables as a function of infants' T1 differential response patterns.

Hierarchical regressions assessed mediational models for Aim 2 and 3. Zero-order correlations were examined first. Correlations between interparental conflict at Time 1 and 2, emotional insecurity at Time 1 and 2, and preschooler emotional adjustment are presented in **Table 1**. T1 interparental conflict was significantly correlated with greater T1 emotional security, greater preschooler conduct problems, but less prosocial behavior. T1 emotional insecurity was significantly correlated with greater emotional and conduct problems, but less prosocial behavior. Similarly, T2 emotional insecurity was also correlated with greater emotional and conduct problems. Interestingly, T1 and T2 interparental conflict were not significantly correlated, and thus not surprisingly neither were T1 and T2 emotional insecurity.

6.2 Aim 1: assess the stability of ES over time

As a first step to assessing the stability of ES over time, we conducted a cluster analysis of the T1 ES variables to determine the infants' patterns of responding to conflict. We performed a hierarchical agglomerative cluster analysis with squared Euclidian distance and examined both the agglomeration schedule and the dendrogram to determine the number of clusters [32]. The hierarchical agglomerative cluster approach allowed us to run the analyses without a predetermined number of clusters while minimizing the computational load [32]. We chose the squared Euclidian distance statistic to calculate the distance between cases because it allowed us to assess both the pattern and elevation of scores in question [32]. The agglomeration schedule was used to determine at what point two clusters were being combined that were too different to be combined into a homogenous group,

| Variable | M (SD) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------------------------------------|--------------|----------|---------|----------|---------|------|----------|---|
| 1. T1 Interparental conflict | −0.03 (2.98) | — | | | | | | |
| 2. T2 Interparental conflict | −0.01 (2.70) | 0.24 | — | | | | | |
| 3. T1 Emotional insecurity | 0.0 (1.80) | 0.31*** | 0.22 | — | | | | |
| 4. T2 Emotional insecurity | 0.0 (1.78) | 0.12 | 0.40*** | 0.08 | — | | | |
| 5. T2 Emotional symptoms | 1.75 (1.48) | 0.23 | 0.14 | 0.28* | 0.25* | — | | |
| 6. T2 Conduct problems | 2.42 (1.97) | 0.26* | 0.02 | 0.37*** | 0.33*** | 0.17 | — | |
| 7. T2 Prosocial behavior | 7.95 (1.39) | −0.33*** | −0.17 | −0.61*** | 0.08 | 0.08 | −0.34*** | — |

**p* < 0.05.
***p* < 0.01.
****p* < 0.001.

Table 1.
Means, standard deviations, and correlations of the primary variables in the analyses.

as noted by the first large increase in coefficient values [32]. Dendograms were used to help determine which clusters were most similar to each other, with more similar clusters appearing together early on the left side of the plot, whereas those that were less similar being spaced further apart on the right side [32]. We reran the analyses utilizing multiple clustering methods, assessing for stability of the cluster solution, which held up over each method. Results presented are based on Ward’s method. Two clusters emerged from the analyses: an emotionally insecure group and emotionally secure group. To determine their differential patterns of responding to conflict, independent sample t-tests were conducted on key T1 emotional security variables. Results were consistent with the cluster analysis in identifying groups that differed in terms of emotional security versus insecurity at time one. Infants in the emotionally insecure group demonstrated significantly higher levels of distress, frustration, physical frustration, and dysregulation, compared to infants in the emotionally secure group. Assessing whether this pattern remained stable over time, independent sample t-tests were conducted on key T2 emotional security variables as a function of infants’ T1 differential response patterns (see **Table 2**). Infants who were initially classified in the emotionally insecure group demonstrated greater levels of mediation and aggression at T2 when preschoolers than those who had been classified as emotionally secure infants.

