

Exposure to Maternal- and Paternal-Perpetrated Intimate Partner Violence, Emotion Regulation, and Child Outcomes

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Abstract The current study examined the relationship of maternal- and paternal-perpetrated intimate partner violence (IPV) to children's internalizing and externalizing symptomatology. Mother-child dyads ($N=53$; child ages 8–11) reported maternal- and paternal-perpetrated IPV exposure and measures of child symptomatology. Results demonstrated that: (a) maternal- and paternal-perpetrated IPV have similar but not identical relations with child outcomes, (b) mothers' and children's reports of paternal-perpetrated IPV were positively related, (c) mother and child report of maternal- and paternal-perpetrated IPV related to child emotional and behavior problems, and (d) emotion dysregulation mediated the link between IPV exposure and child outcomes. Notably, findings differed by reporters. Results support emotion dysregulation as one mechanism through which IPV exposure may lead to child behavior problems, with implications for clinical intervention.

Keywords Exposure to intimate partner violence · Emotion regulation · Internalizing symptoms · Externalizing symptoms

Intimate partner violence (IPV), defined as a real or threatened physically, sexually, or emotionally abusive act against a current or former romantic partner (Saltzman et al. 2002), is a significant public health problem in the United States associated with large social and economic costs (Arias and Corso 2005). At the individual and familial level, IPV has significant consequences for the social, emotional, psychological, and physical well-being of affected individuals (e.g., Tjaden and Thoennes 2000). A large number of children

witness IPV in their families, with estimates in the U.S. ranging from 7 million (Carlson 2000; as cited in Edleson et al. 2007) to over 17 million children affected each year (Holden 1998). Further, research has suggested that around 30 % of individuals are exposed to some level of IPV while growing up (a prevalence that mirrors estimates of IPV occurrence more broadly; see Archer 2000), with a recent study showing that over half of the adolescent participants had been exposed to at least one episode of physical or psychological IPV in the past 5 years (Bourassa 2007).

Exposure to IPV is associated with significant negative effects for children's emotional and behavioral functioning (see Evans et al. 2008; Kitzmann et al. 2003 for reviews); these outcomes are comparable to the consequences of direct physical abuse (e.g., Sternberg et al. 2006). Children who are exposed to IPV are at greater risk for a range of interpersonal and psychological difficulties, including internalizing symptomatology such as depression and anxiety, and externalizing symptomatology such as aggressive behavior and conduct problems (Cummings et al. 1999; Fantuzzo et al. 1991). Several recent reviews of the sizeable literature documenting the link between exposure to IPV and children's internalizing and externalizing symptoms have revealed overall relations of moderate magnitude (Evans et al. 2008; Kitzmann et al. 2003).

The process by which IPV exposure leads to risk for negative outcomes for children has been the subject of more recent investigations. Theoretical explanations to account for the negative outcomes associated with exposure to IPV include social learning explanations (i.e., Bandura 1971; Bussey and Bandura 1984), wherein observed IPV serves as a source of modeled behavior that can increase use of aggressive strategies via observation of reinforced behaviors (e.g., Black et al. 2010). Alternately, IPV exposure may be construed as a traumatic stressor whereby exposure causes an acute stress reaction and can result in symptoms of depression, anxiety, and posttraumatic stress disorder (Jarvis

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et al. 2005; Scheeringa and Zeanah 1995). Additionally, the negative impact of IPV exposure may be exerted indirectly via cognitive appraisals regarding the nature of the abuse in addition to self-appraisals regarding one's capability to cope with these events (e.g., Grych and Fincham 1990).

