

Regular Article

Mediators and moderator of the effects of early exposure to intimate partner violence on children's mental health

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Abstract

Childhood intimate partner violence (IPV) exposure increases the likelihood of internalizing and externalizing problems. There is substantial variability in children's outcomes following IPV exposure, but the reasons behind this are unclear, particularly among preschool-age children. The current study aimed to examine the direct and indirect effects of IPV on preschoolers' mental health through parent factors (parenting and parental depression), exploring child temperament as a potential moderator of the relation between IPV and child outcomes. Participants were 186 children (85 girls) and their parents living in the United States. Data were initially collected when children were age three, with follow-up at ages four and six. Both parents' baseline IPV perpetration had adverse effects on child outcomes. Mothers' IPV was associated with greater paternal depression, paternal overreactivity, and maternal laxness, whereas fathers' IPV was associated with more paternal overreactivity. Only paternal depression mediated the effect of mothers' IPV on child outcomes. Parenting did not mediate nor did child temperament moderate the relation between IPV and child outcomes. Results shed insight into the need to address parental mental health in families experiencing IPV and underline the need for a further exploration of individual- and family-level mechanisms of adjustment following IPV exposure.

Keywords: child temperament; internalizing/externalizing problems; intimate partner violence (IPV); parental depression; parenting

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Introduction

Intimate partner violence (IPV) is abuse in various forms, including psychological, physical, sexual, and financial, by a current or former intimate partner (Breiding et al., 2015). One in three couples experiencing IPV also have a child living with them (Smith & Farole, 2009), meaning many children are exposed to this form of violence. Exposure to IPV appears to increase the likelihood of both internalizing and externalizing problems among children of all ages (Artz et al., 2014; Vu et al., 2016). Preschool age is an especially concerning time for exposure, as it is a critical developmental period when adversities such as IPV can have significant effects on neurological development and contribute to epigenetic changes (Dunn et al., 2019; Reynolds et al., 2019). Thus, preschool-age children may be especially vulnerable to the negative behavioral and emotional effects of IPV (McDonald et al., 2007; Yates et al., 2003) and be more likely to experience detrimental long-term outcomes (Miller-Graff et al., 2016; Mitchell et al., 2020). However, there is a dearth of research on the long-term effects of IPV on preschool-age children's mental health. Moreover, even though the negative effects of IPV on children's mental health are

well-established, the mechanisms underlying the relation between IPV and child mental health outcomes are understudied. Given that IPV has heterogeneous effects on children's outcomes (Howell et al., 2016), examining both mediators and moderators of the effects of IPV is essential to explaining individual differences in adjustment and effectively tailoring interventions to mitigate the harmful effects of IPV.

Bioecological theory is thus a useful framework in the context of IPV, as it suggests development is a joint function of contextual factors and individual-level factors, along with their interaction (Bronfenbrenner, 1979). Potential contextual mechanisms underlying the connection between IPV and child mental health are parenting and parent mental health, which have substantial effects on child adjustment and are often impacted by IPV (Galano et al., 2022; Riggs et al., 2021). Notably, most investigations of parenting and IPV have examined only mothers, despite evidence that fathers have frequent and impactful interactions with their children, even when fathers are more likely to use violence against women and children in their households (Stover & Morgos, 2013). At the individual level, one potentially significant, but underexplored factor is child temperament. Temperament is related to outcomes at preschool age both directly (Kozlova et al., 2020) and by interacting with parental factors (Danzig et al., 2015). To better understand the mechanisms of adjustment following IPV, the present study longitudinally investigated the mediating roles of mothers' and fathers' parenting and parental depression. This study also examined the moderating role of child temperament on the associations between IPV exposure and children's mental health.

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Parenting and parent mental health as mediators of the relation between IPV and children's mental health

Parenting

IPV is thought to affect parenting, which in turn plays a critical role in children's development. Therefore, parenting is a key mechanism to investigate in the context of childhood IPV exposure. However, research on the effect of IPV on parenting is mixed. Although IPV and harsh parenting practices are often positively associated with each other (Chiesa et al., 2018; Rousson et al., 2022), negative effects of IPV on other dimensions of parenting (e.g., warmth, laxness) has not been consistently found across studies. In fact, Grogan-Kaylor et al. (2020) found evidence supporting both a spillover and a compensatory hypothesis in a study of IPV-exposed women. The compensatory parenting profile was characterized by higher warmth and lower harsh parenting, and the spillover profile was characterized by slightly lower warmth and higher harsh parenting. Sousa et al. (2021) suggest that some caregivers may become hypervigilant towards their children and surrounding circumstances precipitating violence, while others may become overly lenient in their parenting instead of being strict or harsh. Moreover, while some research indicates that IPV is associated with negative parenting practices in both mothers and fathers (Jeong et al., 2020; Rousson et al., 2022), the role of fathers' parenting in the relation between IPV and child functioning remains relatively unexplored. There is clear variability in the effects of IPV on parenting, and further research on the effects of IPV on both mothers' and fathers' parenting is especially needed.

Laxness, warmth, and overreactivity/harshness are three parenting dimensions (Arnold et al., 1993; Baumrind, 1968) consistently associated with children's internalizing and externalizing problems (Graham et al., 2012; Kiff et al., 2011; Stallman & Ohan, 2016), which may mediate the effects of IPV on children. Importantly, experiencing IPV may present significant parenting challenges (Herrenkohl et al., 2008; Holt et al., 2008), which may in turn increase children's risk for developing emotional and behavioral problems. For instance, in a study with infants, current IPV was associated with more negative maternal parenting practices, which, in turn, were associated with more child externalizing behaviors at age 1 (Levendosky et al., 2006). Another study with preschool children found that household chaos and violence at home were related to punitive parenting, which in turn was associated with greater child externalizing problems (Coe et al., 2020). The use of negative parenting strategies (e.g., corporal punishment, harshness) generally is associated with risk for the development of child behavior problems from birth to school-age in families with histories of IPV (Galano et al., 2022; Graham et al., 2012). Conversely, many positive parenting practices, including parental warmth, have been found to promote resilience and buffer the relationship between IPV exposure and child adjustment (Gewirtz et al., 2011; Miller-Graff et al., 2020). Although some studies have found a mediating effect of parenting in the relation between IPV and child adjustment, their use of cross-sectional data limited conclusions about causal pathways (e.g., Greene et al., 2018; Levendosky et al., 2003). As IPV and parenting are interrelated processes that both impact children's outcomes, longitudinal work to better understand the causal effects of both parents' IPV and parenting practices on children's psychological adjustment is crucial.