6.3 Aim 2: determine if infant emotional insecurity (T1) mediates between T1 interparental conflict and preschooler adjustment (T2)

To examine mediator effects of infant emotional security in relations between interparental conflict and preschooler adjustment, we conducted a series of hierarchical regressions and followed procedures outlined by Baron and Kenny [33]. According to their guidelines, three necessary conditions must be met before testing mediator effects: (a) T1 interparental conflict must predict significant

| | Emotionally secure | | Emotionally insecure | | |
|---------------------------------|--------------------|---------------|----------------------|---------------|-----------|
| Variable | <i>M</i> | (<i>SD</i>) | <i>M</i> | (<i>SD</i>) | <i>t</i> |
| T1 Emotional security | | | | | |
| Distress | 0.96 | 1.11 | 2.00 | 1.63 | −1.98* |
| Frustration | 0.37 | 0.61 | 3.75 | 0.50 | −10.81*** |
| Self-soothe | 0.78 | 1.23 | 1.25 | 0.50 | −0.75 |
| Physical frustration | 0.00 | 0.00 | 1.75 | 0.50 | −7.00*** |
| Dysregulation | 0.12 | 0.44 | 2.25 | 1.26 | −3.37* |
| T2 Emotional security Variables | | | | | |
| Distress | 0.47 | 0.77 | 0.50 | 0.70 | −0.05 |
| Frustration | 0.88 | 1.23 | 0.75 | 1.35 | 0.24 |
| Self-soothe | 0.57 | 0.75 | 0.50 | 0.70 | 0.13 |
| Aggression | 0.83 | 0.96 | 1.75 | 0.35 | −3.09* |
| Dysregulation | 0.60 | 1.02 | 0.75 | 0.35 | −0.21 |
| Avoidance | 0.89 | 0.95 | 0.50 | 0.71 | −0.57 |
| Mediation | 0.34 | 0.57 | 1.25 | 1.76 | −2.00* |

**p* < 0.05.
***p* < 0.01.
****p* < 0.001.

Table 2.
Means for emotional security variables at T1 and T2 as a function of differential responding patterns.

variance in preschooler’s adjustment problems, (b) interparental conflict must be significantly related to infant emotional insecurity, and (c) infant emotional insecurity must be significantly related to preschooler adjustment problems. These first criteria were established for conduct problems and prosocial behavior in both the correlations and the hierarchical regressions (see **Table 3**). Emotional insecurity was a significant predictor of both conduct problems and prosocial behavior after taking into account interparental conflict, $\beta = 0.37$, $p < 0.05$, and $\beta = -0.64$, $p < 0.001$, respectively. Because these conditions were met, the final step for testing mediation was conducted (i.e., testing whether the relation between interparental conflict and preschooler adjustment is reduced or eliminated after the mediation effect of emotional insecurity has been taken into account). This step was also met. In the model predicting conduct problems without emotional insecurity entered, $\beta = 0.42$, $p < 0.05$ for interparental conflict, but when emotional insecurity was entered, $\beta = 0.19$, $p > 0.05$. In the model predicting prosocial behavior without emotional insecurity entered, $\beta = -0.32$, $p < 0.05$ for interparental conflict, but when emotional insecurity was entered, $\beta = -0.18$, $p > 0.05$. Moreover, to determine the significance of mediation, the indirect effects were calculated and tested for significance using Sobel’s (1982) test. Sobel’s [34] test indicated the mediation was significant for both conduct problems, $z = 2.05$ (0.36), $p < 0.04$, and for prosocial behavior, $z = 3.76$ (0.24), $p < 0.001$.

6.4 Aim 3: determine if infant emotional insecurity (T1) mediates between T1 interparental conflict and preschooler adjustment (T2) while simultaneously considering contemporaneous T2 emotional insecurity

To address Aim 3, path analyses examined the mediational effects of T1 emotional insecurity in the links between interparental conflict and preschooler

| Variable (N = 38) | Model 1 | | | Model 2 | | |
|--|---------|-------|---------|---------|----------|----------|
| | B | SEB | β | B | SEB | β |
| DV: T2 Conduct Problems | | | | | | |
| T1 Interparental conflict | 0.47 | 0.20 | 0.42** | 0.37 | 0.19 | 0.30 |
| T1 Emotional insecurity | | | | 0.33 | 0.15 | 0.37* |
| <i>F</i> | | 5.63* | | | 5.55** | |
| <i>R</i> ² Δ | | 0.17* | | | 0.13* | |
| <i>F</i> for change in <i>R</i> ² | | 5.63* | | | 4.87* | |
| DV: T2 Prosocial behaviors | | | | | | |
| T1 Interparental conflict | -0.24 | 0.14 | -0.32* | -0.14 | 0.11 | -0.18 |
| T1 Emotional insecurity | | | | -0.40 | 0.08 | -0.64*** |
| <i>F</i> | | 3.06* | | | 12.65*** | |
| <i>R</i> ² Δ | | 0.10* | | | 0.39*** | |
| <i>F</i> for change in <i>R</i> ² | | 3.06* | | | 20.07*** | |
| DV: T2 Emotional Symptoms | | | | | | |
| T1 Interparental conflict | 0.25 | 0.14 | 0.32* | 0.13 | 0.17 | 0.15 |
| T1 Emotional insecurity | | | | 0.19 | 0.13 | 0.28 |
| <i>F</i> | | 1.24 | | | 1.70 | |
| <i>R</i> ² Δ | | 0.04 | | | 0.07 | |
| <i>F</i> for change in <i>R</i> ² | | 1.24 | | | 2.12 | |

