Title: A Systematic Review of Risk and Protective Factors for Externalizing Problems in Children Exposed to Intimate Partner Violence

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Abstract

Intimate partner violence (IPV) is a serious public health issue with innumerable costs to the victims, children, and families affected as well as society at large. The evidence is conclusive regarding a strong association between exposure to IPV and children's externalizing problems. Moving forward, the next step is to enhance our understanding of risk and protective factors associated with these outcomes in order to tailor treatments to meet the needs of both parents and children. The databases Medline, PubMed, and PsyINFO were searched combining variations of the keywords parent*, child*, mother, partner abuse, domestic abuse, spousal abuse, interpersonal violence, domestic violence or intimate partner violence. This search were combined with child externalizing behaviors specifically conduct*, oppositional defiant disorder, externaliz*, aggress*, hyperactivity, and ADHD. A total of 31 studies from all three databases were reviewed following application of inclusion and exclusion criteria. The main findings were that child age and gender, callous-unemotional traits, cognitive appraisals, maternal mental health, and quality of parenting emerged as key mediating and moderating factors of the relationship between IPV exposure and child externalizing problems. These findings suggest that interventions provided to families exposed to IPV need to target both maternal and child risk factors in order to successfully reduce child externalizing problems.

Key words: Intimate partner violence, domestic violence, parenting, externalizing problems, parenting interventions

A Systematic Review of Risk and Protective Factors for Externalizing Problems in Children Exposed to Intimate Partner Violence

Child exposure to intimate partner violence (IPV) is a pervasive problem worldwide and is associated with significant emotional, social and behavioural difficulties in children. Due to growing awareness of the negative impact of exposure to IPV, an increasing number of studies have attempted to gain a better understanding of risk and protective factors associated with child outcomes. Although there is no standard definition of IPV due to variation in national and state legislation, there is general consensus that it includes not only physical aggression, such as hitting, kicking, and beating, but also emotional or psychological abuse such as humiliation, intimidation, and controlling actions (Wathen & MacMillan, 2013). 'Exposure' in the context of IPV refers to children seeing, hearing, or being aware of violence directed towards one parent figure from his or her partner (Jaffe, Wolfe, & Wilson, 1990). Due to inconsistent definitions and under-reporting of IPV, reliable national data on the prevalence of IPV is lacking. However, recent statistics estimate that in the United States approximately 15.5 million children are exposed to IPV, and of these, 7 million have been exposed to extreme forms of violence within their household (Fortin, Doucet, & Damant, 2011).

A range of child mental health outcomes have been documented following exposure to IPV, including externalizing problems, anxiety, depression and trauma symptoms (Grip, Almqvist, & Broberg, 2012). However, this review will focus on child externalizing behaviors in order to facilitate a more in-depth exploration of evidence for risk and protective factors for past IPV exposure and this specific child outcome. Children who witness IPV are more likely to display a range of externalizing problems including aggression, hyperactivity, inattention, impulsivity, lying, cheating, and bullying (Bauer, Gilbert, Carroll, & Downs, 2013; Laeheem,

Kuning, & McNeil, 2009). The association between exposure to IPV and child externalizing problems is robust, with a recent meta-analysis by Evans, Davies, & DiLillo (2008) revealing a medium effect size of 0.47. Meta-analyses examining other risk factors for externalizing problems have revealed comparable effect sizes to exposure to IPV. For example, Fearon, Bakermans-Kranenburg, van Ijzendoorn, Lapsley, and Roisman (2010) found a significant association between insecure attachment and child externalizing problems with a moderate effect size of 0.31. Similarly, moderate effect sizes have also been found for child externalizing problems and exposure to community violence (Fowler, Tompsett, Braciszewski, Jacques-Tiura, & Baltes, 2009) and maternal depression (Connell & Goodman, 2002).

Even when children and mothers are separated from batterers, the damaging aftereffects of IPV tend to persist. Findings from longitudinal studies have also suggested a causal role of IPV in the development of child conduct problems (Jouriles, Rosenfield, McDonald, & Mueller, 2014). Conduct problems are the most common reason for referral to child mental health services and the most reliable predictor of all adult mental health disorders (Kim-Cohen et al., 2003). Child externalizing problems have also been shown to exert a greater impact on health, education and social services than emotional disorders (Snell et al., 2013). Indeed, one UK study has shown that by the age of 28, children with severe antisocial behaviors cost society ten times more than healthy children (Scott, Knapp, Henderson, & Maughan, 2001). The enormous personal and financial cost of child externalizing problems highlights the need for greater attention to risk and protective factors to inform prevention and intervention work for families exposed to past IPV.

Although this systematic review will focus on mothers who are victims of IPV perpetrated by a male partner, it must be acknowledged that IPV is perpetrated by both men and

women. Indeed, evidence suggests comparable rates of IPV for men and women (Archer, 2000; Archer, 2002; Houry et al., 2008; Lipsky, Caetano, Field, & Bazargan, 2004; Woodward, Fergusson, & Horwood, 2002). However, gender differences tend to emerge when considering the nature, severity, and consequences of IPV. There is a bulk of evidence demonstrating that women report more severe, violent incidents and threats by their male partner, including threats of harm to their children or their own lives (Bagshaw et al., 2011; Fortin et al., 2000). Thus, while exceptions exist, IPV tends to be most often perpetrated by men against women, and women are more likely to experience more severe and persistent partner violence. The bulk of research on child outcomes and IPV exposure has therefore examined IPV within heterosexual relationships, where the perpetrator is a man. Furthermore, most interventions for children exposed to IPV are directed at mothers' parenting following separation from the IPV perpetrator.

Theoretical Perspectives

Current theoretical models of the aetiology and persistence of externalizing problems reflect a developmental-ecological perspective on mental health, wherein the emergence of self-regulatory capacities is understood to be highly embedded in the multiple settings or ecologies (e.g., family, school, peers) that are nested within a child's broader environment. However, research on risk and protective factors has predominantly focused on factors specific to IPV itself (e.g., degree of exposure), child factors (e.g., age, gender, temperament) and maternal factors (maternal mental health, parenting). Theories that have driven research on exposure to IPV and child externalizing problems will first be described as they provide a framework for our understanding of the rationale behind the research studies included in this review.