Of relevance to the current study, these aforementioned theories do not address emotion processes directly, despite the notion that difficulties with emotion regulation are arguably at the foundation of many forms of childhood psychopathology (Bradley 2000). Emotion regulation can be defined as “the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals” (Thompson 1994, pp. 27–28). There are several reasons why exposure to IPV might lead to childhood difficulties with emotion regulation. Research has indicated that exposure to conflict, violence, or even background anger in the home leads children to experience increased emotional distress and arousal (e.g., Reiter and El-Sheikh 1999). Further, recurring exposure to violence may result in children becoming sensitized and hypervigilant to real or perceived threats in the environment (Davies and Cummings 1998). It has been proposed that these detrimental effects of IPV exposure (e.g., elevated negative affect, physiological arousal, and vigilance to threat) require substantial resources to modulate and thus may overwhelm the regulatory capacities of the child (Cummings et al. 2009; Davies and Cummings 1998). Notably, a related and robust body of research on marital conflict more generally (i.e., arguments or conflicts among caregivers that do not necessarily entail physical abuse) has demonstrated that interparental conflict leads to child psychopathology through its negative impact on the child's sense of emotional security, which presents as increased emotional and physiological reactivity and difficulties with emotion regulation (i.e., Cummings et al. 2006, 2009; Davies and Cummings 1998).

Empirical research examining the role of emotion regulation as an intermediary between children's IPV exposure and psychological outcomes is growing, yet findings thus far have been somewhat mixed. In a longitudinal study investigating links between children's exposure to IPV, emotion-related competencies, and symptoms of psychopathology, Katz and colleagues (2007) found that early childhood exposure to IPV predicted later reductions in children's emotional awareness and increased emotion dysregulation, which in turn predicted subsequent increases in children's internalizing and externalizing symptomatology (Katz et al. 2007). Consistent with these findings, a recent study examining resilience in preschool children exposed to IPV concluded that lower violence severity was related to better emotion regulation outcomes, which were then linked to lower levels of internalizing and externalizing symptoms

(Howell et al. 2010). A limitation of this study, however, was that the authors did not directly examine whether emotion regulation mediated the relation between IPV severity and symptom outcomes. In contrast to research supporting the importance of emotion regulation in understanding pathways from IPV exposure to maladaptive outcomes, McGee and colleagues (1997) did not find evidence of a mediating role of emotion regulation in their study using a sample of adolescents referred to Child Protective Services. Although their study suggested that emotion regulation mediated the associations between physical abuse/neglect and children's internalizing and externalizing difficulties, there was no evidence that emotion regulation mediated the pathway from exposure to IPV and psychological outcomes. Taken together, the existing research examining emotion regulation among children exposed to IPV is limited and inconclusive, and additional research is needed to further delineate whether emotion regulation may help explain the link between IPV exposure and maladaptive outcomes.

Current research investigating children's exposure to IPV includes a number of methodological and conceptual challenges. For example, much of the research on exposure to IPV has focused on outcomes of exposure to female victimization by male-perpetrated IPV, or on a composite score combining IPV perpetration of both individuals in the relationship (e.g., Bedi and Goddard 2007). This lack of distinction between male- and female-perpetrated IPV has resulted in a limited understanding of whether maternal perpetration of IPV is also detrimental to children's adjustment—an important question given that violent relationships are most commonly bidirectionally abusive (Caetano et al. 2005), and women in relationships perpetrate IPV at rates similar to men in many samples (for a review, see Archer 2000). The bidirectionality of IPV is argued to be due to the reciprocal nature of IPV perpetration, whereby violence in the relationship is thought to result from an interactive, evocative, and dynamic process between the two partners that may be influenced by a number of intra- and interpersonal factors (e.g., Capaldi et al. 2003, 2007). Thus, it is likely that children in homes where IPV is present are exposed to maternal IPV behaviors (in addition to the more frequently studied paternal IPV behaviors), underscoring the importance of conjointly examining maternal and paternal IPV behaviors as predictors of children's risk for negative outcomes.

The aforementioned support for examining the separate and unique role of maternal IPV perpetration is further highlighted by research on the role of mothers in the emotion socialization literature. Specifically, research has typically placed mothers as the primary socialization agents involved in children's emotional development (Fivush et al. 2000; Grusec 2002). This would further suggest that maternal IPV behavior may be particularly disruptive to

children's development of emotional competencies. In recognition of these limitations, the current study examines maternal and paternal IPV perpetration, separately and in tandem, in the prediction of children's emotion regulation capabilities and internalizing and externalizing symptomatology.