**p* < 0.05.
***p* < 0.01.
****p* < 0.001.

Table 3.
Hierarchical regressions predicting preschooler adjustment from T1 interparental conflict and emotional insecurity.

adjustment while simultaneously considering contemporaneous T2 emotional insecurity (**Figures 1 and 2**). Results for the first path model, considering pro-social behavior as the outcome, indicated an excellent fit with the data, χ^2 (2, *N* = 38) = 0.11, *p* > 0.05, χ^2/df ratio = 0.05. IFI = 1.0 CFI = 1.0, and RMSEA = 0.00. As hypothesized, T1 emotional insecurity remained a significant predictor of preschoolers' prosocial behavior, even when simultaneously considering contemporaneous preschooler emotional insecurity. In fact, it was only T1 emotional security that was predictive of preschooler prosocial behavior in our model. Confidence intervals of the overall indirect effects of T1 interparental conflict on T2 preschooler prosocial behavior (95% CI: -0.114, -0.009) did not include zero, indicating significant indirect effects of T1 emotional insecurity. Results for the second path model, considering conduct problems as the outcome, indicated an excellent fit with the data, χ^2 (2, *N* = 38) = 0.14, *p* > 0.05, χ^2/df ratio = 0.07. IFI = 1.0 CFI = 1.0, and RMSEA = 0.00. As hypothesized, T1 emotional insecurity remained a significant predictor of preschoolers' conduct problems, even when simultaneously considering contemporaneous preschooler emotional insecurity. T2 emotional security was also a significant predictor of preschoolers' conduct problems. Confidence intervals of the overall indirect effects of T1 interparental conflict on T2 preschooler conduct problems (95% CI, 0.002, 0.102) did not include zero, indicating significant indirect effects of T1 emotional insecurity.

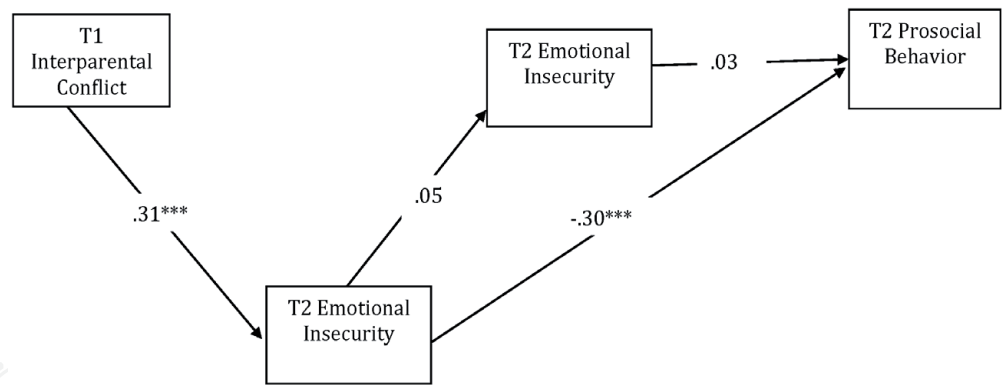


Figure 1.
Path analysis examining emotional insecurity at time points 1 and 2 as mediators of associations between interparental conflict and preschoolers' prosocial behavior. $p < 0.05$, *** $p < 0.001$.