Social Learning Theory (SLT)

From a social learning theory (SLT) perspective, environmental contributions to externalizing problems are understood to operate largely through mechanisms located in the moment-to-moment interactions between parents and children. Mechanisms based on social learning (operant) theory emphasize parental modeling of aggression and escalating cycles of parent-child coercion – or 'reinforcement traps' – that are maintained by escape-avoidance conditioning. In these cycles, family members' use of aversive control tactics (e.g., whining, nagging, shouting, hitting) is rewarded, and positive family interactions are extinguished (Patterson, 1982). Of particular relevance to IPV is the notion that children learn from their caregivers how to socially and morally justify the use of violence (Pepler, Catallo, & Moore, 2000). In other words, children learn and form expectations for what is appropriate and acceptable behaviour within the home based on their observation of how caregivers interact in intimate relationships. For example, if parents deal with conflict and stress by responding with aggression or violence, SLT predicts that the child will be at an elevated risk for displaying similar behaviour. That is, SLT predicts that over time, children learn that violence is an acceptable and effective means to solve problems and influence others' behaviour.

Consistent with this theory, research has shown that children's exposure to IPV is significantly associated with children's externalizing problems. In a quasi-experimental study, Ballif-Spanvill, Clayton and Hendrix (2007) investigated how children exposed to IPV (N=115) reacted and responded to simulated conflict scenarios using the Violent and Peaceful Initiatives in Conflict assessment technique (VAPIC; Clayton & Ballif-Spanvill, 2001). Children who had been exposed to IPV were significantly more likely than a non-exposed control group to respond violently and aggressively when they felt excluded or personally rejected based on videotaped observations that were coded by trained researchers. Another study comprised of 2,245 children

found that recent exposure to violence in the home was a significant predictor for children's later violent behaviour (Singer, Miller, Guo, Slovak, & Frierson, 1998). The importance of modeling in learning aggressive behaviours is also well established and is believed to be an important contributor to child externalizing problems. In the context of IPV exposure, Moretti, Obsuth, Odgers, Reebye (2006) found that girls who observed maternal aggression towards their partner were more aggressive towards peers, as were boys who witnessed paternal aggression towards their partner. This study provides support for the role of modeling in child aggression, and suggests that IPV exposure negatively impacts children's interactions with same-age peers.

Cognitive-Contextual Model

Grych and Fincham's (1990) cognitive-contextual model proposes that children's perceptions of threat elicited by parental conflict, their coping ability, and attributions regarding the cause of the interparental conflict are important in shaping the child's emotional and behavioural responses. In other words, child appraisals reflect the meaning of the interparental conflict. For example, children who perceive parental conflict as threatening to themselves or their parents are more likely to be distressed than children who view these interactions as benign and harmless. A child who attributes blame to themselves for their parents; conflict are more likely to experience shame and guilt (Grych, Harold, & Miles, 2013). Indeed, a number of studies have shown that when children blame themselves for the conflict or perceive it as a threat to their safety, they tend to show greater behavioural problems (Fosco & Grych, 2008; Miller, Howell, & Graham-Bermann, 2012).

A recent study by Miller et al. (2012) showed that preschoolers' appraisals of threat are significantly associated with the level of reported conflict in the home suggesting that even at this age preschoolers are able to meaningfully and accurately report on their cognitions

surrounding interparental conflict. The role of cognitive appraisals have also been confirmed in longitudinal studies. For example, Grych et al. (2003) found that children's appraisals of self-blame at age 11-12 were significantly related to externalizing behavior problems one year later. These findings are noteworthy given that the authors controlled for the child's earlier symptom levels as well as the stability in children's appraisals of threat and self-blame.

Attachment Theory

Current family-based models of externalizing problems have also been significantly informed by attachment theory (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969). According to attachment theory, parenting that is characterized by emotional availability, sensitivity and responsivity promotes secure attachment, whereas children who are discouraged, rejected or inconsistently responded to by their caregiver are more likely to form an insecure attachment (Zeanah, Berlin, & Boris, 2011). The quality of early attachment with a child's primary caregiver influences the development of internal working models of the self and others, shaping the child's expectations and beliefs about current and future relationships. In the context of IPV, children may be less likely to have their basic needs for available and responsive caregiving met. Parental unavailability may refer to either the parent perpetuating the abuse or to the parent who is the victim of abuse. According to attachment theory, a child whose parents are emotionally available, responsive, and supportive will provide an internal working model of the self as loveable and competent. On the other hand, early experiences of rejection, and lack of support will lead to the construction of an unlovable, and incompetent representation of self.

Empirical evidence has shown that children who witness IPV are more likely to form insecure attachments with their caregivers (Sims, Hans, & Cox, 1996). Furthermore, women who have experienced IPV are significantly more likely to display ambivalence, anger, and

depression when describing their infants (Huth-Bocks, Theran, & Bogat, 2004; Schechter et al., 2008). Disorganized attachment is characterized by incoherent and rapid change in child attachment behaviors during separation and reunion procedures with their attachment figure, with the child switching between proximity-seeking, avoidant, resistant and fearful behaviors (Main & Solomon, 1986). This form of attachment is common in children who have been maltreated or institutionalized, and is believed to emerge in response to frightened, threatening or dissociative parent behavior (Rutter, Kreppner, & Sonuga-Barke, 2009). Insecure and disorganized attachment styles tend to be relatively stable and maintained into adulthood (Fraley, 2002). There is strong evidence to suggest that children with insecure and disorganized attachments are at an elevated risk for externalizing problems. A meta-analysis conducted by Fearon et al. (2010) analyzed over 60 studies (N= 5,947) and revealed modest but significant effect sizes whereby children with insecure attachment styles exhibited higher levels of externalizing behaviors compared to children with secure attachment styles.

Current models of externalizing problems that emphasize the role of parental violence have benefited from theoretical integration regarding the potential interplay between operant and attachment mechanisms. The unique dynamics that characterize the attachment system help to explain some child behavior that operant principles cannot, such as why some children seem driven to elicit potentially harmful attention from parents, and why parental attention is such a powerful reinforcer at particular ages (Greenberg, Speltz, & DeKlyen, 1993). Attachment theory helps to explain these issues by proposing that children are driven to seek any form of emotional engagement with caregivers in an attempt to regulate proximity, and recognizing that they are particularly sensitive to parenting at a young age when their internal working models of relationships are in the early stages of development. This perspective has informed parent

training programs for child conduct problems (e.g., *Integrated Family Intervention*, Dadds & Hawes, 2006), which aims not to improve attachment security, but to act on operant mechanisms in the family using strategies that are compatible with concurrent attachment dynamics. This includes maximizing parents' use of contingent reinforcement strategies that emphasize caregiver proximity, and training them to implement limit-setting strategies (e.g., time-out) in ways that do not inadvertently threaten attachment security.

