Perceptions of Interparental Conflict of Preschoolers Living in Violent Families: The Impact of Time, Environment, and Intervention

by

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Dedication

To my family and friends – in thanks for their unconditional love and support, and to Sandra Graham-Bermann – in thanks for her truly wonderful mentorship.

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Abstract

Exposure to intimate partner violence (IPV) has a number of detrimental effects on the health and development of children. Cognitive contextual theory states that these effects are in part due to maladaptive cognitive appraisals children make about conflict. This research specifically examines children's appraisals of *threat* and *self-blame*. To date, little research has examined children under the age of 6 or children exposed to IPV, and few studies have taken into influential child and parent characteristics. This dissertation aimed to (1) provide information on the development of cognitive appraisals of threat and self-blame in preschoolers exposed to IPV, (2) determine whether a 10-session, community-based intervention would be beneficial in reducing these maladaptive cognitive appraisals, and (3) examine individual and family characteristics that may act as protective or risk factors for maladaptive cognitive appraisals over time. To this end, 120 children between the ages of 4 and 6 and their mothers were interviewed at three time points over the course of one year. Approximately half of these mother-child dyads participated in an evidence-based intervention program designed to address common problems following exposure to IPV. Results indicated that children's maladaptive appraisals do not naturally decrease over time, but appraisals of threat do appear to be effectively remediated by intervention at the trend level. Children's adjustment problems predicted significantly higher levels of threat and self-blame, providing valuable information about how the presence of mental health problems may serve to worsen cognitive appraisals. Poor maternal mental health was linked to more positive appraisals, perhaps indicating that these mothers may be more proactive in taking measures to obtain services for their children, thereby promoting better adjustment despite their own compromised functioning.

Chapter I.

Introduction

Intimate partner violence (IPV) is defined as threatened, attempted or completed physical, sexual, and emotional abuse against a current or former partner (Center for Disease Control and Prevention, 2006). IPV is a pressing national concern; it is estimated that IPV has a national cost of 8.3 billion dollars each year, including medical and mental health care costs, as well as lost productivity (Center for Disease Control and Prevention, 2006). National studies indicate that lifetime IPV prevalence rates for women in the United States range between 22 and 35%, with a yearly prevalence of around 1.5% (Breiding, Black & Ryan, 2008; Breiding, Ziembroski, & Black, 2009). Not only is the prevalence of IPV alarmingly high, but its chronicity is equally concerning. In a large survey, Thompson and colleagues (2006) found that of women who had experienced IPV, 21% had been victimized by multiple partners, and between 5 and 13% of the women had experienced IPV for more than 20 years. While IPV occurs in families from a variety of backgrounds, the prevalence can vary depending upon a number of risk factors, including previous victimizations, homelessness, poverty, and the presence of children in the household (Bair-Merritt, Holmes, Holmes, Feinstein, & Feudtner, 2008; Breiding, Black, & Ryan, 2008; Slesnick, Erdem, Collins, Patton, & Buettner, 2010; Thompson, et al., 2006).

National studies have also been conducted in order to assess the extent to which children living in homes with IPV witness these violent events. Recent estimates indicate that 15.5 million children in the United States alone live in a home where IPV has occurred at least once in the past year (McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006).

Others have found that 95% of children living in violent households have some kind of sensory exposure to their parents' violent conflicts and 60% of children bearing direct eyewitness. A recent study by Graham-Bermann and Perkins (2010) found that 12% of children living in violent homes had been injured in a violent episode between their parents in the past year. Research also indicates that very young children are at higher risk than are older children of being eyewitnesses to IPV, with 58% of all direct child witnesses being under the age of 6 (Fantuzzo & Fusco, 2007). Combined with information on the chronicity of these violent relationships, there is a high likelihood that children witness violence for a number of years, frequently beginning before the age of 6. Given the rapid social, emotional, and psychological developments that occur during early childhood, chronic violence exposure places children at high risk for a number of different types of psychopathology. For this reason, it is especially important to examine the impact of violence exposure on young children yet little research exists in this domain.

IPV and Children's Physical Health and Development

Children exposed to IPV are at high risk for developing physical problems beginning in-utero both because they are at risk for physical trauma when the mother is struck and because the stress of violence on the mother may increase teratogen exposure (e.g., maternal nicotine and alcohol use) and decrease proper prenatal self-care (Kuelbs, 2009). Direct physical trauma and decreased prenatal care places children at risk for being delivered pre-term, which is in turn associated with a number of negative health consequences over the lifespan (Pak, Reece, & Chan, 1998). Following birth, children living in violent homes are at high risk for abuse themselves, which can result in serious injury (Edelson, 1999; Chan, Brownridge, Yan, Fong, & Tiwari, 2011). Moreover, children living in violent homes are more likely to wait before reporting abuse to Child Protective Services or an adult,

prolonging their period of exposure to physical and/or sexual violence (Kellogg & Menard, 2003).

In addition to the possibility of direct physical injuries, living in a violent home may be a chronic psychological stressor that can also negatively affect children's health. Recent studies indicate that exposure to chronic stress leads to increased activation of the HPA axis, which controls the release of cortisol in the brain (Kuelbs, 2009). This chronic exposure can result in permanent neurobiological changes in children, including dysregulation of the HPA axis, priming of fearful responses, and slowed development of the hippocampus (Kuelbs, 2009). The presence of psychological stressors may also reduce immune system functioning (Cohen & Herbert, 1996), and thus, children exposed to high levels of IPV may be at increased risk for developing illnesses as compared to children not exposed to violence. Recent research has confirmed this, finding that violence exposure has detrimental effects on the physical health and development of children at all ages. For example, children chronically exposed to intimate partner violence in infancy have a more difficult time gaining weight than children whose exposure has recently ended (McFarlane & Soeken, 1999). Other research has found that exposure to IPV and other types of violence significantly and independently predicts child health problems after accounting for demographic factors and maternal mental health (Graham-Bermann & Seng, 2005). In addition, children exposed to IPV are less likely to consistently attend health check-ups with a primary care provider and are less likely to be fully immunized at two years than are children from non-violent homes (Bair-Merritt, Crowne, Burrell, Caldera, Cheng, & Duggan, 2008).