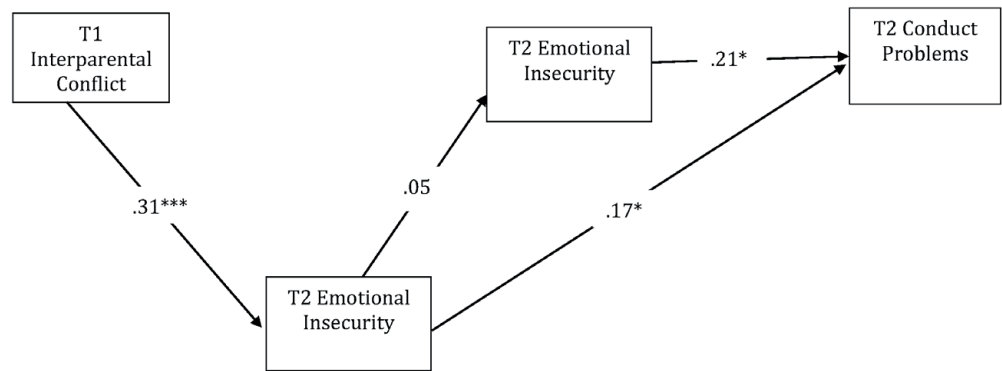


Figure 2.
Path analysis examining emotional insecurity at time points 1 and 2 as mediators of associations between interparental conflict and preschoolers' conduct problems. $p < 0.05$, *** $p < 0.001$.

6.5 Alternative direct effects models

An alternative model, considering direct effects of interparental conflict on preschooler adjustment was also tested to see if it provided a better explanation for the data. First, an alternative direct effects model was tested for prosocial behavior. Comparing the two nested models, the chi-square difference test revealed the model allowing for direct effects did not fit better than the model with only indirect effects, $\chi^2 (1, N = 38) = 0.04$, $\chi^2 \Delta = 0.07$, $1df$, $p > 0.05$. The path from interparental conflict to prosocial behavior was also nonsignificant, $\beta = 0.02$, $p > 0.05$. Next, an alternative direct effects model was tested for conduct problems. Comparing the two nested models, the chi-square difference test revealed the model allowing for direct effects did not fit better than the model with only indirect effects, $\chi^2 (1, N = 38) = 0.04$, $\chi^2 \Delta = 0.07$, $1df$, $p > 0.05$. The path from interparental conflict to conduct problems was also nonsignificant, $\beta = 0.02$, $p > 0.05$.

7. Discussion

Addressing gaps in research on associations between infant emotional security and interparental conflict, the current study utilized strong, multimethod assessment procedures to examine the longitudinal associations between interparental conflict and emotional security during the infancy through preschooler developmental period. The current study was able to find support for each of our hypotheses.

A key contribution of our paper was the expansion of our understanding of the earliest beginnings of emotional security, coming from our findings supporting our first hypothesis. This study confirmed that children's patterns of responding remain consistent longitudinally. When participants were categorized into clusters of emotionally secure and emotionally insecure, differential patterns occurred in responding to conflict. Time 1 emotionally insecure cluster showed higher levels of distress, frustration, physical frustration, and dysregulation compared to the emotionally secure cluster. The insecure group appeared to remain insecure through the preschool period, demonstrating higher levels of mediation and aggression than the secure group as preschoolers. These findings support the idea that emotional security is stable from infancy to preschool age; even when conflict changes in parents, the sense of insecurity holds stable. This is consistent with studies of older children that found similar stability in children's responses to interparental conflict longitudinally [11, 19, 20]. This finding points to the importance of early emotional security development; interparental conflict has lasting impacts on children's emotional security as early as infancy, not just older children as once perceived. Furthermore, the implication is that this type of stress on new and developing regulatory systems may push infants past their coping capabilities in early life and will then have lasting impacts as they grow older.

A second key contribution was our finding pertaining to emotional insecurity as a predictor of both conduct problems and prosocial behavior, after taking into account interparental conflict, supporting our second hypothesis. Furthermore, infant emotional security served as a significant mediator in the associations between interparental conflict and preschooler adjustment. This shows that emotional security accounts for effects rather than conflict even at this young age of preschoolers. Thus, even at this young age, we can see more than simple direct effects of conflict. Children's adjustment as preschoolers is being predicted not just by their exposure to conflict but by their psychological experiences and processing of it as infants, which has lingering associations even into preschooler years above and beyond the conflict itself. In particular, lower levels of emotional security were associated with lower levels of prosocial behavior and higher levels of conduct problems as preschoolers. One explanation for this may be that children with lower levels of emotional security may be depleted of their psychological resources as they attempt to cope with their insecurity [13]. Alternatively, emotional insecurity leaves children with more negative emotions and behavior (e.g., aggression and mediation in conflict) and more negative cognition in which they view the world as a less secure and stable place. Thus, children may be overgeneralizing their experiences at home into their other environments and responding in maladaptive ways with their own peers. These preschoolers are at high risk for further psychological problems as they develop. Previous research has prospectively linked emotional insecurity to depression, anxiety, peer problems, and conduct problems in adolescence [11].