Although attachment constructs have often been researched in isolation from those emphasized in SLT/coercion theory, support for such integration has been provided by longitudinal studies informed by both perspectives. For example, Kochanska, Philibert, and Barry (2009) found that parental coercion (power assertive discipline) in early childhood directly predicted prospective levels of conduct problems, while children's attachment status did not. However, attachment insecurity was found to interact with coercive parenting to increase the risk for later conduct problems.

Method

Definitions and Inclusion/Exclusion Criteria

This review was restricted to articles that described studies that generated quantitative data concerning moderating or mediating variables of the association between past exposure to IPV and child externalizing problems. Studies were included if the mean age of child participants was 18 years or younger. A systematic search was conducted using the electronic bibliographic databases PsycINFO, Medline, and Pubmed with combinations between the key words parent*, child*, mother, partner abuse, domestic abuse, spousal abuse, interpersonal violence, domestic violence or intimate partner violence. This search were combined with child externalizing

behaviors specifically conduct*, oppositional defiant disorder, externaliz*, aggress*, hyperactivity, and ADHD. This search produced 23 papers from Medline, 31 from PsycINFO, and 73 from PubMed. Duplicates were removed and the search was narrowed down by including articles printed in English, published in peer-reviewed journals, and published between January 1990 and May 2016. This search returned 127 articles combining all three databases. These were subjected to abstract review from which a number of irrelevant articles were removed for a number of reasons, for example, studies that only measured internalizing behaviours or later perpetration of IPV as adults as the primary outcome or studies that examined community violence and not exposure to IPV in the home. Additionally, papers that did not differentiate between child maltreatment and exposure to IPV were also excluded. The reference sections for the 107 remaining articles were hand searched to find relevant articles. After scanning the references and adding an additional 26 papers, a total of 123 articles were read applying the inclusion and exclusion criteria described in the next section.

Studies were excluded if they did not differentiate between externalizing or internalizing behaviors or if they solely measured internalizing or trauma symptoms. To ensure that studies examining mediating and moderating factors in relation to the link between child externalizing problems and past exposure to IPV were free from potential confounds, children from a non-typical population other than children with externalizing problems (e.g., children with an intellectual impairment, autism spectrum disorder, physical disability or chronic illness) were excluded. Articles that discussed the prevalence and incidence of IPV, presented a theory or model explaining IPV without empirical testing, or studied risk factors for becoming a perpetrator of IPV later in life were also excluded. We aimed to examine children exposed to past IPV specifically, therefore articles that focused on family or community violence but did not

tease apart IPV within this broad category were excluded. To ensure that the research included in the review was of high quality, only studies employing validated measures were included. After studying the full-text articles and taking into account the previously established inclusion and exclusion criteria, a total of 31 studies were available for analysis. A quality checklist (Latal, Helfricht, Fischer, Bauersfeld, & Landolt, 2009) assessing recruitment, study design, outcome measures and other potential biases was completed for the included studies, with the aforementioned details summarized in Table 1.

Table 1. Overview of the reviewed studies' approach, tests of mediation/moderation and main findings

Factor(s) Studied	Study	Description of study (age range, gender, design)	Sample type	N	Measure of IPV and informant	Tested for Moderation	Tested for Mediation	Measure of Child Behaviour and Informant	Outcomes
Child Age or Timing of Exposure	Sternberg et al., 2006	2-18 years old; 53% boys; meta-analysis	Representative sample of low to middle class families from North America	1870 children	CPS records and CTS (mother-reported)	✓	×	CBCL (mother-reported)	Age moderated the effect of exposure to IPV for externalizing behaviour problems. No moderating effect for gender.
	Graham-Bermann & Perkins, 2010	6-12 years old; 50% boys; cross-sectional	Low-income families in the US	190 children	CTS (mother-reported)	✓	×	CBCL (mother-reported): externalizing problems	Younger age of first exposure was associated with greater externalizing problems.
	Holmes, 2013	3-8 years old; 52% boys; cross-sectional	Children from families investigated for child abuse or neglect	1,161 children	CTS (mother-reported)	✓	✓	CTS (mother-reported): aggressive behaviour scale	Poor maternal mental health mediated the link between frequency of IPV and aggressive behaviour. Positive maternal-child relationship did not mediate the link with IPV exposure and aggressive behaviour. The link between IPV exposure and child aggression was not moderated by age or gender.
	Vu et al., 2016	0-18 years old; gender not specified; meta-analysis study	Mothers and children recruited from domestic violence shelters	201 children	CTS (mother-reported)	✓	×	CBCL (mother-reported): externalizing problems	Child age when IPV exposure was assessed moderated the relation between IPV exposure and child externalizing problems. This link was stronger when IPV exposure was measured at a younger age. Child age did not moderate the relation for internalizing problems or total adjustment problems.
Child Gender	Skopp et al., 2005	0-14 years old; gender of sibling pairs: male-male 27%, male-female 33%, female-male 26%, female-	Mothers and children recruited from domestic violence shelters	112 sibling pairs	CPIC (child-reported)	✓	×	CBCL (mother reported): externalizing problems	Neither child gender nor age moderated the link between exposure to IPV and externalizing problems.

		female 26%; cross-sectional study							
	Fagan & Wright, 2011	12-15 years old; 49% boys; longitudinal	Representative community sample from US	1,315 children	CTS (mother-reported)	✓	×	SRO (child-reported): drug use, violence	There were no gender differences found in the effects of exposure to IPV on violent behaviours.
	DeJonghe et al., 2011	0-3 years old; 50% boys; cross-sectional study	Representative community sample from US	187 children	SAVAWS (mother-reported)	✓	×	ITSEA (mother-reported): externalizing problems	Both boys and girls who witnessed IPV had elevated levels of externalizing problems at ages 2 and 3.
	Du Pleiss et al., 2014	12-15 years old; 45% boys; cross-sectional study	Community sample	616 children	CEVC (child-reported)	✓	×	CBCL (child-reported): externalizing problems	Boys were at a greater risk for aggression following IPV exposure.
	Holmes et al., 2015	3-7 years old; 52% boys; longitudinal study	Nationally representative sample from US	1,125 children	CTS (mother-reported	✓	×	CBCL (mother-reported): externalizing problems	Girls were at a greater risk for aggressive behaviours and prosocial skills deficits following IPV exposure.
CU Traits	Shenk et al., 2014	6-11 years old; 100% boys; cross-sectional; randomized controlled trial	Clinic-referred sample in US	66 children	TESI-C (child-reported	✓	×	ASPD (child-reported)	The presence of CU traits and a history of exposure to IPV decreased responsiveness to treatment for Disruptive Behaviour Disorder.
	Hartman et al., 2016	7-12 years old; 53% boys; cross-sectional	Mothers and children recruited from domestic violence shelters	290 children	CTS (mother-reported)	✓	×	CAI (mother- and child-reported): assesses animal abuse perpetrated by children ICU (mother-reported)	Controlling for SES, only lower cognitive empathy and higher CU traits in the child significantly predicted having abused an animal. Low cognitive empathy (but not affective empathy) and CU traits moderated the link between exposure to IPV and child animal abuse.
Appraisals of Violence	Calvete & Orue, 2013	11-18 years old, 57% boys; cross-sectional	Children from residential child welfare and protection centers	166 children	EVS (child-reported):	×	✓	RPQ (child-reported): aggressive behaviour	Justification of violence and grandiosity mediated the link between family violence and proactive aggression.
	Jouriles et al., 2014	7-10 years old; 59% boys; prospective	Mothers and children recruited from domestic violence shelters	106 children	CTS2 (mother-reported)	×	✓	CPIC: threat and self-blame appraisals scale	Threat and beliefs about the justifiability of aggression were positively linked to children's reports of