IPV and Children's Social Health and Development

As they enter the preschool years, children increasingly look to parents as models of social skills. In an analogue study of how children's social skills are affected by violence in the home, children's stories about violent parent interactions were significantly related to

decreased social competence (Page & Bretherton, 2003). A recent meta-analysis also indicates that children exposed to higher levels of IPV have less social competence (Onyskiw, 2003). For example, research has shown that children exposed to IPV show fewer prosocial behaviors (Onyskiw & Hayduk, 2001), are less likely to respond appropriately to emotionally-valenced situations, lack effective problem solving strategies, and chose aggressive responses more frequently than non-exposed peers (Graham-Bermann & Levendosky, 1997).

IPV and Children's Emotional Health and Development

Witnessing IPV can also have a number of damaging effects on children's emotional health and development. During toddlerhood and early childhood, children's ability to regulate their own emotional processes increases dramatically, but research shows that psychosocial stressors, such as maternal depression may impede children's development of emotion regulation skills (Blandon, Calkins, Keane, & O'Brien, 2008; Calkins & Marcovitch, 2010). The lack of emotion regulation skills can place children at increased risk for psychopathology, including but not limited to anxiety during interactions with peers and internalizing problems (Rubin, Coplan, Fox, & Calkins, 1995). Although problems with development of emotion regulation skills have been linked to psychopathology in young children in several studies, less is known about the causal mechanisms of this relationship (Calkins, 2010).

In addition to potential risk for psychopathology due to decreased emotion regulation skills, research indicates that there are a number of direct links between violence and developmental psychopathology. Exposure to IPV has been shown to increase children's risk of developing a variety of internalizing psychopathologies, the foremost of which is posttraumatic stress disorder (PTSD). In a sample of 5 to 13 year old children exposed to IPV, between 17 and 33% had clinically diagnosable levels of posttraumatic stress symptoms

(Graham-Bermann, DeVoe, Mattis, Lynch & Thomas, 2006). Retrospective studies of college students indicate that those who were exposed to IPV in childhood had significantly higher posttraumatic symptoms in adulthood than did peers not exposed to IPV (Stride, Geffner, & Lincoln, 2008). These studies indicate that posttraumatic stress is a significant problem for children's emotional development beginning at a very young age, potentially extending through adolescence and into adulthood. However, there is little existing research that examines trauma in children under the age of five. This is troublesome in light of research that indicates that children may begin experiencing posttraumatic stress symptoms, such as hypervigilant responding, by the age of one (Bogat, DeJonghe, Levendosky, Davidson, & von Eye, 2006). In a sample of clinically referred preschoolers exposed to IPV, children exhibited an average of eight posttraumatic stress symptoms before treatment (Lieberman, Van Horn, & Ippen, 2005). In fact, the extent of some preschoolers' difficulties may be so profound that mothers, who frequently underestimate the extent to which children understand and are affected by IPV, note symptoms of posttraumatic stress, such as hypervigilance and re-experiencing (DeVoe & Smith, 2002).

In addition to posttraumatic stress symptoms and related disorders, children exposed to IPV may have other internalizing psychopathologies, such as depression and separation anxiety disorder (Graham-Bermann, Gruber, Howell & Girz, 2009; Kennedy, Bybee, Sullivan, & Greeson, 2010; Pelcovitz, Kaplan, DeRosa, Mandel, & Salzinger, 2000). In a large national study of adolescents, Zinzow and colleagues (2009) found that exposure to IPV significantly predicted major depressive episodes, even after controlling for age, gender, sex, income, and other potentially traumatic events. Research examining the relationship between internalizing symptoms and exposure to IPV has also found that this relationship is mediated by children's cognitive appraisals of the violence they witness (e.g. Ablow, Measelle, Cowan & Cowan, 2009; Gerard, Buehler, Franck, & Anderson, 2005; Shelton & Harold, 2008). This

relationship has been demonstrated in children of a variety of ages, but very little research has examined children as young as four years old.

IPV and Children's Behavioral Health and Development

The effect of IPV on children's behavioral problems has been ubiquitous across studies, with a recent meta-analysis confirming that children exposed to IPV exhibit higher levels of behavior problems than children not exposed to IPV (Onyskiw, 2003). A recent study conducted in New Zealand indicates that the preschool age range might be a particularly important one to examine (Paterson, Carter, Gao, Cowley-Malcolm, & Iuisitini, 2008). In this study, children exposed to IPV were assessed at two and four years of age, and were compared to peers who had not witnessed IPV. Paterson and colleagues (2008) found that there was no significant difference between the two groups in behavior problems at age two, but by age four, children exposed to IPV had significantly higher externalizing problems, on average 2.38 times greater than their non-exposed peers. This research demonstrates that children exposed to IPV begin to exhibit significant problems in behavioral functioning quite early and continued research in the preschool age-range may be critical for understanding and preventing continued behavior problems in later childhood.

In addition to the direct link between violence exposure and externalizing behavior problems, there appear to be indirect explanatory pathways as well. For example, Graham-Bermann and Perkins (2010) examined the cumulative effect of violence, finding that cumulative violence exposure mediated the relationship between children's age at first exposure to IPV and current behavior problems. Other researchers have found that children's cognitive appraisals of their parents' conflict may mediate the relationship between IPV and externalizing problems (Fosco & Grych, 2008). Specifically, triangulation and involvement between the parents as reported by the children contributes to externalizing symptoms in some studies (e.g. Ablow, Measelle, Cowan & Cowan, 2009; Fosco & Grych, 2008).

However, children's appraisals of threat and self-blame have not been found to be a consistent mediator of the relationship between IPV and externalizing problems in younger children (Ablow, Measelle, Cowan, & Cowan, 2009), leading to the need for additional investigation of this relationship in early childhood.