Additionally, just as parent and child reports of child psychosocial functioning can show limited agreement (Achenbach et al. 1987), parents' reports of IPV may be discrepant with children's reports of IPV exposure. For example, children are able to provide details and information regarding abusive incidents despite their parents' denial that the children were present or had knowledge of the abuse (e.g., Jaffe et al. 1990; O'Brien et al. 1994). If parental reports minimize or underestimate the amount of violence of which their children are aware, there may be low correspondence between maternal and child reports of IPV exposure. The current study includes both parent and child reports of IPV, allowing for an examination of the correspondence between these two sources of IPV reports and comparison of their predictive capabilities when examining parent and child report of children's emotion regulation and symptoms of psychopathology.

Study Aims

The current study examines the direct and indirect influence of both parent and child reports of maternal- and paternal-perpetrated IPV on children's internalizing and externalizing symptomatology. It was hypothesized that both child and parent reports of IPV exposure would demonstrate associations with children's adjustment, such that greater reported exposure to IPV would be associated with greater levels of internalizing and externalizing symptoms (Hypothesis 1). Second, we sought to examine the association between parent and child reports of IPV exposure and children's emotion regulation capabilities. It was expected that reports of IPV exposure would be associated with increased emotion regulation difficulties as measured via child and parent report (Hypothesis 2). Finally, we hypothesized that emotion regulation would at least partially mediate the relation between IPV exposure and children's internalizing and externalizing symptom outcomes (Hypothesis 3).

Method

Participants

Participants included 53 maternal caregiver-child dyads. Children included 21 boys and 32 girls ranging in age from 8 to 11 ($M=9.4$; $SD=1.06$). Caregivers included any primary, maternal figure (e.g., biological mother, adoptive mother,

stepmother, grandmother, aunt) with whom the child was residing, regardless of legal custodial status. Of the 53 maternal caregivers, 49 (92 %) self-identified as the biological mother, and thus, caregivers are referred to as mothers throughout for brevity. The majority of mothers (96 %) had graduated from high school or completed equivalent requirements, and 34 % had completed college. The sample was racially and ethnically diverse, with 53 % of the families identifying as African American, 44 % Caucasian, and 2 % Latino. Additionally, 51 % of families reported an income less than \$20,000 per year, and 24 % reported income greater than \$60,000 per year. Regarding the mother's relationship status, 41 % were married or cohabiting, 25 % were divorced or separated, and 34 % were never married.

Procedure

Families with children ages 8–11 were recruited via newspaper advertisements and community flyers to participate in a study examining family relationships, emotions, stress, and health, with an incentive of earning \$40 for participation. Families were screened for eligibility, with participation requirements including: (a) a maternal primary caregiver who had cohabited with the child for at least 2 consecutive years prior to the assessment, and (b) mother and child fluency in reading and writing English in order to complete measures at approximately a 5th grade reading level. In addition to mothers receiving \$40 for participation, the participating child received a small toy. The study took place in a psychology research laboratory. Following consent procedures, mothers completed demographic and self-report measures, and the child completed self-report measures read aloud by a research assistant.

Measures

Maternal Reports of Intimate Partner Violence Perpetration

The short form of the Revised Conflict Tactics Scale (CTS-2S; Straus and Douglas 2004), is a 20-item adult self-report measure that assesses maternal and paternal perpetration of IPV and other conflict resolution strategies. Developed as a shortened version of the Revised Conflict Tactics Scale (CTS-2), the CTS-2S consists of two items from the physical violence (e.g., "pushed, shoved, or slapped me"), injury from assault (e.g., "needed to see a doctor because of a fight"), psychological aggression (e.g., "destroyed something belonging to me or threatened to hit me"), sexual coercion (e.g., "used force... to make me have sex"), and negotiation (e.g., "I explained my side or suggested a compromise") scales. The CTS-2S has demonstrated similar psychometric properties to the CTS-2, and subscales were adequately correlated between the two measures (.64–.94). The comparable psychometric

characteristics for the two forms suggest that the short form is a viable alternative to the complete version, particularly when time constraints prohibit the use of the full CTS-2 (Straus & Douglas).