		longitudinal design						CBCL	externalizing problems. Children's self-blame was positively associated with mothers' reports of children's externalizing problems.
Maternal Mental Health	Lieberman et al., 2005	25-59 months old; 58% boys; cross-sectional study from a clinical trial	Clinic-referred preschoolers with developmental problems	85 mother-child pairs	CTS (mother-reported	×	✓	CBCL (mother-reported)	Mothers' PTSD mediated the relationship between maternal stress and child behaviour problems.
	Clarke et al., 2007	6-16 years old; 50% boys; Cross-sectional	Community sample	470 children	CTS (mother-reported)	×	✓	CBCL (mother-reported): externalizing problems	Maternal mental health mediated the association between IPV exposure and child externalizing problems.
	Graham-Berman et al., 2011	2-6 years old; 47% boys; longitudinal study	Low-income, ethnic minority families with children showing behavioural problems	180 children	CTS (mother-reported)	✓	✓	CBCL (mother-reported)	Maternal mental health was only a significant mediator for the link between IPV exposure and internalizing behaviours (not externalizing behaviours).
	Ehrensaft & Cohen, 2012	10-18 years old; gender not specified; prospective longitudinal design	Nationally representative sample	396 children	CTS (mother- and child-reported)	×	✓	DISC-R (mother and child-reported): conduct disorder, oppositional defiant disorder CBCL (mother-reported): externalizing problems	Low maternal satisfaction with the child, was significantly associated with both IPV and externalizing behaviours, but did not mediate the effects of IPV on externalizing. Parental psychopathology did not mediate the influence of IPV exposure on child externalizing problems.
	Bair-Merritt et al., 2015	6-9 years old; 51% boys; longitudinal cohort study	High-risk for child maltreatment sample in US	214 mothers	CTS2 (mother-reported)	×	✓	CBCL (mother-reported): externalizing problems	The association with externalizing behaviours was mediated by maternal depression and parenting stress. Maternal stress was a mediator only in the association between IPV and girls' externalizing behaviours.

	Fredland et al., 2015	18 months-16 years old; 51% boys; cross-sectional	Mothers and children recruited from domestic violence shelters in US	299 mother-child pairs	Mothers were asked the number of child witnessed IPV within the preceding 4 mos	×	✓	CBCL (mother-reported): externalizing problems	Maternal functioning specifically depression, anxiety, somatization, and PTSD had an indirect effect on child behavioural problems.
	Maddoux et al., 2016	18 mos-16 years old; 51% boys; prospective study	Mothers and children recruited from domestic violence shelters	300 children	SAVAWS (mother-reported)	×	✓	CBCL (mother-reported): externalizing problems	Maternal mental health functioning mediated the impact of IPV on child behavioural problems.
Maternal Harsh Parenting	Mahoney et al., 2003	11-18 years old; 53% boys; cross-sectional study	Clinic-referred adolescents	232 mother-child pairs	CTS (mother-reported)	×	✓	CBCL (mother- and child-reported): externalizing problems	Parent-to-child aggression mediated the link between marital physical aggression and externalizing symptoms.
	Rossman & Rea, 2005	5-12 years old; 53% boys; longitudinal study	Community and domestic violence shelters	104 mother-child pairs	CTS (mother-reported)	×	✓	CBCL (mother-reported)	Higher Authoritarian parenting by mothers was associated with poorer school performance, greater self- reported trauma symptoms, and higher conduct problems.
	Graham et al., 2012	0-3 years old; gender not specified; longitudinal study	Ethnically diverse sample of mothers identified as high risk for child abuse	461 children	CTS (mother-reported)	×	✓	CBCL (mother-reported): externalizing behaviours	Maternal harsh parenting mediated the relationship between IPV and child adjustment problems.
	Zarling et al., 2013	6-8 years old; did not report gender break down; longitudinal study	Community sample of low SES families	132 children	CTS2 (mother-reported), CIPVI (mother-reported), CACI-2 (child-reported)	✓	✓	CBCL (mother-reported): externalizing problems	Harsh discipline mediated the link between exposure to IPV and externalizing problems. Cognitive appraisals and maternal mental health mediated the link between exposure to IPV and internalizing, but not externalizing problems. Gender was significantly related to the mediators (eg. Girls were more likely to experience more fearful/hostile cognitive appraisals and boys were

									more likely to experience harsh discipline).
	Easterbrooks et al., 2015	1-2 years old; 53% boys; longitudinal study	First time unmarried adolescent mothers and their children	400 mother-child pairs	CTS2 (mother-reported	✓	×	BITSEA (mother-reported): behavioural and emotional problems	Maternal depression did not moderate the relation between IPV and BITSEA problem summary scores. Maternal non-hostility did not moderate the relation between IPV and BITSEA problem summary scores. Children who experienced both IPV and maltreatment in the form of corporal punishment had greater behaviour problems.
	Grasso et al., 2016	4-6 years old; 62% boys; cross-sectional	Community sample in US	81 children	CTS2 (mother-reported)	×	✓	MAP-DB (mother-reported): externalizing behaviours	Maternal harsh parenting mediated the link between psychological IPV and child externalizing behaviours.
Maternal Warmth	Johnson & Lieberman, 2007	3-5 years old; 37% boys; cross-sectional	Clinic-referred sample with behavioural problems	30 children	CTS2 (mother-reported): physical aggression	×	✓	CBCL (mother-reported): externalizing problems	Children had fewer externalizing problems when the mothers were more attuned to the child's feelings of negative emotions.
	Sturge-Apple et al., 2010	1-3 years old; 54% boys; cross-sectional	Low SES families in US	201 children	CTS2 (mother-reported)	×	✓	CBCL (mother-reported): externalizing problems	Maternal warmth and sensitivity mediated the relationship between IPV and child's externalizing symptoms.
	Tajima et al., 2010	1-18 years old; 54% boys; longitudinal study	Community sample	229 children	Mother-to-father or father-to-mother physically violent, threatened physical harm, or destroyed something completed by child and/or parent self-reports	✓	×	Child-reported dichotomous (Y/N) measure: running away, dropping out of school, teenage pregnancy IPPA (child-reported): peer trust, peer communication	Parental acceptance/responsiveness moderated the effect of exposure to IPV on running away from home and teenage pregnancy. Peer support factors moderated the impact of IPV exposure on running away.