IPV and Children's Cognitive Health and Development

Children exposed to intimate partner violence may be at greater risk for cognitive impairment than their peers. It is hypothesized that children exposed to chronic violence may suffer from permanent alterations in areas of the brain responsible for the control of executive function (DePrince, Weinzieri, & Combs, 2009). As such, children exposed to chronic familial violence are subject to a plethora of basic deficits in cognitive function. Research in older children has found that children exposed to family violence have significantly lower performance in working memory, inhibition, auditory attention, and processing speed tasks (DePrince, Weinzieri, & Combs, 2009). Other research has found additional areas of cognitive impairment in children exposed to violence, such as lower general intelligence and school achievement (e.g. Shonk & Cicchetti, 2001; Ybarra, Wilkins, & Lieberman, 2007). In a recent study, the verbal ability of preschoolers exposed to IPV was significantly depressed as compared to a same-age, national sample (Graham-Bermann, Howell, Miller, Kwek, & Lilly, 2010). Further studies of cognition in children exposed to violence would do well to focus on maladaptive patterns of cognitive appraisal, which are the central constructs of interest in the dissertation study.

Cognitive Appraisals of IPV

Cognitive appraisal is defined as the process by which children perceive and make meaning of their parents' conflicts (Grych & Fincham. 1990). Grych and Fincham (1990) posit that witnessing conflict brings three questions to mind for children: "What is happening?", "Why is it happening?", and "What can I do about it?". They hypothesize that

in order to evaluate and respond to conflict, children complete both *primary* and *secondary* appraisal processes that consequently contribute to their coping strategies and emotional affect in response to conflict (Grych & Fincham, 1990). *Primary appraisals* are defined as children's immediate determination of the degree to which the conflict poses a self-relevant *threat* (Grych & Fincham, 1990). *Secondary appraisals* of the conflict, alternatively, are aimed at understanding why the conflict is occurring and who is at fault for its occurrence (Grych & Fincham, 1990). At this juncture, children may direct blame for the event at themselves, at their parents, or at both themselves and their parents – each of which is projected to have an effect on children's ultimate adjustment following conflict (Grych & Fincham, 1990). Grych and colleagues (1992) constructed a scale to evaluate children's reports of these primary and secondary appraisals called the *Children's Perceptions of Interparental Conflict Scale (CPIC).* This scale measures several aspects of children's ability to comprehend and interpret their parents' conflict. Items were factored into three primary dimensions: Conflict Properties, Threat, and Self-Blame. The Conflict Properties subscale represents child reports of level of conflict in the family and includes information about the frequency, intensity, and duration of interparental conflicts. The Threat subscale assesses children's primary appraisals of conflicts, and the Self-Blame subscale assesses the degree to which children feel at fault for their parents' disagreements (secondary appraisals). The current study will examine these primary and secondary processes in great detail, here referred to as the constructs that they represent: *Threat* and *Self-Blame*.

Threat

Children's feelings of threat are assessed by evaluating both their feeling of being threatened and their ability to assuage these worries (Grych, et al., 1992). In Grych and Fincham's (1990) cognitive contextual model for understanding marital conflict and child adjustment, children's feelings of threat are described as the primary reaction to marital

conflict. According to this theory, children have sensory input of the conflict between their parents and consequently are either afraid or unafraid. This process does not require a high degree of introspection, but rather a simple analysis of internal threat cues. When children report on their levels of threat, they are asked to recall this feeling of fear or non-fear.

Recent research on threat has shown that children as young as eight months old may show attention bias toward threatening stimuli (LoBue & DeLoache, 2010). This attention bias persists throughout development, and by the preschool years, children are as good as adults at identifying facial features indicating anger (LoBue & Larson, 2010). This research provides strong support for the early and relatively complete development of visual threat detection capabilities. Early attention bias toward threat likely serves an adaptive function overall, heightening awareness to potentially dangerous events and triggering safety behaviors. However, preschoolers who have been exposed to IPV have even greater attention biases towards threatening stimuli if they have co-occurring PTSD, indicating that chronic exposure may place children at risk for developing maladaptive threat detection that is ultimately related to psychopathology (Swartz, Graham-Bermann, Mogg, Bradley, & Monk, 2011).

In examinations of cognitive appraisals of threat, children who are exposed to higher levels of IPV between parents report higher levels of threat than do children who are exposed to lower levels of IPV (Miller, Howell, & Graham-Bermann, 2012). Children exposed to IPV may have high levels of reported threat because their parents' conflict not only threatens their sense of emotional security in the stability of the family but threatens their physical safety as well. Research has shown that threat levels may be especially high for preschoolers because they are developmentally mature enough to understand their parents' conflict but not developmentally mature enough to realistically assess its import (Cummings, Vogel,

Cummings & El-Sheikh, 1989). These high levels of threat appraisal then show a rapid drop as children advance from late childhood to adolescence (Richmond & Stocker, 2007).

While there is evidence that appraisals of threat are present as early as infancy, are likely to be at their highest before the onset of adolescence, and are magnified by the presence of violence, very few studies have examined preschoolers' appraisals of threat in homes experiencing IPV. Two recent studies have found that preschoolers' appraisals of threat are significantly related to the level of reported conflict in the home, supporting preschoolers' ability to meaningfully report on their cognitions about family conflict (Ablow et al., 2009; Miller, et al., 2012). Moreover, preschoolers' appraisals of threat are significantly related to their reports of threat one year later, again providing support for the validity of preschoolers' cognitive appraisals of conflict (Ablow, Measelle, Cowan, & Cowan, 2009). Similarly, in a study of 7 to 9 year-old children, children's appraisals of threat were significantly related to both mother's and child's reports of conflict, providing evidence for children's ability to make meaningful evaluations of threat that are distinct from other related cognitions about violence (McDonald & Grych, 2006). Research on 8 to 12 year old children exposed to IPV indicates that cognitive appraisals of threat are significantly related to IPV severity, such that as IPV increases, children's appraisals of threat also increase (McDonald, Jouriles, Tart & Minze, 2009). In addition, children who experience parent-child aggression in addition to IPV report significantly higher levels of threat than those exposed to IPV alone (McDonald, Jouriles, Tart, & Minze, 2009). Given that children exposed to IPV may show extremely high levels of threat as compared to those experiencing lower levels of family conflict, and that younger children may report higher levels of threat than older children, it is surprising that to date, no research exists examining the presence, development, and role of threat appraisals in young children exposed to severe IPV. The current study is unique in that it addresses a younger population of children than has previously been

examined. In addition, it moves beyond a cross-sectional design to explore how threat appraisals develop over time, and how they may be impacted by other family and environmental factors.