Parental mental health

Another parental level variable that may play a role in the relation between IPV and child outcome is parent mental health. Experiencing IPV has significant, adverse effects on adults' mental health (Lagdon et al., 2014). For example, physical IPV victimization is associated with more depressive symptoms, substance abuse, posttraumatic stress symptoms, and anxiety for both men and women (Lagdon et al., 2014). Moreover, literature on IPV perpetration has highlighted high rates of various psychological difficulties, including anger and hostility problems, suicidality, substance use, personality disorders, anxiety, and depression among those who use violence in their relationship (Sesar et al., 2018). Notably, depression is consistently associated with IPV (Clark et al., 2021; Houry et al., 2006; O'Campo et al., 2006), with IPV-exposed women being two to three times more likely to experience clinical depression compared to unexposed women (Beydoun et al., 2012).

In addition, parental psychopathology has also been demonstrated to be an important risk factor for children's mental health outcomes (Neill et al., 2018), notably among preschool-age children (Breux et al., 2014). Parental depression, in particular, has been robustly associated with children's mental health outcomes for both mothers (Goodman et al., 2011) and fathers (Weitzman et al., 2011). Specifically in the context of IPV, children were up to 7 times more likely to have the same internalizing problems as their mothers, including depression (McFarlane et al., 2014). Similarly, preschoolers whose parents endorse both IPV and depressive symptoms are at higher risk for being diagnosed with attention-deficit/hyperactivity disorder (ADHD) compared to children of parents reporting only IPV, only depression, or neither (Bauer et al., 2013).

Several studies have tested and found a mediating effect of parental mental health in the relation between IPV and child mental health outcomes. For example, poorer maternal mental health – a latent factor characterized by the presence of depression and substance use – has been found to mediate associations between IPV and aggression in school-age children (Holmes, 2013). However, this cross-sectional study did not allow for conclusions about causal pathways, further highlighting the need for longitudinal examination of the impacts of IPV on parental mental health and subsequent child mental health outcomes. Levendosky and colleagues (2006) conducted a longitudinal study and found a mediating effect of maternal mental health – a latent factor characterized by trauma symptoms, depression, anxiety, and self-esteem – between IPV and infant externalizing behavior. IPV was related to worse maternal depressive symptoms, which in turn was associated with more internalizing and externalizing problems in studies involving preschool- and school-age children (Koverola et al., 2005; Morrel et al., 2003; Skinner et al., 2019). Taken together, previous research points to clear links between maternal depression and various child outcomes following IPV, but there is a dearth of research on the effect of paternal depression in this context. Given that many children exposed to IPV live with or regularly interact with their fathers, there is a need to investigate the effects of fathers' depression on children's mental health following IPV.

Child temperament as a moderator of the relation between IPV and children's mental health

Discrepancy in findings regarding the adverse effect of IPV exposure on child mental health outcome may be explained by

child characteristics, such as temperament. Although the bioecological model emphasizes the interactions of individuals and their environments, child temperament has not been well-explored as a moderator of the relation between IPV exposure and child mental health outcomes. Temperament is defined as “constitutionally based individual differences in reactivity and self-regulation” (Rothbart, 1986, p. 356) that is relatively stable over time (Rothbart *et al.*, 2001). Child temperament has been proposed to affect both internalizing and externalizing problems in early childhood (Sanson *et al.*, 2004), with difficult temperament amplifying the negative impact of environmental risk factors on mental health outcomes. For example, family conflict predicted more behavior problems among children with difficult temperament, though this association was not significant among children with easy temperament (Ramos *et al.*, 2005). Among preschoolers exposed to IPV, those with an easy temperament (less emotionality) were likely to maintain normative social development in spite of their IPV exposure (Bowen, 2015). The differential susceptibility hypothesis suggests that some children may be more susceptible than others to the adverse environment (Belsky, 1997). In this framework, child temperament may be viewed as a moderator that can either increase or decrease a child’s sensitivity to the adverse effect of environmental factors, such as IPV. Overall, these studies suggest that the association between familial level stressors (*i.e.*, IPV) and child outcomes may vary as a function of child temperament. Despite a well-established framework for child temperament as a moderator of the relation between IPV and child development, previous research has heavily investigated direct effects of temperament on child outcomes. Further research to examine how temperament works differently in the context of IPV can help us gain a better understanding of the intricate role of temperament in children’s psychosocial development.

Present study

There are several critical gaps regarding mechanisms of children’s adjustment following IPV. Most previous research has relied on maternal report of her IPV victimization and child outcomes, and little is known about paternal effects. Moreover, the evidence on how parenting and parental mental health affect the relation between IPV and child adjustment is mixed without a critical part of the bioecological model: the interaction with child factors such as temperament. Although IPV, parenting, parental depression, and child temperament predict child mental health, no study has examined the interplay among them in predicting child outcomes.

The goal of this study was to address several critical gaps in the literature by testing the direct and indirect effects of IPV on children’s mental health through parenting and parental depression in early childhood (age 3–6), exploring child temperament as a potential moderator. To achieve this aim, a mediation and a moderation model were tested. The mediation model tested the indirect effects of IPV on child mental health via parenting and parental depression. The moderation model examined whether the direct effect of IPV on child mental health outcomes varied as a function of child temperament. These models aim to shed light on the mechanisms underlying the relations between IPV exposure during early childhood and child mental health outcomes, by identifying “how (via parenting and parental depression)” and “under what conditions (depending on child temperament)” these relations occur. Most importantly, this study included reports from both parents and explored similarities and differences in mother

and father effects using a longitudinal design. A dyadic framework allowed for an investigation of differential effects of mothers’ and fathers’ IPV separately, given that bidirectional IPV is common and IPV perpetrated by mother versus father has different impacts (Eriksson & Mazerolle, 2015). Therefore, in this study, dyadic models provided important, novel information about the unique effects of each parent’s IPV on their partner’s parenting behaviors and mental health, and their children’s subsequent mental health.

Informed by prior research on IPV, parenting, parental depression, child temperament, and child outcomes, we proposed the following research questions (R) and hypotheses (H):

R1. Do parental factors (parenting and parental depression assessed at age 4) mediate the relation between IPV (assessed at age 3) and children’s mental health outcomes (assessed at age 6)?

H1. Maternal and paternal IPV will predict negative parenting, which will predict worse child outcomes.

H2. Maternal and paternal IPV will predict more parental depression, which will predict worse child outcomes.

R2. Does child temperament during infancy (assessed retrospectively at age 3) moderate the effect of maternal and paternal IPV on children’s mental health outcomes?

H3. Easy temperament will buffer the negative impact of IPV on child outcomes.

Method

Participants

Participants were drawn from a larger study aimed at understanding early development of ADHD and oppositional defiant disorder and were therefore oversampled for children with externalizing behaviors. The original sample included 258 families, and the present study includes data from 186 children (101 boys, 85 girls) whose parents reported living with the child full time and had at least one parent complete a measure assessing IPV at the first time point (T1). Table 1 shows all participating families’ demographic information.