	Greeson et al., 2014	3-13 years old; longitudinal path analysis	Clinic-referred and domestic violence shelters	505 children	CTS (mother-reported)	×	✓	ECBI (mother-reported)	Maternal warmth was a statistically significant mediator of IPV exposure and externalizing problems.
	Manning et al., 2014	2 years old; 56% boys; longitudinal study	Low SES families in US	201 mother-child pairs	CPS (mother-reported): physical aggression subscale	✓	✓	CCQ (experimenter-rated): externalizing behaviours	Children's angry reactivity 1 year following IPV exposure predicted later increases in externalizing behaviours. Maternal sensitivity moderated the link between exposure to IPV and children's externalizing behaviours.

CTS = Conflict Tactics Scale (Straus, 1979); CWTVI= Children Witness to Violence Interview (Jaffe, Wolfe, & Wilson, 1990); SRO = Self-Report of Offending (Huizinga, Esbensen, & Weiher, 1991); SAVAWS= The Severity of Violence Against Women Scales (Marshall, 1992); CEVC=Child Exposure to Violence Checklist (Amaya-Jackson, 1998); DISC-R = The Diagnostic Interview Schedule for Children-Revised (Costello et al. 1984); CBCL = Child Behavior Checklist (Achenbach, 1991); CPIC = The Children's Perceptions of Interparent Conflict Scale (Grych, Seid, & Fincham, 1992); YSR = Youth Self Reports (Achenbach, 1991); TESI-C=Traumatic Events Screening Inventory for Children (Ford & Rogers, 1997); ASPD=The Antisocial Process Screening Device (Frick & Hare, 2001); EVS = Exposure to Violence Scale (Orue & Calvete, 2010; RPQ = Reactive- Proactive Aggression Questionnaire (Raine et al., 2006); CTS2 = Revised Conflict Tactics Scales (Straus et al., 1996); CIPVI = Context of Intimate Partner Violence Interview (Lawrence et al., 2008); CACI-2 = Computer-Assisted Child Interview–2nd Edition (Bank, 2000); BITSEA = Brief Infant–Toddler Social and Emotional Assessment (Briggs-Gowan & Carter, 2006); CPS = Conflict and Problem-Solving Scales (Kerig, 1996); CCQ = California Child Q-Set (Block & Block, 1980); IPPA = Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987); Parenting Practices Questionnaire for Adults (PPQ; Robinson et al. 1995); Eyberg Child Behavior Inventory (Robinson et al. 1980); WEB = Women's Experience of Battering Scale (Smith et al. 1999); MAP-DB=Multidimensional Assessment of Preschool Disruptive Behavior (Wakschlag, 2014).

Risk and Protective Factors for the Impact of IPV on Externalizing Problems

Over the last few decades, research findings have indicated that there are many risk factors involved in the development and course of externalizing problems in children exposed to IPV. Examining risk factors relating to characteristics of children, mothers and the nature of the IPV exposure itself assists in identifying children at greatest risk for externalizing problems, thereby helping practitioners to formulate an assessment and treatment plan accordingly. In contrast to another recent review (Vu, Jouriles, McDonald, & Rosenfield, 2016), we included both maternal and child factors as potential mediators and moderators of the relationship between past IPV exposure and externalizing problems. Investigating maternal factors and aspects of parenting that are detrimental to children's ability to regulate their behavior will help inform the design and content of family interventions, enabling these programs to meet the multiple needs of children and mothers exposed to IPV.

Child Age and Timing of Exposure

Exposure to IPV is associated with increased externalizing problems for adolescents (Bauer et al., 2006; Rhea, Chafey, Doher, Terragno, 1996). This finding might be expected given the crucial developmental tasks and challenges inherent during this developmental period. Witnessing IPV can have a profound negative impact on adolescents and has been shown to be a strong predictor of aggression, peer problems, truancy, and delinquency (Jaffe, Wolfe, Wilson, & Zak, 1986). However, results have been mixed for children of preschool and kindergarten age. Some studies have revealed that IPV exposure during birth to age three was associated with greater externalizing behaviours. For example, Ziv (2012) found that early exposure to IPV violence was associated with more severe aggression and hostile attributions in preschool children compared to a non-IPV exposed control group. Further corroborating evidence comes

from a recent meta-analysis by Vu et al. (2016) including 201 children from birth to 18 years old. Child age when exposed to IPV was found to moderate the relationship between witnessing IPV and externalizing problems, with this relationship appearing to be more robust when IPV exposure occurred at a younger age. This is consistent with evidence for the early starter/life course persistent versus late starter/adolescent-limited model, where childhood onset of conduct problems is more strongly associated with family risk factors and predicts poorer outcomes including peer problems, adult psychopathology, and violent delinquency (Moffit & Caspi, 1993). Further support comes from a study conducted by Graham-Bermann and Perkins (2010) in a sample of 6 to 12 year old children (N=190), where earlier age at first exposure to IPV was significantly related to greater externalizing problems. These findings are consistent with longitudinal evidence from Holmes (2013) examining children from birth to five years in homes with IPV. Children exposed to IPV from birth to age three did not have significantly greater externalizing problems than control children. However, results revealed a 'sleeper effect' of exposure to IPV. When children were assessed again at age eight, those exposed between birth and age three exhibited significantly more behavioural problems than controls.

Therefore findings are inconsistent regarding the moderating role of child age on the link between exposure to IPV and externalizing problems, preventing firm conclusions regarding which age group may be more vulnerable or resilient to IPV exposure. A limitation of these studies is that the age at first exposure was often unknown, with studies examining whether or not the child was exposed during a given time frame, making it difficult to compare findings across studies. Timing of exposure is also confounded with the amount of exposure, with older children likely to have been directly or indirectly exposed to IPV for longer periods of time. Indeed, one study found that while earlier age at first exposure was significantly associated with

greater externalizing problems, it was the degree of exposure to violence that had the greatest impact on child adjustment (Graham-Berman & Perkins, 2010).