Self-Blame

Appraisals of self-blame include both children's assessment of whether or not their parents' conflict is about them and whether or not they are to blame for their parents' disagreements (Grych, Seid, & Fincham, 1992). These appraisals are considered to be secondary appraisals; that is, children must identify the root cause of the conflict and then determine whether or not the conflict is a result of their actions (Grych & Fincham, 1990). Examination of these secondary appraisals is especially important for young children, because they are less able to make nuanced inferences about the causes of their parents' conflict than are older children (Covell & Abramovitch, 1987). Preschoolers may also have less insight into the intentionality of their parents' violence than do older children because few mothers discuss the meaning of the violence with their young children (Graham-Bermann, 2011). Children are therefore often left to determine the cause of their parents' conflict without assistance. Left to themselves, preschoolers' egocentric tendencies may inflate attributions of self-blame (Barrett, Cole, & Zahn-Waxler, 1993). Unfortunately, this self-blame may be compounded by some parents who believe that their children *are* to blame for the violence (Graham-Bermann, 2011).

Developmental research indicates that children can experience complex emotional reactions involving guilt and shame beginning around ages 2 or 3 (Barrett, Cole, & Zahn-Waxler, 1993). In addition, the presence of these complex cognitions in preschool-aged children is significantly related to preschool-onset depression symptoms (Luby, et al., 2009). Research in 5- and 6-year-old children indicates that they are able to meaningfully report on self-blame and that these appraisals are relatively consistent after one year has passed

(Ablow, Measelle, Cowan, & Cowan, 2009). These studies all provide preliminary evidence in support of complex secondary appraisal processes in preschool-aged children, but, to date, these evaluations have rarely been assessed in children exposed to IPV.

Unlike appraisals of threat, which are relatively consistent across genders (Grych, et al., 1992; McDonald & Grych, 2006), studies on appraisals of self-blame produce greater variations. Some studies show no differences in appraisals of self-blame between boys and girls (Grych, et al., 1992; McDonald & Grych, 2006). Other studies, however, have shown that girls report higher levels of self-blame than do boys (Kerig, 1999; Miller, et al., 2012). Overall, there is evidence that girls may be more vulnerable than boys to the negative effects of IPV (Georgsson, Almqvist, & Broberg, 2011), perhaps due to the inherent gender-imbalance in rates of IPV perpetration and victimization (Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012). It is therefore reasonable to suppose that girls may report higher levels of self-blame than do boys in response to IPV, although they do not appear to consistently do so in response to non-violent martial conflict. Higher levels of self-blame in girls would also accurately reflect developmental research showing beginning in the preschool years, girls tend to report higher levels of guilt than do boys (Kochanska, De Vet, Goldman, Murray & Putman, 2008).

The Impact of Maladaptive Cognitive Appraisals on Children's Adjustment

Research on children's cognitive appraisals does more than provide anecdotal information about how children conceptualize their parent's conflicts. The original hypothesis for research on cognitive appraisals stipulated that how children interpreted their parents' conflicts mediated the relationship between exposure to conflict and child adjustment (Grych & Fincham, 1990). Consequent research has confirmed this hypothesis, with a variety of studies adding a greater depth of information over time. The overwhelming finding across studies is that children's appraisals of threat and self-blame mediate the

relationship between interparental conflict and children's internalizing problems, but the same relationship is inconsistent when evaluating externalizing problems (e.g. Ablow, Measelle, Cowan, & Cowan, 2009; Gerard, Buehler, Franck, & Anderson, 2005; Grych, Fincham, Jouriles, & McDonald, 2000; McDonald & Grych, 2006). Notably, few studies have found that children's cognitive appraisals mediate the relationship between interparental conflict and children's externalizing problems, and those that have only found evidence of partial mediation. Rather, triangulation and involvement of the child in parent conflict has been found to be a stronger predictor of externalizing symptoms (e.g. Ablow, Measelle, Cowan & Cowan, 2009; Fosco & Grych, 2008).

While the lack of relationship between children's appraisals and externalizing problems has been relatively consistent across studies, it is possible that these constructs are related through more complex pathways. The majority of studies on children's cognitive appraisals have been cross sectional and those that examine cognitive appraisals longitudinally find evidence that appraisals of self-blame affect future externalizing behaviors. For example, one longitudinal study of school-aged children between the ages of 11 and 13 found that children's appraisals of self-blame related to future (but not current) externalizing behavior problems, controlling for a range of individual and family characteristics (Grych, Harold, & Miles, 2003). This is preliminary evidence suggesting that the relationship between children's appraisals and externalizing behaviors has been minimized by the failure to examine development over time. There is also evidence to suggest that the relationship between behavior problems and maladaptive appraisals may be reciprocal, with the presence of behavior problems relating to later maladaptive appraisals. In a study examining these relationships, aggression in children at time 1 was significantly related to appraisals of self-blame at time 2 (Harold, Aitken, & Shelton, 2007). However, aggression and self-blame were not significantly related at time 2, reinforcing the inadequacy

of cross-sectional designs for examining the relationship between maladaptive appraisals and externalizing behavior. Children's appraisals of self-blame also mediate the relationship between interparental conflict and other outcomes, such as academic achievement and perceptions of negative parenting (Harold, Aitken, & Shelton, 2007).