Finally, the third primary contribution of our paper is documenting the lasting effects of infant emotional insecurity on child adjustment during this pivotal developmental period. Consistent with our third hypothesis, our findings demonstrated that infant emotional insecurity remained a significant mediator of preschoolers' prosocial behavior and conduct behavior, even when simultaneously considering contemporaneous preschooler emotional insecurity. Thus, our findings underscore the importance of considering infancy as a sensitive period of emotional development that continues to have lasting effects, even overriding current family circumstances. A growing body of research highlights the devastating effects of adverse childhood events experienced during infancy and the profound enduring effects they can have on cognitive and emotional development, especially when parents are involved (e.g., [35, 36]).

7.1 Clinical implications

Our findings have several important implications for prevention and intervention. First, in terms of prevention, given the potential for stability of emotional insecurity from infancy through the preschool years, it is of heightened importance that parents be educated regarding the impact of their conflict on infants and try to avoid holding difficult and destructive conflict in front of or near their infants. Previous research, unfortunately, has indicated that parents do not seem to shield their children from destructive conflicts, and that their conflicts in front of their children appear to be similar to or worse than when their children are not present [25, 37]. Furthermore, for families experiencing heightened conflict histories or depression, there is a greater likelihood of displaying more destructive conflict in front of children than when alone [25]. Children from these families may be doubly taxed psychologically as they attempt to cope with family depression and conflict. Thus, getting out the message of shielding infants from conflict is particularly imperative as a preventative effort.

In terms of intervention, two issues are pertinent. The first pertains to assessment for preschoolers in need of treatment for conduct of peer-related issues. A careful assessment of both current and past family functioning, including interparental conflict, as well as children's emotional insecurity is warranted. Although we do not currently have measures to retrospectively measure infant emotional insecurity, we can assess current emotional insecurity in conjunction with interparental conflict history and child exposure levels. Clinical judgment can help determine whether infant emotional security may have been an issue. Assessment of conflict and emotional insecurity is critical as our findings indicate they may play a role in preschooler peer problems and conduct problems. Second, in terms of intervention, if in fact emotional insecurity and interparental conflict are relevant issues in preschooler's peer and conduct problems, therapists will need to take a family-based approach to address the problem. Parents may benefit from couples counseling and education about how to keep their children removed from the conflict. Education about how to restore children's security will also be important. Providing a stable, secure, home environment with clear, consistent routines and helping parents provide consistent, sensitive, warm responses to their children, while still maintaining rules, supervision, and developmentally realistic expectations will be important [38]. At the infant level, this may entail extra calm, physical soothing to infants.

7.2 Limitations and future directions

These results support the longitudinal associations between interparental conflict and preschooler outcomes via emotional security; however, the correlational nature of this data prevents conclusions about causality. This study was limited by a small sample size, potentially impairing our power to detect effects. Participants were drawn from a fairly homogenous, middle-class, community sample and thus findings may differ from those among families seeking treatment or those from more diverse demographics; accordingly, readers should use caution in generalizing. Future studies utilizing larger, more diverse samples should replicate these results to gain more confidence in the findings.

These findings present a first step in identifying the nature of longitudinal emotional security during infancy to preschool years. Future studies should explore the underlying sources of negative parenting strategies and tension between parents that contribute to interparental conflict. Additionally, a study with a larger sample would have power to distinguish between types of conflict behaviors and address whether different types of destructive, depressive, or constructive conflict have different associations with emotional security in infancy and in preschoolers, which

would also elucidate a clearer point of intervention. Finally, there are a range of related processes not considered here that merit examination in future work, such as infant temperament, parent-infant attachment, interadult attachment, and co-parenting quality and attitudes.

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