Child Gender

Many studies examined child gender as a potential moderator of the relationship between exposure to IPV and externalizing problems. The view that boys tend to show greater externalizing behaviours, while girls tend to display more internalizing behaviours is widely accepted in the literature (Graham-Bermann & Hughes, 2003). Meta-analyses by Kitzmann, Gaylord, Holt and Kenny (2003) and Wolfe, Crooks, Lee, McIntyre-Smith, and Jaffe (2003) revealed comparable effect sizes for boys and girls, and concluded that child gender did not play a moderating role on the link between externalizing symptoms and past IPV exposure. However, our review includes more recent studies examining child gender as a potential moderator, and reveals inconsistent findings for child gender and risk for externalizing problems following IPV exposure. Some studies found elevated levels of externalizing behaviours for boys and girls following exposure to IPV (De Jonghe , von Eye, Bogat, & Levendosky, 2011; Holmes, 2013; Sternberg, Lamb, Guterman, & Abbott, 2006; Skopp, McDonald, Manke, & Jouriles, 2005; Fagan & Wright, 2011), some found that the association was more robust for boys than girls (Du Pleiss, Kaminer, Hardy, & Benjamin, 2014; Davies, Evans, & DiLillo, 2008), while others indicated that girls were at a greater risk for externalizing problems than boys (Holmes, Voith & Gromoske, 2015). These inconsistent findings may be due to differences in sample composition and recruitment methods (Davies et al., 2008). For example, earlier studies tended to draw their samples from shelters for battered women representing more severe and persistent IPV, whereas more recent research has recruited families from large, nationally representative samples, or clinic-referred families. A limitation of earlier studies, which tended to draw their samples from

shelters for battered women, is that these families tend to experience a range of difficulties in addition to IPV such as housing problems, social disadvantage, and maternal mental health issues. Therefore, the finding that children exposed to IPV are more likely to exhibit behavioural problems that could be due to a number of factors related and unrelated to IPV exposure. Finally, it is important to consider the gender of the child as well as the gender of the parent perpetrating the abuse when examining the association between past IPV exposure and externalizing problems,as parent gender may differentially impact the child depending on their gender.

Callous-Unemotional (CU) Traits

Callous-unemotional (CU) traits are a temperament dimension and represent the application or extension of adult psychopathic traits to children. CU traits are defined by low concern for others' feelings, lack of guilt and remorse, and shallow affect (Frick, 2009). Importantly, high levels of these traits are associated with a greater variety, severity and persistence of antisocial behaviour, including aggression and violent offending later in life (Frick & White, 2008). CU traits are generally related to lower levels of anxiety/internalizing problems (Frick & Ellis, 1999). However, Karpman (1941, 1948) proposed that adult psychopathy can be differentiated into two variants which differ with respect to the presence/absence of significant levels of anxiety and are underpinned by distinct etiological pathways. The primary variant corresponds to more traditional notions of psychopathy, featuring a strong genetic basis and characterized by low to normal levels of anxiety, while the secondary variant (CU traits + high anxiety) is viewed as being more directly shaped by the environment (e.g., traumatic experiences, harsh parenting). Recent evidence suggests that the concept of primary and secondary psychopathy in adults can be extended downwards to children high in CU traits (Euler, Sterzer, & Stadler, 2014; Gill & Stickle, 2015). Consistent with the view that CU traits

may be shaped by exposure to harsh environments, emerging evidence suggests that there is an additive risk for antisocial behavior associated with the presence of CU traits coupled with IPV exposure (Hartman, Hageman, Williams, St. Mary, & Ascione, 2016). Researchers have suggested that witnessing IPV interferes with the development of empathy and morality, especially when exposure occurs at a very young age (Hinchey & Gavalek, 1982). CU traits have been associated with insecure and disorganized attachment in children with externalizing problems (e.g., Pasalich, Dadds, Hawes, Brennan, 2012; Bohlin, Eninger, Brocki, & Thorell, 2012). Consistent with attachment theory, exposure to IPV disrupts the child's ability to feel safe and trusting in relationships, since it is in the context of a responsive and healthy relationship with caregivers that children first learn and develop empathy. Alternative theories suggest that chronic violence exposure in the home may also desensitize the child to others' distress cues, a deficit that has been consistently observed in children with CU traits (Howard et al., 2012).

Consistent with social learning theory, studies have shown that retrospective reports of witnessing severe violence is associated with elevated levels of aggression and violent behaviour in youth with clinical levels of CU traits (Caputo, Frick, & Brodsky, 1999). Howard and colleagues (2012) examined the mediating effects of violence exposure on the link between CU traits and antisocial behaviour in a sample of 88 detained adolescent boys aged 13 to 18 years old. While this study did not specifically assess IPV, the literature has shown that community violence and violence within families often co-occurs (Gorman-Smith & Tolan, 1998). In this study the association between CU traits and violent delinquency was fully accounted for by exposure to violence. In other words, witnessing violence in their daily lives made youth significantly more at risk of committing violent acts themselves if they also presented with elevated CU traits. In a recent study by Hartman and colleagues (2016), the relationship between

CU traits and animal abuse was studied in a sample of 290 children aged 7 to 12 years old exposed to IPV. Children with lower cognitive empathy (but not affective empathy) and higher CU traits were significantly more likely to have abused an animal. This is consistent with that the view that exposure to harsh social experiences may contribute to the development and persistence of CU traits in children (Barker, Oliver, Viding, Salekin, & Maughan, 2011; Skeem, Johansson, Andershed, Kerr, & Louden, 2007). However, it is important to consider the potential role of shared genetics in accounting for this association. CU traits shows a high level of heritability (Viding, Jones, Frick, Moffitt, & Plomin, 2008; Viding, Frick, & Plomin, 2007), and there is also a strong genetic influence on the presence and stability of aggression in children (Van Beijsterveldt, Bartels, Hudziak, & Boomsma, 2003; Lacourse et al., 2014). Thus it is difficult to tease apart the genetic influence of fathers who may be aggressive and/or high in psychopathic traits from exposure to IPV. Future research employing twin or adoption study designs may provide greater clarity on the relative contribution of genetic and environmental influences in the form of family violence

Appraisals of Violence

Grych and Fincham's (1990) cognitive-contextual model highlights the role of children's interpretations of IPV and perceptions of their family relationships as potential moderators of the link between child IPV exposure and later behavioural problems. According to this model, children actively respond to inter-parental conflict by attempting to interpret the meaning of these events and by identifying the role they may have played in the eruption or resolution of these conflicts. Children assess the degree to which the conflict affects their own or their family's safety (e.g., perceived threat), the degree to which they feel responsible for the conflict (e.g., self-blame), and the degree to which they feel competent enough to cope with the conflict

(e.g., coping efficacy) (Fosco, DeBoard, & Grych, 2007). This model is supported by research indicating that when children blame themselves for IPV incidents in the home or perceive it as threatening to their safety, they tend to show marked behavioural problems (El-Sheikh & Harger, 2001).