For the purposes of the current study, only the four maladaptive conflict scales (i.e., physical violence, injury from assault, psychological aggression, and sexual coercion) were included. Mothers who indicated that they had a current romantic partner reported the frequency and occurrence of IPV in their current relationship. Mothers who endorsed a past significant relationship occurring during the child's lifetime completed a measure consisting of the same items, and indicated the frequency of the behaviors on a Likert scale ranging from 1 (*never*) to 5 (*always*). Some mothers completed the CTS-2S for both a current and past relationship ($n=14$), some only for a current relationship ($n=26$), and some only for a past relationship ($n=12$). One mother did not provide data on a current or past partner.

In order to maximize the sample size available for analyses, a single composite score of maternal perpetration of IPV history and a single composite score of paternal perpetration of IPV history was computed. Items from the past relationship measure, if available, and current relationship measures, if available, were collapsed and rescored as either 0 (*the behavior never occurred*) or 1 (*the behavior did occur*). As a result, maternal reports of total paternal perpetration and total maternal perpetration of IPV could range from 0 (*no occurrence of IPV behaviors*) to 8 (*occurrence of all examined IPV behaviors*) and reflected a composite measure of IPV for (in some cases) multiple-reported relationships that occurred during the child's lifetime. The composite scores demonstrated good internal consistency (Cronbach's α s=.80 and .82 for maternal and paternal IPV, respectively).

Children's Reports of Intimate Partner Violence Exposure

Children who were able to identify a current or former romantic partner of their mothers (e.g., father, stepfather, mother's boyfriend) completed a modified version of the Children's Exposure to Domestic Violence Scale (CEDV; Edleson et al. 2008); data were available from 50 of the 53 children in this study. The original 42-item measure assesses children's exposure to aggressive behaviors between parents, knowledge of their occurrence, efforts to intervene, and demographic information (see Edleson et al. 2008 for the complete measure and psychometric properties). Overall, the original CEDV demonstrates convergent validity with other measures of children's violence exposure in the home and adequate stability over a 2-week test-retest period (Edleson et al. 2008).

The modified version used in the current study included nine items assessing children's exposure to four physical

IPV behaviors (i.e., hitting, punching, kicking, and shoving) and five psychological IPV behaviors (i.e., calling names, swearing, yelling, threatening, and screaming). Using a 5-point Likert scale, children reported the frequency of the behavior from 1 (*never*) to 5 (*almost always*). Items were repeated to assess both maternal and paternal perpetration of IPV behaviors, resulting in a total of 18 items. An average of the nine items assessing children's exposure to maternal and paternal perpetration of IPV was computed (maternal IPV scores ranged from 1.00 to 2.67, $\alpha=.79$ and paternal IPV scores ranged from 1.00 to 3.00, $\alpha=.88$).

Maternal Reports of Children's Emotion Regulation

The Emotion Regulation Checklist (ERC; Shields and Cicchetti 1997) is a 24-item self-report questionnaire designed to assess mothers' perceptions of their children's emotion management skills and abilities. The measure consists of two subscales including the Emotion Regulation Scale, which assesses children's appropriate expression of emotion and emotional understanding, and the Lability/Negativity Scale, which assesses children's emotion dysregulation/inappropriate emotion expression. Using a 4-point Likert scale, mothers rate item frequency from 1 (*never*) to 4 (*always*). A total children's emotion dysregulation score was created by adding the reverse-scored Emotion Regulation items and scores on the Negativity/Lability subscale items. Higher scores indicated greater emotion dysregulation. Internal consistency was adequate in the current sample (Cronbach's $\alpha=.80$).

Maternal Reports of Children's Internalizing and Externalizing Symptoms

Mothers completed the Child Behavior Checklist for Ages 6–18 (CBCL; Achenbach and Rescorla 2001), which includes 113 items rated with a 3-point scale ranging from 0 (*not true*) to 2 (*very true or often true*). The current study utilized the standardized scores on the broadband internalizing (a measure of anxious, depressed, and withdrawn behavior) and externalizing (a measure of behavior and academic problems) scales. The measure exhibits strong psychometric properties (see Achenbach and Rescorla 2001, for a complete review of the CBCL's psychometric properties). Internal consistency estimates in the current sample were $\alpha=.83$ and $\alpha=.92$ for the internalizing and externalizing subscales, respectively.