Mediating and moderating analyses related to threat also add information about what specific aspects of threat may be most poignant for children and contribute most strongly to consequent internalizing problems (Atkinson, Dadds, Chipuer, & Dawe, 2009). Atkinson and colleagues discovered that for 10 to 16 year old children, fears about being drawn into their parents' conflicts mediate the relationship between interparental conflict and internalizing problems. In addition, girls' fear of broken attachment due to their parent's conflicts also mediates the relationship between conflict and internalizing problems, but this relationship is not shown in boys. Although the inclusion of attachment variables is beyond the bounds of the current study, it is interesting to note that these more specific fears may be especially exacerbated for children experiencing severe levels of family violence (Graham-Bermann, 1996). Moreover, younger children may be at greater risk for both of these specific fears, as they may rely more heavily on caregivers then do older children, making them at great risk for problems related to broken or dysfunctional attachments with the abusive parent.

One recent study of 8 to 12 year old children found that unsupportive and coercive maternal parenting strengthens the relationship between exposure to conflict and children's appraisals of self-blame. In contrast, maternal emotional support decreases the strength of this relationship (DeBoard-Lucas, Fosco, Raynor, & Grych, 2010). Similarly, children who had a secure attachment with their father reported lower levels of threat and self-blame (DeBoard-Lucas, Fosco, Raynor, & Grych, 2010). This study provides evidence for important contributing factors beyond the presence/absence of violence that may act as a buffer for children's maladaptive cognitive appraisals, thereby possibly reducing future

adjustment problems. Overall, very little research has examined family and individual level factors that could contribute to the development and maintenance of children's cognitive appraisals and is an important area of future research.

The Current Studies

The current studies seek to add to the research on children's cognitive appraisals by addressing a number of gaps. First, while there is a great deal of research on older children's appraisals of interparental conflict, very few studies have examined preschool-aged children. In addition, the majority of studies on children's appraisals of interparental conflict have been cross-sectional, leaving many questions about the developmental trajectories of these appraisals unanswered. Thus, the current studies will provide new information on how preschool-aged children's appraisals develop over time.

Further, very few studies have examined children's appraisals of violence in families experiencing severe IPV. Because these children are likely to witness many of the violent conflicts between their parents, appraisals of threat and self-blame may be commensurately higher and have a different pattern of development over time than the appraisals of children living in homes with less severe levels of conflict. Finally, little research has examined how family and individual level factors may impact the development of children's appraisals over time, and the few studies that do exist indicate that there are complex longitudinal relationships that may be missed or underestimated in cross-sectional analyses.

References

Ablow, J. C., Measelle, J. R., Cowan, P. A., & Cowan, C. P. (2009). Linking marital conflict and children's adjustment: The role of young children's perceptions. *Journal of Family Psychology*, *23*(4), 485-499. doi:10.1037/a0015894

Atkinson, E. R., Dadds, M. R., Chipuer, H., & Dawe, S. (2009). Threat is a multidimensional construct: Exploring the role of children's threat appraisals in the relationship between interparental conflict and child adjustment. *Journal of Abnormal Child Psychology*, *37*(2), 281-292. doi:10.1007/s10802-008-9275-z

Bair-Merritt, M. H., Crowne, S. S., Burrell, L., Caldera, D., Cheng, T. L., & Duggan, A. K. (2008). Impact of intimate partner violence on children's well-child care and medical home. *Pediatrics*, *121*(3), e473.

Bair-Merritt, M. H., Holmes, W. C., Holmes, J. H., Feinstein, J., & Feudtner, C. (2008). Does intimate partner violence epidemiology differ between homes with and without Children? A population-based study of annual prevalence and associated risk factors. *Journal of Family Violence*, *23*(5), 325-332. doi:10.1007/s10896-008-9154-y

Barrett, K. C., Zahn-Waxler, C., & Cole, P. M. (1993). Avoiders vs. amenders: Implications for the investigation of guilt and shame during toddlerhood? *Cognition & Emotion*, *7*(6), 481–505.

Blandon, A. Y., Calkins, S. D., Keane, S. P., & O'Brien, M. (2008). Individual differences in trajectories of emotion regulation processes: The effects of maternal depressive symptomatology and children's physiological regulation. *Developmental Psychology*, *44*(4), 1110-1123. doi:10.1037/0012-1649.44.4.1110

Bogat, G. A., DeJonghe, E., Levendosky, A. A., Davidson, W. S., & von Eye, A. (2006). Trauma symptoms among infants exposed to intimate partner violence. *Child Abuse & Neglect*, *30*(2), 109-125. doi:10.1016/j.chiabu.2005.09.002

Breiding, M., Black, M., & Ryan, G. (2008). Prevalence and risk factors of intimate partner violence in eighteen U.S. states/territories, 2005. *American Journal of Preventive Medicine*, *34*(2), 112-118. doi:10.1016/j.amepre.2007.10.001

Breiding, M. J., Ziembroski, J. S., & Black, M. C. (2009). Prevalence of rural intimate partner violence in 16 US states, 2005. *The Journal of Rural Health*, *25*(3), 240-246. doi:10.1111/j.1748-0361.2009.00225.x

Calkins, S. D. (2010). Commentary: Conceptual and methodological challenges to the study of emotion regulation and psychopathology. *Journal of Psychopathology and Behavioral Assessment*, *32*(1), 92-95. doi:10.1007/s10862-009-9169-6

Calkins, S. D., & Marcovitch, S. (2010). Emotion regulation and executive functioning in early development: Integrated mechanisms of control supporting adaptive functioning. In S. D. Calkins & M. A. Bell (Eds.), *Child Development at the Intersection of Emotion and Cognition., Human Brain Development* (pp. 37-57). Washington, DC US: American Psychological Association.