Procedure

Participants were recruited over a 3-year period through state birth records, pediatrician offices, childcare centers, and community centers throughout Western Massachusetts. Children with and without significant externalizing problems were recruited from 1752 3-year-old children whose parents completed a screening packet containing the Behavior Assessment System for Children – Parent Report Scale (BASC-PRS; Reynolds & Kamphaus, 1992), a questionnaire assessing exclusion criteria, parental concern about externalizing symptoms, and demographic information. Exclusion criteria for all participants included evidence of a developmental or intellectual disability, deafness, blindness, language delay, cerebral palsy, epilepsy, autism spectrum disorder, or psychosis. Prior to engaging in study activities, parents provided written informed consent. At T1, eligible families participated in two 3-hour home visits scheduled approximately 1 week apart, and each parent was compensated \$200 for participation. Home visits were then conducted annually for 3 years (T2, T3, and T4) and parents received additional payment at each visit. The present study focused on IPV and retrospective infant temperament measured at T1, parental depression and parenting practices measured at T2, and child internalizing and externalizing problems measured

Table 1. Demographic characteristics of participants

Variables	Values
Sex	<i>n</i> (%)
Boys	101 (54.3%)
Girls	85 (45.7%)
Race/Ethnicity	
White	126 (67.7%)
Black	12 (6.5%)
Latinx	25 (13.4%)
Multiethnic	23 (12.4%)
Child Age	Mean (<i>SD</i>)
Time 1 (age of 3 years)	44.19 (3.35) months
Time 2 (age of 4 years)	56.70 (3.60) months
Time 4 (age of 6 years)	79.98 (4.43) months
Parental Education	
Mothers	13.94 (2.64) years
Fathers	13.64 (2.64) years
Parental Age	
Mothers	33.15 (6.09) years
Fathers	36.55 (7.55) years
	median (range)
Household Income	\$58,000 (\$5,500–\$380,000)

at T4. All study procedures were reviewed and approved by the University of Massachusetts Amherst Institutional Review Board.

Measures

Intimate Partner Violence (IPV)

Mothers and fathers completed the Conflicts and Problem-Solving Scales – Violence Form (CPS-V), a short form of the Conflicts and Problem-Solving Scales (Kerig, 1996), at T1. The Conflicts and Problem-Solving Scales—Violence is a 69-item questionnaire describing positive and negative conflict tactics, with subscales including cooperation, avoidance or capitulation, stonewalling, verbal aggression, moderate physical aggression, severe physical aggression, child involvement, and emotional abuse. Mothers and fathers independently rated the degree to which they and their partners use each of these tactics. In other words, mothers and fathers separately rated their own perpetration of each item, and their perceptions of their partner's perpetration of each item from 0 (*Never*) to 3 (*Often*). However, we only used the items assessing partner-reported IPV perpetration given known biases in self-reported aggression and violence (Hamby, 2016). Verbal aggression, moderate physical aggression, severe physical aggression, and emotional abuse subscales were selected as representing IPV between the couple. Partner-reported perpetration of each item from these subscales were averaged separately for mothers and fathers to create two composite scores, where a higher score indicates greater frequency of IPV. That is, mothers' IPV variable is the composite of fathers' perceptions of mothers' IPV, and fathers' IPV variable is the composite of mothers' perceptions of fathers' IPV. All IPV variables demonstrated adequate to good reliability (mother-reported partner IPV: $\alpha = .89$; father-reported

partner IPV: $\alpha = .93$). The composite IPV variables were significantly correlated, $r(151) = .50, p < .001$.¹

Parental depression

At Time 2, mothers and fathers completed the Millon Clinical Multiaxial Inventory-III (MCMI-III; Millon et al., 1997), which is a self-report questionnaire of 175 true-false items that measures a range of adult psychopathology. The internal consistency for the MCMI-III scales in a clinical population ranged from .66 to .90, and test-retest reliabilities ranged from .84 to .96 (Millon et al., 1997). In the present study, the MCMI-III subscales that assess Major Depression, Dysthymia, and Depressive Personality were used as a measure of parental depression. Eight of the 33 items in these subscales were omitted from analyses because they assess depressive symptoms over a long timeframe, and we were interested in recent depression to establish temporal precedence. Following instructions from the MCMI-III manual (Millon et al., 1997), items considered prototypical for the Major Depression scale were double-weighted. Prototypical items from the Dysthymia and Depressive Personality scales were not double-weighted because they represent less severe symptoms. Responses to the 25 items were summed to create a raw score, with higher scores indicating greater levels of depression. Internal consistency at T2 were excellent for mothers ($\alpha = .93$) and for fathers ($\alpha = .90$).

Parenting practices

Overreactivity and laxness. At T2, mothers' and fathers' self-reported parenting practices were assessed using the Parenting Scale (Arnold et al., 1993), which is a 30-item scale that aims to measure parenting practices. On this scale, parents reported the frequency with which they use various discipline strategies on a 7-point Likert scale, where a 7 represents a greater frequency of negative parenting. The overreactivity and laxness subscales were used in the present study, both of which have shown good internal consistency ($\alpha = .82$ and $\alpha = .83$, respectively), high test-retest reliability ($r = .82$ and $r = .83$, respectively), and correlation with observations of parenting (Arnold et al., 1993). In the present sample, the overreactivity and laxness subscales demonstrated good reliability (overreactivity: mothers $\alpha = .74$, fathers $\alpha = .74$; laxness: mothers $\alpha = .80$, fathers $\alpha = .78$). Scores for overreactive and lax parenting were calculated by averaging across the 10 items for overreactivity and 11 items for laxness subscales.

Warmth. At T2, parental warmth was measured using the nurturance subscale of the Child Rearing Practices Report-Modified (Rickel & Biasatti, 1982), which is a self-report questionnaire of parenting practices. The nurturance subscale of the Child Rearing Practices Report-Modified aimed to measure parental willingness to listen and share feelings and experiences with their children on a 7-point Likert scale, where a 7 represents a greater frequency of nurturance. The nurturance subscale has demonstrated good internal consistency in previous research ($\alpha = .84$; Rickel & Biasatti, 1982) and in the present sample (mothers $\alpha = .87$; fathers $\alpha = .91$). Scores were calculated by averaging across the 18 items for this subscale.

Child temperament

Children's temperament during infancy was measured retrospectively using parental reports on the Revised Infant Temperament Questionnaire (Carey & McDevitt, 1978) used by Sanson et al.

¹We explored whether physical and emotional abuse scales were differentially related to child outcomes by testing baseline models with separate physical and emotional abuse scales. Patterns in the effects of each type on child outcomes did not differ, so we combined them to create IPV variables.

(1993). At T1, both parents rated their child's activity and irritability during infancy on 11 items (5 irritability items and 6 activity items) from 1 (*Almost Never*) to 6 (*Almost Always*). A total score was calculated for mothers and fathers (mothers $\alpha = .76$; fathers $\alpha = .70$) and then averaged across parents.