Skopp and colleagues (2005) compared 112 sibling pairs in IPV shelters to examine whether differences in internal experiences of IPV were associated with specific adjustment patterns. A general pattern emerged where the sibling pair member reporting higher levels of perceived threat or self-blame tended to exhibit significantly greater externalizing problems than the sibling pair who perceived the incident as less threatening and felt less blame for the incident. Skopp et al. concluded that a child's internal feelings around their beliefs about how parental conflict threatens them or their perceived role in the outbreak of these conflicts may play a more salient role in predicting their adjustment than specific aspects of the conflict itself. Further evidence from a study by Calvete and Orue (2013), using a sample of 11 to 18 year olds (N=166) from child protection centers, revealed that children's interpretations of marital conflict as well as their justifications for violence mediated the link between exposure to IPV and proactive aggression. The importance of children's appraisals of violence are further supported by the findings of longitudinal studies. Jouriles, Vu, McDonald, and Rosenfield (2014) studied 7 to 10 year old children and their mothers recruited from domestic violence shelters (N=106) and found that children's feelings of threat and beliefs about the justifiability of aggression were significantly related to more externalizing problems.

Collectively, research assessing child factors indicates that children with elevated CU traits and higher self-blame attributions may be more vulnerable to the negative impact of exposure to IPV. On the other hand, findings for factors such as age and gender were mixed,

with some studies reporting no moderating role of age or gender, and others reporting poorer outcomes for boys. More research is needed, specifically those using a multi-informant, multi-method approach and longitudinal design in order to capture the complex interplay of factors that may attenuate or exacerbate the relationship between IPV exposure and child externalizing problems. Individual differences such as temperament traits that facilitate effective emotional and behavioral regulation (e.g., effortful control), cognitive ability and coping skills may also contribute to variability in child outcomes, but these factors have yet to be examined.

Maternal Factors and Child Externalizing Problems in the Context of IPV Exposure

While the focus of this review is IPV perpetrated by fathers, when examining risk and protective factors for the impact of IPV on child externalizing problems most studies have focused on maternal characteristics and parenting. While the reasons for this focus are not made explicit in any of the research articles included in the current review, it is likely due to that fact that most interventions designed to promote behavioral adjustment in children are directed at maternal distress and parenting following separation from the IPV perpetrator.

Maternal Mental Health

The relationship between parent/family factors and externalizing problems is well established. In the context of IPV, studies have shown that women may experience mental health problems namely Posttraumatic Stress Disorder (PTSD), anxiety, and depression (Zlotnick, Johnson, & Kohn, 2006). The effects of poor mental health are debilitating and may undermine a parent's ability to act as a responsive, emotionally available, and sensitive caregiver. However, findings on the role of maternal mental health in explaining the link between exposure to IPV and child externalizing problems are mixed. Bair-Merritt et al. (2015) found that maternal

depression was a significant mediator of the relationship between child exposure to IPV and child externalizing problems in an at-risk community sample of 6 to 9 year olds and their mothers (N=214). Mitchell, Lewin, Rasmussen, Horn, and Joseph (2011) also found that the impact of IPV on children's externalizing behaviours was mediated by maternal depressive symptoms and aggression in African American mothers and their children aged 3 to 5 years (N=230) living in a violence-prone urban area. Further corroborating evidence comes from a number of other studies (Clarke et al., 2007; Fredland et al., 2009; Holmes, 2013; Lieberman, van Horn, & Ippen, 2005; Maddoux et al., 2016). On the other hand, other studies have found that maternal psychopathology, including depression did not mediate the relationship between IPV and child disruptive behaviours (Easterbrooks, Katz, Kotake, Stelmach, & Chaudhuri, 2015; Ehrensaft & Cohen, 2012; Graham-Bermann et al., 2011).

These contradictory results may be due to a range of methodological issues. For example, shared method variance may have driven the strong associations between variables due to the mother being the sole reporter for IPV, maternal mental health, and child behavior in some studies (e.g., Jouriles et al., 2014). Maternal mental health problems as a result of IPV such as depression may also influence maternal perceptions of their child's overall behavior, potentially inflating ratings of the severity of behaviour problems (Luoma, Koivisto, & Tammimen, 2004). In general, parents who are emotionally distressed tend to be less accurate reporters of their own parenting as well their child's adjustment (Hungerford, Ogle, & Clements, 2010). Although more research is certainly needed in this area, findings to date suggest that treating maternal psychopathology may have a positive spillover effect on child externalizing problems, most likely mediated by improvements in the quality of parenting.

Maternal Harsh Parenting

Harsh parenting is known to be one of the strongest predictors of child externalizing problems (Gershoff, 2002). Children exposed to IPV are by definition exposed to harsh parenting, but there is also strong evidence showing that IPV often coincides with child physical abuse (Overlien, 2010; Taylor, Guterman, Lee, & Rathouz, 2009). Further compounding this issue is the fact that the negative impact of exposure to IPV for both mother and child appears to persist even once they are no longer living with the perpetrator (Halket, Gormley, Mello, Rosenthal, & Mirkin., 2014; Stahly, 2008). In a recent study by Zarling et al. (2013), maternal harsh parenting mediated the association between exposure to IPV and externalizing problems in a community sample of low SES families aged 6 to 8 year olds (N=132). These findings were consistent with those of Easterbrooks and colleagues (2015) in a larger, at-risk sample of mothers and their children aged 1 to 2 years old (N=400). Children who had witnessed IPV and experienced harsh parenting, specifically corporal punishment, had more severe behaviour problems. The detrimental effect of maternal harsh parenting on child externalizing problems is supported by studies employing both cross-sectional and longitudinal designs (Grasso et al., 2016; Graham, Kim, & Fisher, 2012). In light of these findings, it is important to consider potential confounds when examining the influence of maternal parenting on externalizing problems in the context of IPV. For example, IPV perpetrated by men is associated with their own child abuse potential, harsh parenting and aggression towards their child (Appel & Holden, 1998; Finger et al., 2010; 4& Gordis, 2003). These factors therefore need to be controlled for in order to determine the independent influence of maternal harsh parenting in mediating the link between IPV exposure and child externalizing problems.