Center for Disease Control and Prevention (2006). Preventing intimate partner violence, sexual violence, and child maltreatment. Retrieved February 1, 2011 from http://www.cdc.gov/ncipc/pub-res/research_agenda/07_violence.htm

Chan, K. L., Brownridge, D. A., Yan, E., Fong, D. Y. T., & Tiwari, A. (2011). Child maltreatment polyvictimization: Rates and short-term effects on adjustment in a representative Hong Kong sample. *Psychology of Violence*, *1*(1), 4-15. doi:10.1037/a0020284

Cohen, S., & Herbert, T. B. (1996). Health psychology: Psychological factors and physical disease from the perspective of human psychoneuroimmunology. *Annual Review of Psychology*, *47*, 113–142. doi:10.1146/annurev.psych.47.1.113

Covell, K., & Abramovitch, R. (1987). Understanding emotion in the family: Children's and parents' attributions of happiness, sadness, and anger. *Child Development*, *58*, 985–991.

Cummings, E. M., Vogel, D., Cummings, J. S., & El-Sheikh, M. (1989). Children's responses to different forms of expression of anger between adults. *Child Development*, *60*(6), 1392-1404.

DeBoard-Lucas, R. L., Fosco, G. M., Raynor, S. R., & Grych, J. H. (2010). Interparental conflict in context: Exploring relations between parenting processes and children's conflict appraisals. *Journal of Clinical Child and Adolescent Psychology*, *39*(2), 163-175. doi:10.1080/15374410903532593

DePrince, A. P., Weinzierl, K. M., & Combs, M. D. (2009). Executive function performance and trauma exposure in a community sample of children. *Child Abuse & Neglect*, *33*(6), 353-361. doi:10.1016/j.chiabu.2008.08.002

DeVoe, E. R., & Smith, E. L. (2002). The impact of domestic violence on urban preschool children: Battered mothers' perspectives. *Journal of Interpersonal Violence*, *17*(10), 1075-1101. doi:10.1177/088626002236661

Edelson, J. L. (1999). The overlap between child maltreatment and woman battering. *Violence Against Women*, *5*, 134-154.

Fantuzzo, J. W., & Fusco, R. A. (2007). Children's direct exposure to types of domestic violence crime: A population-based investigation. *Journal of Family Violence*, *22*(7), 543-552. doi:10.1007/s10896-007-9105-z

Fosco, G. M., & Grych, J. H. (2008). Emotional, cognitive, and family systems mediators of children's adjustment to interparental conflict. *Journal of Family Psychology*, *22*(6), 843-854. doi:10.1037/a0013809

Fusco, R. A., & Fantuzzo, J. W. (2009). Domestic violence crimes and children: A population-based investigation of direct sensory exposure and the nature of involvement. *Children and Youth Services Review*, *31*(2), 249-256. doi:10.1016/j.childyouth.2008.07.017

Gerard, J. M., Buehler, C., Franck, K., & Anderson, O. (2005). In the eyes of the beholder: cognitive appraisals as mediators of the association between interparental conflict and youth maladjustment. *Journal of Family Psychology, 19*(3), 376-384. doi:10.1037/0893-3200.19.3.376

Graham, J. W., Olchowski, A. E., & Gilreath, T. D. (2007). How many imputations are really needed? Some practical clarifications of multiple imputation theory. *Prevention Science, 8*(3), 206–213. doi:10.1007/s11121-007-0070-9

Graham-Bermann, S. A. (1996). Family worries: Assessment of interpersonal anxiety in children from violent and nonviolent families. *Journal of Clinical Child Psychology, 25*(3), 280-287.

Graham-Bermann, S. A. (2011). Evidence-based practices for school-age children exposed to intimate partner violence and evaluation of the Kids' Club Program. In *How Intimate Partner Violence Affects Children: Developmental Research, Case Studies, and Evidence-Based Intervention* (S. A. Graham-Bermann & A. A. Levendosky, Eds.). American Psychological Association Books: Washington, D.C. pp.197-206.

Graham-Bermann, S. A., De Voe, E. R., Mattis, J. S., Lynch, S., & Thomas, S. A. (2006). Ecological predictors of traumatic stress symptoms in Caucasian and ethnic minority children exposed to intimate partner violence. *Violence Against Women, 12*(7), 663-692. doi:10.1177/1077801206290216

Graham-Bermann, S. A. & Follett, C. (2000). *Fostering Resilience in Young Children Exposed to Violence.* Department of Psychology, University of Michigan.

Graham-Bermann, S. A., Gruber, G., Howell, K. H., & Girz, L. (2009). Factors discriminating among profiles of resilience and psychopathology in children exposed to intimate partner violence (IPV). *Child Abuse & Neglect, 33*(9), 648–660.

Graham-Bermann, S. A., Howell, K. H., Miller, L. E., Kwek, J., & Lilly, M. M. (2010). Traumatic events and maternal education as predictors of verbal ability for preschool children exposed to intimate partner violence (IPV). *Journal of Family Violence, 25*(4), 383-392. doi:10.1007/s10896-009-9299-3

Graham-Bermann, S.A. & Levendosky, A. A. (1997). The social functioning of preschool-age children whose mothers are emotionally and physically abused. *Journal of Emotional Abuse, 1*(1), 59-84.

Graham-Bermann, S. A., & Perkins, S. (2010). Effects of early exposure and lifetime exposure to intimate partner violence (IPV) on child adjustment. *Violence and Victims, 25*(4), 427-439. doi:10.1891/0886-6708.25.4.427

Graham-Bermann, S. A., & Seng, J. (2005). Violence exposure and traumatic stress symptoms as additional predictors of health problems in high-risk children. *The Journal of Pediatrics, 146*(3), 349-354. doi:10.1016/j.jpeds.2004.10.065

Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin*, *108*(2), 267-290. doi:10.1037/0033-2909.108.2.267

Grych, J. H., Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development*, *71*(6), 1648-1661. doi:10.1111/1467-8624.00255

Grych, J. H., Harold, G. T., & Miles, C. J. (2003). A prospective investigation of appraisals as mediators of the link between interparental conflict and child adjustment. *Child Development*, *74*(4), 1176-1193. doi:10.1111/1467-8624.00600

Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The Children's Perception of Interparental Conflict Scale. *Child Development*, *63*(3), 558–572.