Child mental health

At T4, children's internalizing and externalizing problems were measured using the BASC-PRS. Both parents completed the BASC-PRS, which assesses a broad range of psychopathology in children ages 2 and older. The internalizing and externalizing composite scores from each parent were used in this study; the internalizing composite was the total T-score derived from the Anxiety (11 items), Depression (12 items), and Somatization (13 items) scales, and the externalizing composite was the total T-score derived from the Hyperactivity (10 items) Aggression (13 items), and Conduct Problems (11 items) scales. These composites have previously demonstrated good to excellent reliability (internalizing $\alpha = .89$; externalizing $\alpha = .93$; Reynolds & Kamphaus, 1992), and showed fair to good reliability (mothers: internalizing $\alpha = .76$, externalizing $\alpha = .81$; fathers: internalizing $\alpha = .75$, externalizing $\alpha = .75$) in the present sample.

Analytic plan

Mplus Version 8 (Muthén & Muthén, 1998-2020) was used to estimate all models. Full information maximum likelihood was used to address missing data (See Table 2 for *Ns* for all variables). Model fit was evaluated by using χ^2/df (< 2 indicates good model fit), Root Mean Square Error of Approximation (RMSEA; $< .08$ represents adequate fit and $< .05$ good fit), Bentler's Comparative Fit Index (CFI; $> .90$ indicates good fit); and Standardized Root Mean Square Residual (SRMR; $< .10$ indicates adequate fit) (Kline, 2015).

The mediation model was estimated with maternal and paternal IPV variables simultaneously to account for dyadic effects, and with both maternal and paternal mediators (depression, overreactivity, laxness, and warmth). Mother- and father-reported child internalizing and externalizing composites were used to create internalizing and externalizing latent variables. Mothers' and fathers' externalizing and internalizing composites loaded significantly onto their respective latent variables. The externalizing and internalizing latent variables significantly covaried ($\beta = .52, p < .001$) as did the two IPV variables ($\beta = .50, p < .001$).

Descriptive statistics indicated that both parental depression variables were skewed (skewness > 1.75), so square root transformations were applied for both maternal and paternal depression variables. For models with negative residual variances, variances were set to zero. All models were estimated controlling for parental education (because it was significantly correlated with both parental depression variables, maternal laxness, and mother-reported externalizing composite). All mediation models were estimated using bias corrected bootstrapping confidence intervals.

Sensitivity power analyses were conducted in G*power for direct effects of IPV and IPV by temperament interactions. Our sample of 186 was sufficient to detect small-to-medium direct linear regression effects ($f^2 = .04$) of IPV variables on child outcomes and was sufficient to detect small-to-medium interaction effects ($f^2 = .06$) with a power of .80. MedPower (<https://davidakenny.shinyapps.io/MedPower/>) was used to conduct sensitivity power analyses for indirect mediating effects. Our

sample of 186 was sufficient to detect medium-sized standardized indirect effects ($ab = .06$; a and $b = .24$) with a power of .80.

Results

Descriptive statistics

Table 2 presents means, standard deviations, and intercorrelations for all study variables.

Parental IPV as a predictor of child outcomes

Prior to testing mediation and moderation models, a baseline dyadic model was constructed in which the T4 latent externalizing and internalizing variables were regressed on both mothers' and fathers' IPV at T1. This model demonstrated good to adequate model fit: $\chi^2/df = 2.14$, RMSEA = .08, CFI = .98, and SRMR = .06. The path from mothers' IPV at T1 to internalizing problems at T4 was significant ($b = 0.64, SE = 0.32, \beta = .22, p = .04$), but not the path to externalizing problems ($b = 0.42, SE = 0.38, \beta = .11, p = .27$), controlling for fathers' IPV. The path from fathers' IPV at T1 to externalizing problems at T4 was significant ($b = 1.26, SE = 0.43, \beta = .28, p = .003$), but not the path to internalizing problems ($b = 0.61, SE = 0.37, \beta = .18, p = .10$), controlling for mothers' IPV.

In addition, child outcome variables were regressed on one IPV variable at a time to examine the total effect of each parent's IPV on children's internalizing and externalizing problems. For the maternal IPV model, the paths from mothers' IPV to externalizing problems ($b = 1.02, SE = 0.32, \beta = .26, p = .001$) and internalizing problems ($b = 0.97, SE = 0.26, \beta = .33, p < .001$) were both significant. Similarly, for the paternal IPV model, the paths from fathers' IPV to externalizing behaviors ($b = 1.52, SE = 0.36, \beta = .34, p < .001$) and to internalizing behaviors ($b = 0.92, SE = 0.31, \beta = .28, p = .002$) were both significant.

Multigroup analyses were conducted to determine if any paths from IPV variables to child outcome variables were different for boys than for girls. Fixing paths to be equal for boys and girls did not significantly worsen model fit, $\Delta\chi^2(1)$ ranged from 0.06 to 0.32, $ps > .57$, suggesting that paths from IPV to child outcomes were not significantly different for boys and girls.

Parental depression and parenting as mediators of the relation between IPV and child outcomes

Time 4 child externalizing and internalizing latent variables were simultaneously regressed on maternal and paternal depression, overreactivity, laxness, and warmth at T2, as well as on mothers' and fathers' IPV at T1. The four sets of parental mediator variables were also regressed both on mothers' and fathers' IPV. Each mediator variable was allowed to covary with other mediator variables with same parent reporter (e.g., maternal depression with maternal overreactivity; maternal overreactivity with maternal warmth, etc.), and with counterpart mediator variables (e.g., maternal depression with paternal depression; maternal overreactivity with paternal overreactivity). The mediation model demonstrated good to adequate model fit: $\chi^2/df = 1.68$, RMSEA = .06, CFI = .95, and SRMR = .08.

Direct paths to child outcomes

The path from fathers' IPV ($b = 1.13, SE = 0.47, \beta = .25, p = .02$) to children's externalizing problems was significant, but not the path to internalizing problems. The paths from fathers' depression to children's internalizing problems ($b = 0.38, SE = 0.08, \beta = .55$,