Children's Reports of Depressive Symptomatology

Children completed the Child Depression Inventory (CDI; Kovacs 2003), a 27-item measure designed to assess current (i.e., past 2 weeks) symptoms of depression in children. Each symptom item consists of three graded statements of

increasing severity from 0 (e.g., “things bother me once in a while”) to 2 (e.g., “things bother me all the time”). Internal consistency in the current study was adequate (Cronbach’s $\alpha=.81$).

Results

Bivariate correlations among all variables were examined and are presented in Table 1. As displayed in the table, mothers’ reports of maternal and paternal IPV perpetration were strongly correlated, as were children’s reports of maternal and paternal IPV perpetration. Mothers’ reports of paternal IPV were moderately correlated with children’s reports of paternal IPV and children’s reports of maternal IPV (see Table 1).

Direct Effects of Maternal- and Child-Reported IPV Exposure on Children’s Internalizing and Externalizing Symptomatology

Consistent with hypotheses, results of a series of single entry linear regression analyses revealed that mothers’ reports of both maternal and paternal IPV perpetration significantly predicted children’s externalizing symptoms, and accounted for 14 % and 15 % of the total variance in externalizing symptoms, respectively (see Table 2). When considered simultaneously in a regression analysis predicting children’s externalizing symptoms, the linear combination of mother-reported maternal and paternal IPV significantly predicted children’s externalizing symptoms, $F(2, 48)=5.12, p<.01$, adjusted $R^2=.14$, with neither maternal IPV ($\beta=.19, p=.45$) nor paternal IPV ($\beta=.25, p=.30$) emerging as a unique predictor of externalizing symptoms. Contrary to hypotheses, children’s reports of exposure to

Table 2 Results of regression analyses examining the associations between IPV and children’s emotion dysregulation and internalizing, externalizing, and depressive symptoms

	β	t	df	Adj. R^2
Externalizing symptoms^a				
Mother report				
Maternal IPV	.40*	3.03	50	.14
Paternal IPV	.41*	3.12	50	.15
Child report				
Maternal IPV	.20	1.41	50	
Paternal IPV	.16	1.14	50	
Internalizing symptoms^a				
Mother report				
Maternal IPV	.26**	1.90	50	.05
Paternal IPV	.23	1.67	50	
Child Report				
Maternal IPV	.08	0.56	50	
Paternal IPV	.17	1.24	50	
Depressive symptoms^b				
Mother report				
Maternal IPV	.19	1.28	46	
Paternal IPV	.11	0.73	46	
Child report				
Maternal IPV	.44*	3.28	47	.17
Paternal IPV	.44*	3.31	47	.18
Emotion dysregulation^a				
Mother report				
Maternal IPV	.40*	3.02	48	.15
Paternal IPV	.36*	2.63	48	.11
Child report				
Maternal IPV	.16	1.09	48	
Paternal IPV	-.02	-0.01	48	

^a Mother report, ^b Child report
* $p<.01$, ** $p<.10$

Table 1 Means, standard deviations, reliability coefficients, and correlations for study variables in the entire sample ($N=53$)

Variable	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.
1. Mother report of maternal IPV (CTS2-SF)	2.3	1.88	.80	.84**	.12	.13	.40**	.26***	.40**	.19
2. Mother report of paternal IPV (CTS2-SF)	2.4	2.12		.82	.29*	.25***	.36**	.23	.41**	.11
3. Child report of maternal IPV (CEDV)	1.2	0.32			.79	.71**	.16	.08	.20	.44**
4. Child report of paternal IPV (CEDV)	1.3	0.49				.88	-.01	.17	.16	.44**
5. Mother report of emotion dysregulation (ERC)	44.0	8.00					.80	.35**	.68**	.31*
6. Internalizing symptoms T-score (CBCL)	51.6	10.79						.83	.57**	.24
7. Externalizing symptoms T-score (CBCL)	50.3	11.14							.92	.24
8. Depressive symptoms (CDI)	6.2	5.40								.81

Alpha reliabilities are presented in italics on the diagonal. *CTS2-SF* Revised Conflict Tactics Scale, Short Form; *CEDV* Modified Children’s Exposure to Domestic Violence Scale; *ERC* Emotion Regulation Checklist; *CBCL* Child Behavior Checklist; *CDI* Children’s Depression Inventory
* $p<.05$, ** $p<.01$, *** $p<.10$

maternal- and paternal-perpetrated IPV did not predict externalizing symptoms (see Table 2).