Harold, G. T., Aitken, J. J., & Shelton, K. H. (2007). Inter-parental conflict and children's academic attainment: A longitudinal analysis. *Journal of Child Psychology and Psychiatry*, *48*(12), 1223-1232.

Kennedy, A. C., Bybee, D., Sullivan, C. M., & Greeson, M. (2010). The impact of family and community violence on children's depression trajectories: Examining the interactions of violence exposure, family social support, and gender. *Journal of Family Psychology*, *24*(2), 197-207. doi:10.1037/a0018787

Kellogg, N. D., & Menard, S. W. (2003). Violence among family members of children and adolescents evaluated for sexual abuse. *Child Abuse & Neglect*, *27*(12), 1367–1376.

Kerig, P. K., Fedorowicz, A. E., Brown, C. A., Patenaude, R. L., & Warren, M. (1999). When warriors are worriers: Gender and children's coping with interparental violence. *Journal of Emotional Abuse*, *1*(2), 89-114. doi:10.1300/J135v01n02

Kochanska, G., DeVet, K., Goldman, M., Murray, K., & Putnam, S. P. (1994). Maternal reports of conscience development and temperament in young children. *Child Development*, *65*(3), 852–868.

Kuelbs, C. L. (2009). The impact of intimate partner violence on children. In C. Mitchell & D. Anglin (Eds.), *Intimate Partner Violence: A Health-Based Perspective.* (pp. 499-509). New York, NY US: Oxford University Press.

Lieberman, A. F., Van Horn, P., & Ippen, C. G. (2005). Toward evidence-based treatment: Child-parent psychotherapy with preschoolers exposed to marital violence. *Journal of the American Academy of Child and Adolescent Psychiatry*, *44*(12), 1241–1248.

LoBue, V., & DeLoache, J. S. (2010). Superior detection of threat-relevant stimuli in infancy. *Developmental Science*, *13*(1), 221-228. doi:10.1111/j.1467-7687.2009.00872.x

LoBue, V., & Larson, C. L. (2010). What makes an angry face look so… angry? Examining visual attention to the shape of threat in children and adults. *Visual Cognition*, *18*(8), 1165-1178. doi:10.1080/13506281003783675

McDonald, R., & Grych, J. H. (2006). Young children's appraisals of interparental conflict: Measurement and links with adjustment problems. *Journal of Family Psychology*, *20*(1), 88-99. doi:10.1037/0893-3200.20.1.88

McDonald, R., Jouriles, E. N., Ramisetty-Mikler, S., Caetano, R., & Green, C. E. (2006). Estimating the number of American children living in partner-violent families. *Journal of Family Psychology*, *20*(1), 137-142. doi:10.1037/0893-3200.20.1.137

McDonald, R., Jouriles, E. N., Tart, C. D., & Minze, L. C. (2009). Children's adjustment problems in families characterized by men's severe violence toward women: Does other family violence matter? *Child Abuse & Neglect*, *33*(2), 94-101. doi:10.1016/j.chiabu.2008.03.005

McFarlane, J., & Soeken, K. (1999). Weight change of infants, age birth to 12 months, born to abused women. *Pediatric Nursing*, *25*(1), 19-23.

Miller, L.E., Howell, K.H., & Graham-Bermann, S.A. (2012). Preschoolers' appraisals of interparental conflict in families experiencing intimate partner violence. *Journal of Interpersonal Violence*, *27*(3), 545-563. doi: 10.1177/0886260511421675

Onyskiw, J. E. (2003). Domestic violence and children's adjustment: A review of research. *Journal of Emotional Abuse*, *3*(1-2), 11-45. doi:10.1300/J135v03n01_02

Onyskiw, J. E., & Hayduk, L. A. (2001). Processes underlying children's adjustment in families characterized by physical aggression. *Family Relations*, *50*(4), 376–385.

Page, T., & Bretherton, I. (2003). Gender differences in stories of violence and caring by preschool children in post-divorce families: Implications for social competence. *Child & Adolescent Social Work Journal*, *20*(6), 485-508. doi:10.1023/B:CASW.0000003140.44020.ba

Pak, L. L., Reece, E. A., & Chan, L. (1998). Is adverse pregnancy outcome predictable after blunt abdominal trauma? *American Journal of Obstetrics and Gynecology*, *179*(5), 1140-1144. doi:10.1016/S0002-9378(98)70121-8

Paterson, J., Carter, S., Gao, W., Cowley-Malcolm, E., & Iusitini, L. (2008). Maternal intimate partner violence and behavioural problems among Pacific children living in New Zealand. *Journal of Child Psychology and Psychiatry*, *49*(4), 395-404. doi:10.1111/j.1469-7610.2007.01841.x

Pelcovitz, D., Kaplan, S. J., DeRosa, R. R., Mandel, F. S., & Salzinger, S. (2000). Psychiatric disorders in adolescents exposed to violence and physical abuse. *American Journal of Orthopsychiatry*, *70*(3), 360-369. doi:10.1037/h0087668

Richmond, M. K., & Stocker, C. M. (2007). Changes in children's appraisals of marital discord from childhood through adolescence. *Journal of Family Psychology*, *21*(3), 416-425. doi:10.1037/0893-3200.21.3.416

Rubin, K. H., Coplan, R. J., Fox, N. A., & Calkins, S. D. (1995). Emotionality, emotion regulation, and preschoolers' social adaptation. *Development and Psychopathology*, *7*(1), 49-62. doi:10.1017/S0954579400006337