Table 2. Intercorrelations, means, and SDs of study variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
T1 Mothers' IPV	–															
T1 Fathers' IPV	0.50***	–														
T2 Maternal Depression	0.24***	0.20**	–													
T2 Paternal Depression	0.25**	0.20*	0.59***	–												
T2 Maternal Overreactivity	0.15	0.29***	0.36***	0.13	–											
T2 Paternal Overreactivity	0.27**	0.34***	0.18*	0.12	0.21*	–										
T2 Maternal Laxness	0.23**	0.07	0.37***	0.16	0.25**	0.21*	–									
T2 Paternal Laxness	–0.01	0.02	0.19*	0.17*	0.04	0.21*	0.20*	–								
T2 Maternal Warmth	0.07	0.01	–0.14	0.02	–0.32***	–0.14	–0.20**	–0.07	–							
T2 Paternal Warmth	0.03	–0.05	–0.08	–0.11	–0.05	–0.39***	–0.17*	–0.18*	0.20*	–						
T4 Externalizing (mom)	0.26**	0.34***	0.43***	0.33***	0.24**	0.25**	0.22**	0.23**	–0.12	–0.23**	–					
T4 Externalizing (dad)	0.21*	0.02	0.43***	0.30***	0.10	0.12	0.19*	0.29**	–0.12	–0.18	0.72***	–				
T4 Internalizing (mom)	0.31***	0.25**	0.35***	0.43***	0.13	0.11	0.17*	0.05	–0.04	–0.13	0.60***	0.39***	–			
T4 Internalizing (dad)	0.23**	0.07	0.36***	0.35***	0.05	0.17	0.13	0.17	–0.05	–0.22*	0.46***	0.64***	0.66***	–		
Infant Temperament	0.13	0.19*	0.16*	0.14	0.12	0.03	0.16*	0.14	–0.04	0.03	0.29***	0.23**	0.28***	0.22*	–	
Parental Education	–0.15	–0.01	–0.25***	–0.22**	0.02	–0.01	–0.15*	–0.15	0.08	0.06	–0.13	–0.08	–0.05	–0.04	–0.06	–
Mean (SD)	0.51 (0.36)	0.49 (0.33)	4.47 (6.46)	2.63 (4.46)	2.72 (0.73)	2.73 (0.73)	2.68 (0.89)	2.76 (0.77)	6.15 (0.53)	5.82 (0.71)	54.31 (11.89)	51.29 (9.77)	46.58 (9.86)	44.46 (8.96)	3.19 (0.80)	13.86 (2.43)
N	156	183	186	146	176	147	178	147	178	147	167	129	167	129	186	176

Note. IPV = intimate partner violence, T1 = Time 1, T2 = Time 2, T4 = Time 4.

* $p < .05$, ** $p < .01$, *** $p < .001$.

$p < .001$) and externalizing problems ($b = 0.24, SE = 0.08, \beta = .27, p = .003$) were significant. The paths from mothers' IPV, maternal depression, and both parents' overreactivity, laxness, and warmth to children's externalizing and internalizing problems were all nonsignificant.

Direct paths to parental variables

The paths from mothers' IPV to fathers' depression ($b = 1.54, SE = 0.67, \beta = .36, p = .02$), fathers' overreactivity ($b = 0.47, SE = 0.24, \beta = .20, p = .04$), and to maternal laxness ($b = 0.81, SE = 0.29, \beta = .27, p = .004$) were all significant. The path from fathers' IPV to paternal overreactivity ($b = 0.66, SE = 0.29, \beta = .24, p = .02$) was also significant. The paths from mothers' IPV to maternal depression, paternal laxness, and both parents' overreactivity and warmth were all nonsignificant. The paths from fathers' IPV to maternal overreactivity, and both parents' depression, laxness, and warmth were all nonsignificant. (See Table 3 for coefficients for all direct paths.)

Indirect paths

The indirect path from mothers' IPV to externalizing problems via paternal depression, $b = 0.38, SE = 0.22, \beta = .10, 95\% CI [0.07, 0.99]$, was significant. The indirect path from mothers' IPV to internalizing problems via paternal depression was also significant, $b = 0.59, SE = 0.29, \beta = .20, 95\% CI [0.13, 1.34]$. (See Table 4 for coefficients for all indirect paths.)

Parental depression as a mediator in the relation between IPV and child outcomes

Because depression was the only significant mediator among the parental variables, a follow-up mediation analysis was conducted in which T4 child externalizing and internalizing latent variables were regressed on maternal and paternal depression at T2, as well as mothers' and fathers' IPV at T1. Parental depression variables were also regressed on both mothers' and fathers' IPV. The parental depression mediation model (Figure 1) demonstrated adequate to good model fit: $\chi^2/df = 2.72, RMSEA = .10, CFI = .95,$ and $SRMR = .07$.

Direct paths to child outcome

The path from fathers' IPV to children's externalizing problems ($b = 1.17, SE = 0.42, \beta = .26, p = .006$) was significant. The paths from maternal depression ($b = 0.17, SE = 0.07, \beta = .22, p = .02$) and paternal depression ($b = 0.28, SE = 0.08, \beta = .31, p < .001$) to children's externalizing problems were significant. The path from paternal depression to children's internalizing problems ($b = 0.38, SE = 0.07, \beta = .56, p < .001$) was also significant.

Direct paths to parental depression

The paths from mothers' IPV to maternal depression ($b = 1.15, SE = 0.49, \beta = .23, p = .02$) and paternal depression ($b = 1.54, SE = 0.46, \beta = .35, p = .001$) were significant. The paths from fathers' IPV to maternal depression ($b = 0.48, SE = 0.54, \beta = .09, p = .37$) and paternal depression ($b = -0.11, SE = 0.51, \beta = -.02, p = .83$) were not significant.

Table 3. Coefficients for the parental depression and parenting mediation model

Outcome Variables	Predictor Variables	b	SE	β	p
T4 Externalizing Problems	Mothers' IPV	-0.03	0.42	-0.01	0.95
	Fathers' IPV	1.13	0.47	0.25	0.02
	Maternal Depression	0.16	0.08	0.20	0.06
	Maternal Overreactivity	0.08	0.15	0.05	0.60
	Maternal Laxness	-0.01	0.12	-0.01	0.92
	Maternal Warmth	-0.13	0.17	-0.06	0.45
	Paternal Depression	0.24	0.08	0.27	0.003
	Paternal Overreactivity	-0.03	0.19	-0.02	0.89
	Paternal Laxness	0.21	0.14	0.14	0.13
	Paternal Warmth	-0.19	0.16	-0.12	0.23
T4 Internalizing Problems	Mothers' IPV	0.63	0.43	0.07	0.14
	Fathers' IPV	0.19	0.39	0.18	0.62
	Maternal Depression	0.07	0.07	0.11	0.28
	Maternal Overreactivity	-0.04	0.12	-0.03	0.76
	Maternal Laxness	0.01	0.10	0.01	0.94
	Maternal Warmth	-0.04	0.14	-0.02	0.78
	Paternal Depression	0.38	0.08	0.55	<0.001
	Paternal Overreactivity	-0.10	0.14	-0.08	0.47
	Paternal Laxness	-0.04	0.10	-0.04	0.67
	Paternal Warmth	-0.11	0.12	-0.08	0.39
Maternal Depression	Mothers' IPV	1.13	0.66	0.23	0.09
	Fathers' IPV	0.45	0.67	0.08	0.50
Maternal Overreactivity	Mothers' IPV	0.14	0.26	0.06	0.58
	Fathers' IPV	0.58	0.33	0.21	0.08
Maternal Laxness	Mothers' IPV	0.81	0.29	0.27	0.004
	Fathers' IPV	-0.20	0.33	-0.06	0.55
Maternal Warmth	Mothers' IPV	0.10	0.16	0.06	0.53
	Fathers' IPV	-0.03	0.20	-0.01	0.90
Paternal Depression	Mothers' IPV	1.54	0.67	0.36	0.02
	Fathers' IPV	-0.10	0.62	-0.02	0.87
Paternal Overreactivity	Mothers' IPV	0.47	0.24	0.20	0.04
	Fathers' IPV	0.66	0.29	0.24	0.02
Paternal Laxness	Mothers' IPV	0.14	0.29	0.05	0.64
	Fathers' IPV	-0.12	0.31	-0.04	0.69
Paternal Warmth	Mothers' IPV	0.11	0.24	0.05	0.66
	Fathers' IPV	-0.17	0.27	-0.06	0.54