Maternal Warmth

Maternal warmth is characterized by positive affect, acceptance, support and low parental harshness and has been identified as playing a key role in children's behavioural and emotional adaptation under adverse circumstances (Kim-Cohen, Moffitt, Caspi, & Taylor, 2004). This aspect of parenting has been examined in recent studies on IPV exposure given evidence for its protective impact on children who have been exposed to other types of trauma (Lavi & Slone, 2012; Saler & Skolnick, 1992). Indeed, research in this area suggests that parenting high in sensitivity, warmth, and appropriate levels of control attenuates the negative impact of IPV on child outcomes (Sturge-Apple, Davies, Cicchetti, & Manning, 2010). In a recent study by Greeson and colleagues (2014) using a clinic-referred sample of 3 to 13 year olds (N=505), maternal warmth was a significant mediator of IPV exposure and externalizing behaviours. This finding is consistent with previous research showing that children had fewer externalizing problems when their mothers were more attuned to the child's feelings of negative emotions (Johnson & Lieberman, 2007). Further supporting evidence comes from a longitudinal study by Tajima, Herrenkohl, Moylan, and Derr, (2010) using a community sample of 1 to 18 year olds (N=229). The results of this study indicated that maternal warmth and responsiveness moderated the effect of exposure to IPV on running away from home and teenage pregnancy.

One study extended this research by examining maternal parenting and her male partner's parenting on child outcomes when the male was the perpetrator of IPV. Skopp, McDonald, Jouriles, and Rosenfield (2007) studied the moderating role of maternal and partner warmth on the association between children's exposure to IPV and externalizing problems in a community sample of 7 to 9 year old children and their mothers. Results revealed that exposure to IPV was related to children's externalizing problems when mothers were low in warmth. However, IPV was found to be positively associated with children's externalizing problems when her partner

was high in warmth. An explanation for this finding may be that children who have a positive relationship with maternal partners who are coercive or abusive towards their mother, may be more likely to view aggression more favorably.

Implications for Family/Parenting Interventions

Clearly, prevention of IPV and targeting factors that increase the risk of its occurrence are crucial in order to promote the health and well-being of children and families. Until this is achieved, mothers and children exposed to IPV are in immediate need of support. Increasing public awareness and knowledge of IPV, changing attitudes that perpetuate violence against women and removing barriers to help-seeking are also key targets for prevention and intervention. The research included in this review strongly suggest that interventions need to target multiple maternal and child factors in order to reduce child externalizing problems in families recovering from IPV. Findings indicate that mothers with education and training in positive parenting strategies (e.g., praise, spending time with her child) and the consistent use of calm, non-physical discipline (e.g., time out, removal of privileges) are likely to be helpful in promoting a warm parent-child relationship and reducing behavior problems. Recognizing that mothers have also been victims of violence and providing treatment for mental health difficulties including anxiety, depression, and PTSD is also likely to be crucial for the success of family interventions aimed at reducing child externalizing problems. Treatment of maternal distress and improving mothers' ability to set clear, consistent limits and engage with their child in a warm and sensitive manner is likely to be particularly important for reducing externalizing problems in children who have been exposed to IPV. Lastly, the implications of this review for theory lie in its assessment of relevant frameworks to test their validity. Theory-driven research is crucial for

guiding our understanding and directing our focus to key variables that may serve as potential risk and protective factors.

Directions for Future Research

A longstanding issue is the inconsistent terminology and definition for what constitutes exposure to IPV. Jouriles, McDonald, Norwood, and Ezell (2001) outlined a number of issues relating to how we define IPV and consequently the potential impact on our understanding of how IPV relates to child outcomes. First of all, the definition of IPV used by many researchers may be too narrowly defined, focusing solely on physical aggression and thereby overlooking more discrete but harmful acts such as emotional or psychological abuse. In terms of child exposure, studies have been inconsistent in defining whether child exposure to IPV entails only direct observation, or if it also encompasses hearing and/or being aware of violence taking place. A consensus on the definition of IPV would allow for comparisons across different studies, enhancing the validity and generalizability of findings.

There are multiple pathways that lead to the development and persistence of externalizing problems. It will be important for future research to draw on developmental models including SLT, cognitive-contextual theory, and attachment theory to identify potential moderators and mediators of the relationship between IPV exposure and child externalizing problems. The most promising approach are research designs which reflect an integration of different theoretical approaches to adequately address the complex interplay of factors at the individual child, family and societal level that are likely to contribute to child outcomes following IPV exposure. A well-established finding in the literature on the cumulative risk model suggests that the number of traumatic experiences is a strong predictor of psychopathology throughout the lifespan

(Chapman, Dube, & Anda, 2007). Building on this, longitudinal research that examines the complex mechanisms by which children can be affected by IPV over time is needed. This research can help identify the specific mechanisms that have a detrimental impact on children and families that should be targeted during intervention, and to factors that may prevent the occurrence of behavior problems following IPV exposure. One promising area for future research is to examine risk and protective factors for externalizing problems in the context of past IPV in ethnic minorities and non-Western cultures. A better understanding of the needs of different ethnic and cultural groups is needed to ensure that these groups are engaged in treatment and receive the most appropriate form of support.

Conclusion

Children with externalizing problems who have been exposed to IPV may experience a range of cascading risk processes that can extend into adulthood. Theoretical models including SLT, cognitive-contextual theory, and attachment theory provide useful frameworks for informing study design and evidence-based interventions to meet the multiple needs of families exposed to IPV. As outlined in this review, there is clear evidence that associations between exposure to IPV and children's externalizing problems may be mediated or moderated by a number of factors including age of exposure, child gender, children's appraisals of violence, and maternal parenting. Further complicating this picture is the role of potential confounds such as shared genetics between an aggressive father and a child with externalizing problems, and the impact of maternal harsh parenting versus harsh parenting or abuse from the male perpetrator. In addition, limiting this review to studies of father perpetrators may confound the effects of child gender and presence of CU traits. With regards to the latter, some researchers suggest that CU

traits in boys are more strongly influenced by genetics while CU traits in girls are more strongly influenced by the environmental (Fontaine, Rijsdijk, McCrory & Viding, 2010). A challenge for future research is to tease apart the independent influence of IPV exposure on externalizing problems from shared genetic risk, maternal parenting and previous experience of paternal parenting and abuse. The timing of initial exposure, as well as the intensity, frequency, and nature of later exposure to IPV also need to be accounted for when examining risk and protective factors for externalizing problems following IPV exposure. Finally, it is important to note that children exposed to IPV may have other serious mental health problems such as PTSD which may manifest as externalizing behaviors. Therefore future research needs to examine whether risk and protective factors differ for these children to better inform the design and content of family interventions.

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