For internalizing problems, results of a series of single entry linear regression analyses suggested that mothers' reports of their own IPV perpetration marginally predicted children's internalizing symptoms and accounted for 5 % of the variance in outcome; however, mothers' reports of paternal IPV perpetration did not significantly predict child internalizing symptoms (see Table 2). Children's reports of maternal and paternal IPV perpetration did not predict mothers' reports of children's internalizing symptoms.

For child-reported depressive symptoms, consistent with hypotheses, children's reports of maternal and paternal IPV exposure did predict children's depressive symptoms, accounting for 17 % and 18 % of the total variance, respectively. When considered together in the same regression equation, the linear combination of maternal and paternal IPV exposure significantly predicted children's depressive symptoms, $F(2, 45)=6.51, p<.01$, together accounting for 19 % of the variance in children's depressive symptoms. Neither maternal ($\beta=.26, p=.16$) nor paternal ($\beta=.25, p=.18$) IPV exposure emerged as a unique predictor of children's depressive symptoms when considered simultaneously. Contrary to predictions, mothers' reports of maternal and paternal IPV perpetration did not predict children's depressive symptoms (see Table 2).

Direct Effects of Maternal- and Child-Reported IPV on Children's Emotion Dysregulation

Consistent with predictions, results indicated that maternal reports of children's emotion dysregulation were significantly predicted by mothers' reports of both their own IPV perpetration and their partners' IPV perpetration. When examined simultaneously as predictors in the same regression analysis, the linear combination of maternal and paternal IPV significantly predicted children's emotion dysregulation, $F(2, 46)=4.47, p=.02$, and accounted for 13 % of the variance in children's emotion dysregulation. Neither maternal IPV ($\beta=.40, p=.18$) nor paternal IPV ($\beta=.01, p=.98$) emerged as a unique predictor of children's emotion dysregulation in the analysis. Contrary to expectations, children's reports of IPV exposure did not predict mothers' reports of children's emotion dysregulation (see Table 2).

Indirect Effects of IPV Exposure on Children's Symptoms via Emotion Dysregulation

Procedures for examining mediation hypotheses followed recommendations by Baron and Kenny (1986) and Preacher and Hayes' (2004, 2008) recent work in which bootstrapping is used to measure the indirect effect of the independent

variable (i.e., IPV perpetration exposure) on the outcome variable (i.e., children's internalizing or externalizing symptoms) via the hypothesized mediator (children's emotion dysregulation). Tests for mediation were guided by results obtained in testing Hypotheses 1 and 2. No significant relationships were found between the children's report of IPV exposure variables and the emotion regulation variable, so children's reports of IPV exposure were not considered as predictors in subsequent analyses.

Internalizing Symptoms

First, children's emotion dysregulation was examined as a mediator of the relationship between mothers' reports of IPV perpetration and children's internalizing symptomatology. Although mothers' reported IPV perpetration was only a marginally significant predictor of children's internalizing symptoms, it has been noted that there are many cases where true mediation exists, but the initial requirement of a relation from predictor to outcome is not obtained. Thus, methodologists argue that it is appropriate to test for mediation even in the absence of a significant effect from predictor to outcome (MacKinnon et al. 2007). Recall that a significant relation was previously established from maternal IPV to the proposed mediator (children's emotion dysregulation). We next examined the effect of the mediator on the outcome variable by regressing children's internalizing symptoms on children's emotion dysregulation, $\beta=.35, t(48)=2.56, p=.01$. To examine whether emotion regulation mediated the relation between maternal IPV and internalizing symptoms, we regressed the outcome variable on both the predictor and mediator. In this analysis, the effect of maternal IPV perpetration on children's internalizing symptoms was reduced to nonsignificance ($\beta=.11, p=.47$). Further, the confidence interval (CI) around the indirect effect did not contain 0 (point estimate unstandardized $b=0.72, 95\% \text{ CI: } 0.06 \text{ to } 1.93, N=48, 1000$ bootstrapped resamples). Thus, the indirect effect was significantly different from 0 at $p<.05$ (two-tailed), supporting the hypothesis that emotion dysregulation mediated the relationship between maternal IPV perpetration and children's internalizing symptomatology.