Table 4. Indirect effects of parental IPV on child mental health outcomes through parental depression and parenting

Indirect Effects	Unstandardized Coefficient	Standard Error	Standardized Coefficient	Unstandardized 95% CI
Mothers' IPV → Maternal Depression → Externalizing Problems	0.18	0.14	0.05	−0.02, 0.58
Mothers' IPV → Paternal Depression → Externalizing Problems	0.38*	0.22	−0.10	0.07, 0.99
Fathers' IPV → Maternal Depression → Externalizing Problems	0.07	0.12	0.02	−0.11, 0.41
Fathers' IPV → Paternal Depression → Externalizing Problems	−0.03	0.16	−0.02	−0.42, 0.26
Mothers' IPV → Maternal Depression → Internalizing Problems	0.08	0.10	0.03	−0.04, 0.37
Mothers' IPV → Paternal Depression → Internalizing Problems	0.59*	0.29	0.20	0.13, 1.34
Fathers' IPV → Maternal Depression → Internalizing Problems	0.03	0.07	0.01	−0.05, 0.26
Fathers' IPV → Paternal Depression → Internalizing Problems	−0.04	0.24	−0.01	−0.56, 0.40
Mothers' IPV → Maternal Overreactivity → Externalizing Problems	0.01	0.05	0.003	−0.05, 0.19
Mothers' IPV → Paternal Overreactivity → Externalizing Problems	−0.01	0.10	−0.003	−0.24, 0.20
Fathers' IPV → Maternal Overreactivity → Externalizing Problems	0.05	0.11	0.01	−0.11, 0.34
Fathers' IPV → Paternal Overreactivity → Externalizing Problems	−0.02	0.14	−0.004	−0.36, 0.20
Mothers' IPV → Maternal Overreactivity → Internalizing Problems	−0.01	0.03	−0.002	−0.12, 0.04
Mothers' IPV → Paternal Overreactivity → Internalizing Problems	−0.05	0.08	−0.02	−0.25, 0.07
Fathers' IPV → Maternal Overreactivity → Internalizing Problems	−0.02	0.08	−0.01	−0.17, 0.12
Fathers' IPV → Paternal Overreactivity → Internalizing Problems	−0.07	0.11	−0.02	−0.38, 0.07
Mothers' IPV → Maternal Laxness → Externalizing Problems	−0.01	0.10	−0.003	−0.23, 0.19
Mothers' IPV → Paternal Laxness → Externalizing Problems	0.03	0.08	0.01	−0.08, 0.26
Fathers' IPV → Maternal Laxness → Externalizing Problems	0.003	0.05	0.001	−0.07, 0.13
Fathers' IPV → Paternal Laxness → Externalizing Problems	−0.03	0.09	−0.01	−0.29, 0.08
Mothers' IPV → Maternal Laxness → Internalizing Problems	0.01	0.08	0.002	−0.16, 0.18
Mothers' IPV → Paternal Laxness → Internalizing Problems	−0.01	0.03	−0.002	−0.12, 0.03
Fathers' IPV → Maternal Laxness → Internalizing Problems	−0.001	0.04	0.000	−0.10, 0.07
Fathers' IPV → Paternal Laxness → Internalizing Problems	−0.01	0.03	0.002	−0.04, 0.12
Mothers' IPV → Maternal Warmth → Externalizing Problems	−0.01	0.04	−0.003	−0.14, 0.03
Mothers' IPV → Paternal Warmth → Externalizing Problems	−0.02	0.07	−0.01	−0.25, 0.06
Fathers' IPV → Maternal Warmth → Externalizing Problems	0.003	0.04	0.001	−0.6, 0.13
Fathers' IPV → Paternal Warmth → Externalizing Problems	0.03	0.08	0.01	−0.05, 0.30
Mothers' IPV → Maternal Warmth → Internalizing Problems	−0.004	0.03	−0.001	−0.09, 0.03
Mothers' IPV → Paternal Warmth → Internalizing Problems	−0.01	0.04	−0.004	−0.16, 0.04
Fathers' IPV → Maternal Warmth → Internalizing Problems	0.001	0.03	0.000	−0.05, 0.08
Fathers' IPV → Paternal Warmth → Internalizing Problems	0.02	0.05	0.01	−0.04, 0.19

Note. CI = Confidence Interval; * = the 95% bias corrected CI does not include zero, which indicates that the indirect effect is statistically significant.

Indirect paths

Similar to the previous model, the indirect paths from mothers' IPV to externalizing problems via paternal depression, $b = 0.43$, $SE = 0.23$, $\beta = .11$, 95% CI [0.09–1.06], and the indirect path from mothers' IPV to internalizing problems via paternal depression, $b = 0.59$, $SE = 0.29$, $\beta = .20$, 95% CI [0.13, 1.31], were both significant. The indirect path from mothers' IPV to externalizing problems via maternal depression was marginally significant, $b = 0.20$, $SE = 0.14$, $\beta = .05$, 95% CI [−0.01, 0.59].

Child temperament as a moderator of the relation between IPV and child outcomes

To examine whether child temperament during infancy moderates the relations between parental IPV and later child outcomes, child

externalizing and internalizing latent variables were each regressed on centered IPV variables and child temperament as well as two IPV X child temperament interaction terms. Temperament during infancy did not significantly moderate the relation between mothers' or fathers' IPV and children's later internalizing or externalizing problems (all $ps > .20$).