Externalizing Symptoms

Again, tests for mediation were guided by results obtained in testing Hypotheses 1 and 2. Specifically, recall that children's externalizing symptoms were predicted by both mothers' reports of IPV perpetration and mothers' reports of paternal IPV. Similarly, children's emotion dysregulation was also predicted by both mothers' IPV perpetration and paternal IPV perpetration. Given the strong correlation between the maternal and paternal IPV perpetration variables (i.e., $r=.84$), these variables were combined into a composite

total IPV scale for mediation tests. Results indicated that the composite IPV perpetration variable significantly predicted children's emotion dysregulation, $\beta = .39$, $t(48) = 2.92$, $p < .01$, and children's externalizing symptoms, $\beta = .42$, $t(50) = 3.23$, $p < .01$. A significant relationship was also established from children's emotion dysregulation to children's externalizing symptoms, $\beta = .68$, $t(48) = 6.33$, $p < .001$. Finally, in a regression analysis in which we regressed children's externalizing symptoms on the composite IPV perpetration variable and children's emotion dysregulation, the effect of IPV perpetration on children's externalizing symptoms was reduced to nonsignificance, $\beta = .16$, $p = .16$. The confidence interval around the indirect effect did not contain 0 (point estimate unstandardized $b = 0.753$, 95 % CI: 0.268 to 1.408, $N = 48$, 1000 bootstrapped resamples). Thus, the indirect effect was significantly different from 0 at $p < .05$ (two-tailed), supporting the hypothesis that emotion dysregulation fully mediated the relationship between IPV perpetration and children's externalizing symptomatology.

Discussion

Children who are exposed to IPV are at risk for emotional and psychological difficulties (e.g., Evans et al. 2008), but our understanding of these relations has been limited by methodological challenges and a lack of research articulating the processes by which these associations might emerge. The present study sought to augment the existing literature on children's exposure to IPV by: (a) assessing both maternal- and paternal-perpetrated IPV, (b) asking both mothers and children about children's exposure to IPV, (c) examining similarities/differences in the links from maternal- and paternal-perpetrated IPV and child psychological outcomes, and (d) investigating emotion dysregulation as a mechanism through which exposure to IPV places children at risk for psychological problems. Overall results demonstrated that in a community sample: (a) maternal- and paternal-perpetrated IPV do not have identical relations with child outcomes but share similar patterns of relations; (b) mothers' report of paternal-perpetrated IPV positively related to children's report of maternal- and paternal-perpetrated IPV; (c) both mother and child report of maternal- and paternal-perpetrated IPV related to emotional and psychological problems; however, the relations only held using same reporter methods; and (d) emotion dysregulation mediated the link between maternal-reported IPV and psychological outcomes.

There was only moderate convergence between maternal and child report of exposure to IPV such that only mother-reported paternal-perpetrated IPV was moderately correlated with child-report of exposure to IPV. Both child report of maternal and paternal perpetration related to mothers'

reports of paternal-perpetrated IPV. The finding that mothers' reports of their own perpetration of IPV did not relate to child report may reflect a desirability bias such that mothers were less likely to report on their own perpetration but more likely to report on their partner's perpetration. Additionally, these correlations may reflect differences in point of view due to being actively involved in IPV either as a victim or perpetrator versus an observer of IPV. Past studies have demonstrated that parents may underestimate the amount of IPV that children witness (e.g., Edleson 1999). The present study is commensurate with research documenting differences in parent- and child-reported IPV exposure and reinforces the necessity of multi-informant report.

Links between IPV exposure, emotion dysregulation, and psychological symptoms were found in the expected directions, and there were more similarities than differences in comparing maternal- and paternal-perpetrated IPV. Mother report of any IPV (both maternal- and paternal-perpetrated) was positively related to mother report of child emotion dysregulation, internalizing symptoms, and externalizing problems. When entered simultaneously into regression models, the linear combination of maternal- and paternal-perpetrated IPV predicted child psychological outcomes, yet neither maternal- nor paternal-perpetrated IPV was a unique predictor of children's emotional and behavioral problems. There were few differential effects observed for maternal IPV and paternal IPV exposure. Rather, the magnitude of the associations between maternal IPV and outcomes and paternal IPV and outcomes were similar and appeared to function similarly as predictors of children's outcomes. This finding likely reflects both the colinearity among the IPV exposure variables as well as the importance of considering the collective influence of bidirectional IPV exposure when considering children's outcomes.

An important finding was that emotion dysregulation mediated the link between IPV exposure and internalizing and externalizing symptoms, which is consistent with other studies documenting a link between IPV exposure, emotion regulation, and psychological outcomes (e.g., Katz et al. 2007; Howell et al. 2010). This finding is contrary to previous research that did not find emotion regulation to be a significant mediator of the link between IPV exposure and psychological outcomes (McGee et al. 1997). However, one notable difference between the McGee et al. study and the present one is that the former utilized a sample of CPS-referred adolescents, whereas the present study's sample was composed of community youth in middle childhood. Perhaps the difference in findings is reflective of the difference in severity of maltreatment experience. Additionally, children's ability to regulate their emotions and the function of emotion regulation changes across their developmental trajectory (e.g., Zeman et al. 2006). Thus, the discrepant findings may also reflect developmental differences.

Despite the study's contributions to IPV literature, several limitations should be considered when interpreting the results. First, the cross-sectional nature of the design limits the ability to make causal inferences about the direction of observed relations. While the temporal ordering of the variables in the mediation model is intuitive based on past theory and research, no conclusions of directionality can be inferred from the present study. Second, this study relied on questionnaire measures, and the findings likely reflect shared method variance, which potentially leads to inflated estimates of relations among the variables. Further, reporting biases (e.g., desirability bias) may have influenced the results. Future research should include additional methods to provide a more comprehensive picture of exposure to IPV and child functioning. Such methods could include additional informant report (e.g., fathers, teachers) and/or alternative methods of assessing IPV (e.g., diary methods, home observation), emotion regulation (e.g., physiological, observational) and psychological outcomes (e.g., clinical interview).

The nature of the sample studied should also be noted. Our sample was demographically diverse, predominantly lower income, and recruited from a nonurban setting. These characteristics should be considered when assessing the generalizability of these findings to groups or individuals who may differ on these demographic or environmental characteristics. Thus, future research should examine these research questions in additional populations. An additional important consideration was that the sample in the present study was only moderate in size, limiting exploratory analyses into specific IPV behaviors, examining differences by child gender, as well as potentially resulting in restricted range of IPV behaviors seen in our sample. The mean level of IPV reported by children in the sample was low, possibly resulting in restricted range of these variables and limiting our ability to detect relationships with these variables. Low mean levels of IPV reported by the children in the sample could also impact the level of agreement between mothers and children on IPV behaviors, and it is possible that agreement could be greater for samples exhibiting more severe or pervasive IPV due to greater salience of these behaviors for both the mother and the child. Finally, although a strength of our study was the presence of both maternal and child report of IPV exposure, we did not have data from the fathers or paternal caregivers. The perspective from the paternal figure could lend additional insight and provide an important perspective on the research questions examined here.

Despite these limitations, this study adds to our understanding of how both maternal- and paternal-perpetrated IPV exposure relate to maladaptive child outcomes. It also contributes to the growing literature seeking to understand

the mechanisms through which IPV exposure may lead to internalizing and externalizing symptoms. Such accumulating knowledge can help intervention development. For example, child-focused interventions could work to teach children emotion regulation strategies that may not be modeled at home. Additionally, emotion regulation (or dysregulation) assessment could serve to identify children at risk for developing psychological symptoms and in need of intervention. Looking ahead, research efforts that further elucidate how IPV exposure exerts a negative impact on children are absolutely imperative as the field works to inform more effective child protective policies and better assessment, intervention, and prevention efforts for children who grow up in violent homes.

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