Discussion

The current study examined parenting and parental depression as mediators of the relation between IPV experienced during the preschool years and children's mental health. This study also explored the moderating effect of child temperament on the direct association of IPV and child outcomes. To our knowledge, this is the first study to comprehensively investigate the adverse effect

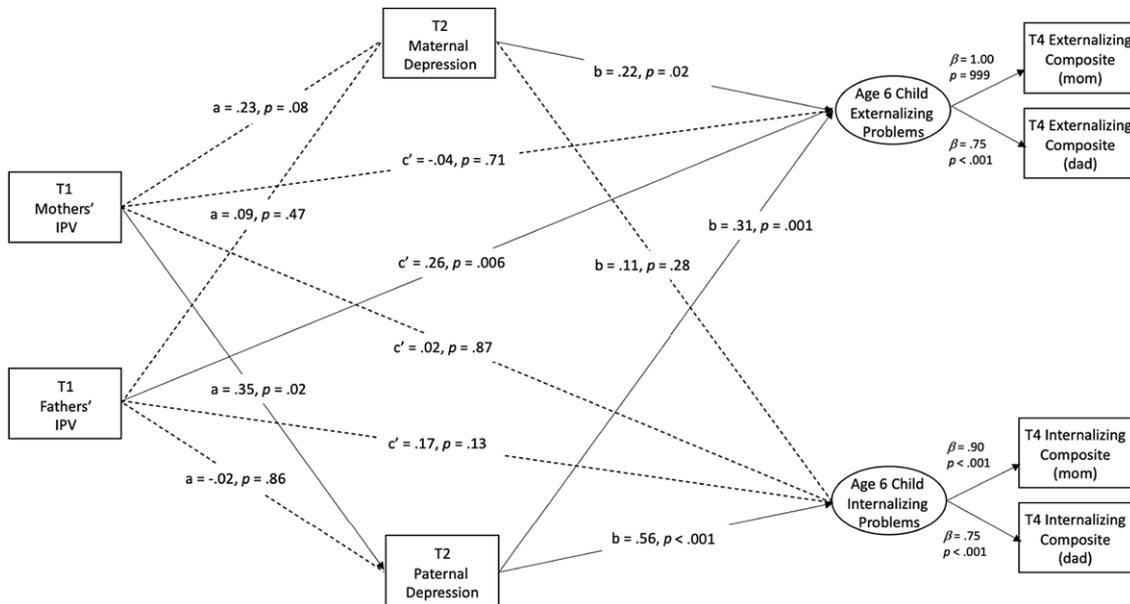


Figure 1. Parental depression mediation model.

of IPV on child mental health outcomes by investigating both parental and child-level factors using both maternal and paternal reports. The results of this study emphasize the need for longitudinal research that holistically examines the psychological development of children in the context of IPV. This includes considering both child and parental factors to promote resilience among children and families experiencing IPV.

The direct effect of IPV on child mental health outcomes

Both maternal and paternal IPV individually predicted more internalizing and externalizing problems for children 3 years later, which highlights the adverse and lasting impact of IPV on preschool-age children's development. These findings extend previous cross-sectional studies and a handful of longitudinal studies that showed an adverse effect of IPV on children's mental health outcomes (Artz et al., 2014; Howell et al., 2016). Importantly, the preschool period is a time of significant development in neurological functioning and self-regulation; these areas are known to be negatively impacted by exposure to adversity such as IPV (e.g., Mueller & Tronick, 2019). This is one likely reason that we see IPV exposure at age 3 having effects on mental health 3 years later. Moreover, the age range included in this study captures the transition to school. Children with greater emotional and behavioral problems are more likely to experience difficulties in this transition, which can have cascading negative effects on later academic achievement (Vitaro et al., 2005) and social functioning (Johnson et al., 2000). Thus, our findings stress the importance of early screening and intervention to improve children's developmental trajectories and well-being after early-life IPV exposure.

When controlling for partner's IPV, maternal IPV was no longer significant and only paternal IPV significantly predicted more externalizing problems. Similarly, paternal IPV was no longer significant and only maternal IPV significantly predicted more internalizing problems, when controlling for maternal IPV. These findings add to the existing IPV literature by highlighting distinctive effects of maternal and paternal IPV during the preschool years on children's outcomes. While IPV is a relational

process that involves two parties, researchers have argued that men were more likely to initiate (See Chan, 2011, for review). Although the frequency of mothers' and fathers' IPV perpetration were nearly identical in our sample, there may be differences between mothers and fathers in how that IPV occurs. For example, given that mothers tend to display more caregiving sensitivity and parental concern than fathers, mothers may be more intentional about not initiating conflict in front of their child, or in moving conflict away from the child. This could potentially explain the differential effects of mothers' and fathers' IPV on child outcomes, given evidence that factors such as children's perceptions and the location of the conflict (e.g., when the child is home/not at home) have significant effects on child outcomes. Thus, qualitative differences in the ways in which mothers and fathers engage in IPV could result in differential impacts on children.

The mediating effects of parenting in the relation between IPV and child outcomes

Contrary to our hypothesis, parenting practices did not mediate the adverse effects of IPV on child outcomes. However, both parents' IPV was associated with greater parental overreactivity a year later, in line with evidence that IPV predicts harsher parenting (Chiesa et al., 2018). Mothers' IPV also predicted maternal laxness. This finding may be congruent with Sousa et al.'s (2021) theory suggesting that decrease in supervision and increase in laxness may reflect parental disempowerment as a result of increased violence. In addition, there was a simple bivariate relation between both mothers' and fathers' overreactivity and child outcomes 2 years later. It may be that the direct effect of overreactivity on child outcomes became weaker when controlling for IPV, suggesting that part of the effect of overreactivity on child outcomes may be due to its covariation with IPV. Although no mediating effect of parenting was detected, these findings suggest that parenting practices do matter for children.

One reason for the nonsignificant mediating effects of parenting may be due to the use of broad dimensions of parenting practices, making it difficult to pinpoint their mechanistic effects

between IPV and child outcomes. To be more specific, parenting is a complex construct (Lindhiem & Shaffer, 2017) and broad dimensions of parenting variables may only capture a small portion of the variance in child outcomes. As a result, the effect sizes of broad dimensions of parenting may be small and difficult to detect with limited statistical power. Therefore, a null finding could be due to the fact that the effect sizes of the broad dimensions of parenting are too small to be detected in our sample. In addition, broad dimensions of parenting may be less precise way to measure specific parenting behaviors. For example, a measure of “warmth” may capture a range of parenting behaviors, such as affection, praise, and positive reinforcement. However, it may not capture other important parenting behaviors, such as setting safe limits and providing structure. Therefore, a null finding could be due to the fact that the broad dimensions of parenting are not capturing the full range of parenting behaviors relevant to child outcomes. To gain a deeper understanding of how parenting influences child outcomes after IPV, future research may benefit from using larger samples and more detailed measurements of parenting practices. This would enable a more thorough examination of the multifaceted roles of parenting in this context. Nevertheless, our findings that IPV predicted more negative parenting and that parenting was associated with poorer child outcomes are consistent with previous literature and the spillover hypothesis (Krishnakumar & Buehler, 2000).

The mediating effects of parental depression in the relation between IPV and child outcomes

Consistent with our hypothesis, parental depression mediated the effects of IPV on child mental health outcomes; however, these effects varied based on which parent perpetrated IPV. The effects of mothers' IPV, but not fathers' IPV, on child mental health outcomes were mediated by paternal depression. Mothers' IPV predicted more paternal depression, which, in turn, predicted more internalizing and externalizing problems for children. Albeit marginally significant, mother' IPV seemed to be related to more maternal depression, and maternal depression was associated with child externalizing problems. Together, these findings highlight the critical role of parental depression in the relation between IPV and child adjustment. These findings not only concur with prior evidence on the mediating effects of maternal depression (e.g., Skinner et al., 2019), they also extend it by demonstrating the mediating effect of paternal depression. Present results highlight the promise of addressing fathers' depression when intervening to improve child adjustment following IPV. Current approaches to intervention predominately engage mothers (Austin et al., 2019; Berkowitz et al., 2011), but our results suggest it would be beneficial to effectively engage both mothers and fathers in intervention to improve treatment effectiveness and to better support child outcomes.

Although we did find that IPV was significantly related to child outcomes via paternal depression, it is not clear why mothers' IPV had a greater impact on paternal depression than did fathers' IPV. It might be the case that other parental mental health conditions not measured in this study, such as substance use disorder (Pallatino et al., 2021; Shorey et al., 2018), anxiety, or posttraumatic stress disorder (Lagdon et al., 2014), mediated the adverse effect of fathers' IPV on child outcomes. Future work should continue to examine why paternal IPV may impact child psychosocial development differently than maternal IPV. Importantly, our findings highlight the utility of collecting information from both

partners about their use of IPV, and future research might benefit from this broader assessment of IPV, when safe to do so.

The moderating effects of child temperament in the relation between IPV and child outcomes

Contrary to our hypothesis, there was no support for the moderating effect of temperament in the relation between both parents' IPV and child outcomes, suggesting that negative effects of IPV occurred regardless of child temperament. One possible explanation for these nonsignificant moderating effects is that the physiological and regulatory changes following IPV are so pronounced that they override any potential moderating effects of temperament. For example, research has shown that infants exposed to IPV may develop dysregulation of the hypothalamic-pituitary-adrenal axis, which then can lead to increased levels of stress hormones and other physiological changes (Holmes et al., 2022; Mueller & Tronick, 2019). These changes would increase the likelihood of experiencing negative outcomes, such as externalizing and internalizing problems, nullifying the roles of temperament between IPV and child outcomes. Another possible explanation for these null findings is our use of a retrospective temperament measurement, which is a less precise method of assessing temperament. Using more precise measurements as well as examining physiological changes resulting from experiencing IPV may give better insight into the effects of temperament on the relation between IPV and child development.

We did find that children in our sample with more difficult temperaments had greater internalizing and externalizing problems. Given results of prior research, IPV-exposed children with difficult temperaments (high in negative emotionality) would likely benefit from more positive and supportive parenting (Slagt et al., 2016). Importantly, the effects of parenting on child outcomes may vary based on child temperament (Kiff et al., 2011). Although we did not have the power to test whether child temperament moderated the effects of our parent-level mediator variable on child outcomes, more research is needed to identify what specific conjoint effects of child temperament and parenting practice are protective for children exposed to IPV. Future work utilizing larger samples would allow for examination of these more complex models that include interactions between child- and family-level factors in predicting child outcomes following IPV.

Limitations

The current study has several limitations. First, the data used in this study were all based on maternal and paternal self-report, which may have been subject to response biases. Also, child temperament was measured retrospectively at T1, which may be prone to recall bias. Multiple measurements including behavioral observations of child temperament and parenting, or clinical/diagnostic interview assessment would provide stronger measurement of these constructs. Second, as a secondary analysis study, we used longitudinal data collected as part of a larger study designed to study the development of ADHD and oppositional defiant disorder in preschoolers. Although our findings equally support the adverse impact of IPV on both internalizing and externalizing problems in preschool-age children, oversampling for ADHD and oppositional defiant disorder may have affected findings. Third, although this study was longitudinal, the variables were all measured at a single time point, capturing snapshots of functioning at each timepoint, but not its change over time. Given that IPV, parenting, parental mental health, and children's mental health are likely to change in

relation to one another, study designs in which the same variables are repeatedly measured over time would allow researchers to investigate how each variable changes as well as how their relations evolves over time. Lastly, there are other variables not included in this study that may play a role in the relation between IPV and children's mental health outcomes. For instance, siblings and/or peer relationships, social and community support, and parents' and children's exposure to other forms of violence and trauma (i.e., community violence, natural disaster), and other forms of parent mental health problems (e.g., posttraumatic stress disorder) might serve as important underlying mechanisms between IPV and children's mental health outcomes. Future research should explore potential mediators and moderators of links between IPV and children's mental health beyond those included in this study.

Implications and future directions

Despite these limitations, this study contributes important longitudinal evidence about the adverse impact of IPV in early childhood on children's mental health outcomes, considering both familial and individual factors. The results of the present study underscore the need for longitudinal research that more holistically investigates children's psychological development in the context of IPV by considering child and parental level factors to promote resilience among children and families experiencing IPV. Moreover, our findings point to the need for more beneficial interventions targeted at providing appropriate resources and supports to families experiencing IPV to alleviate the adverse impact of IPV on both parents and children. Such intervention efforts could include referrals to psychotherapy, particularly aiming to reduce IPV, enhance parenting, improve parent-child relationship, and mitigate depressive symptoms among parents. Based on our findings regarding the unique role of fathers, interventions directed at fathers who have perpetrated IPV (e.g., Stover et al., 2022), in addition to interventions for parenting in the context of IPV (Austin et al., 2019), could be beneficial in addressing the negative impacts of IPV on children's mental health. Our findings suggest that researchers and clinicians working with IPV-exposed children and families must consider and address fathering and fathers' involvement. This more holistic family-based approach would likely improve children's adjustment following IPV. Our findings also suggest community-based prevention programs that include psychoeducation regarding the adverse effect of IPV on child development and parent mental health may also help improve child outcomes in families experiencing IPV.

As our study and prior research suggests, fathers have important influences on child development (Meuwissen & Carlson, 2015). Moreover, men who perpetrate IPV often continue to influence their children (Stover & Morgos, 2013). Future studies should continue to examine fathers' involvement in the context of IPV and its impact on families and children. Although we did not find evidence for mediating effects of parenting in this study, one issue is that traditional parenting measures may not holistically capture parenting practices for families experiencing violence. Therefore, future work should incorporate behavioral measures of warmth, overreactivity, and laxness to corroborate parent reports of their behaviors. Also, it will be important to further examine other parental level mediators (e.g., other forms of psychopathology, parenting stress and self-efficacy) of the relation between IPV and child outcomes to better inform appropriate intervention targets. Lastly, as children begin to spend more time in the classroom between ages 4 and 6 along with additional changes in their

development, parents may modify, and possibly improve, parenting practices over time. Therefore, future work is needed to capture changes in parenting and child outcomes over time, which can provide further insight into the dyadic processes influencing child adjustment following IPV, and ultimately help improve intervention approaches for families who have experienced violence.

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Conflicts of interest. None.

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