Shelton, K. H., & Harold, G. T. (2008). Interparental conflict, negative parenting, and children's adjustment: Bridging links between parents' depression and children's psychological distress. *Journal of Family Psychology*, *22*(5), 712-724. doi:10.1037/a0013515

Shonk, S. M., & Cicchetti, D. (2001). Maltreatment, competency deficits, and risk for academic and behavioral maladjustment. *Developmental Psychology*, *37*(1), 3-17. doi:10.1037/0012-1649.37.1.3

Slesnick, N., Erdem, G., Collins, J., Patton, R., & Buettner, C. (2010). Prevalence of intimate partner violence reported by homeless youth in Columbus, Ohio. *Journal of Interpersonal Violence*, *25*(9), 1579-1593. doi:10.1177/0886260509354590

Stride, S., Geffner, R., & Lincoln, A. (2008). The physiological and traumatic effects of childhood exposure to intimate partner violence. *Journal of Emotional Abuse*, *8*(1-2), 83-101. doi:10.1080/10926790801984507

Swartz, J. R., Graham-Bermann, S.A., Mogg, K., Bradley, B.P., & Monk, C.S. (2011). Attention bias to emotional faces in young children exposed to intimate partner violence. *Journal of Child and Adolescent Trauma*, *4*(2), 109-122. doi: 10.1080/19361521.2011.573525

Thompson, R., Bonomi, A., Anderson, M., Reid, R., Dimer, J., Carrell, D., & Rivara, F. (2006). Intimate partner violence: Prevalence, types, and chronicity in adult women. *American Journal of Preventive Medicine*, *30*(6), 447-457. doi:10.1016/j.amepre.2006.01.016

Ybarra, G. J., Wilkens, S. L., & Lieberman, A. F. (2007). The influence of domestic violence on preschooler behavior and functioning. *Journal of Family Violence*, *22*(1), 33-42. doi:10.1007/s10896-006-9054-y

Zinzow, H. M., Ruggiero, K. J., Resnick, H., Smith, D., Saunders, B., & Kilpatrick, D. (2009). Prevalence and mental health correlates of witnessed parental and community violence in a national sample of adolescents. *Journal of Child Psychology and Psychiatry*, *50*(4), 441-450. doi:10.1111/j.1469-7610.2008.02004.x

Chapter II.

Developmental Changes in Threat and Self-Blame for Preschoolers Exposed to Intimate Partner Violence (IPV)

An estimated 275 million children worldwide are exposed to intimate partner violence (IPV) each year (UNICEF, 2005). In particular, it appears that children under the age of 6 are at highest risk of exposure (Fantuzzo & Fusco, 2007; Finkelhor, Ormrod, Turner, & Hamby, 2005), perhaps because of greater dependence on caregivers and fewer resources outside of the home as compared to older children (Howell & Graham-Bermann, 2011). Not only are these children at risk for the emotional trauma of being an eyewitness to such violence, but they are frequently victimized themselves – either due to co-occurring physical abuse by a family member, harsh physical punishment or due to accidental injuries occurring during the course of their parents' violent altercations (Fusco & Fantuzzo, 2009; Graham-Bermann & Perkins, 2010; Zolotor, Theodore, Coyne-Beasley, & Runyan, 2007). A large number of studies have documented the relationship between this exposure and children's emotional, behavioral, health, social, and cognitive problems (Graham-Bermann, Gruber, Howell & Girz, 2009; Graham-Bermann, Howell, Miller, Kwek, & Lilly, 2010; Kennedy, Bybee, Sullivan, & Greeson, 2010; Onyskiw, 2003; Onyskiw & Hayduk, 2001).

In addition to establishing the direct links between violence exposure and child developmental psychopathology, research has increasingly looked to mediating and moderating factors as a way of understanding how and why these negative outcomes unfold across development (e.g., DeBoard-Lucas, Fosco, Raynor, & Grych, 2010; Kennedy, et al., 2010; Miller, Howell, & Graham-Bermann, 2012a, Shelton & Harold, 2008). With this body

of research the field of violence studies is poised to make important recommendations concerning potential risk and protective factors for young children. For example, one recent study examined the complex, longitudinal interaction effects of parental depression, interparental conflict and child internalizing problems (Shelton & Harold, 2008). Other research has indicated the moderating role of family social support on child outcomes (Graham-Bermann et al., 2010; Kennedy et al., 2010; Miller, VanZomeren-Dohm, Howell, Hunter, & Graham-Bermann, in press).

One specific line of research on mediating factors has focused on children's cognitive interpretation, or *appraisal* of the conflict they witness. Such research was originally pioneered with late childhood and early adolescent populations, focusing on families with non-violent conflict (Grych, Fincham, Jouriles, & McDonald, 2000). The measure designed to assess these attributions, the *Children's Perception of Interparental Conflict Scale* (CPIC; Grych, Seid, & Fincham, 1992) evaluates appraisals of *threat* and *self-blame*, which researchers predicted would be related to increased adjustment problems in children. Extensive research on these constructs with children living in non-violent families has produced a consistent mediating effect of maladaptive cognitive appraisals on internalizing behavior problems in children. This result has been extremely consistent across studies examining a wide range of ages (e.g., Ablow, Measelle, Cowan, & Cowan, 2009; Gerard, Buehler, Franck, & Anderson, 2005; Grych, Fincham, Jouriles, & McDonald, 2000; McDonald & Grych, 2006).

Yet it should be noted that the examination of gender differences in these studies has shown more mixed results. No studies have discovered gender differences in children's basic perceptions of threat in any age range (e.g., Grych, et al., 1992; McDonald & Grych, 2006; McDonald, et al., 2009). However, children's reports of self-blame have shown somewhat different results – with a few studies reporting higher levels of self-blame appraisals in girls

(e.g., Kerig, Fedorowicz, Brown, Patenaude, & Warren, 1999; Miller, Howell, & Graham-Bermann, 2012b).

In addition to differences in appraisals by gender, there is evidence that children's appraisals may further vary by age. This assertion is relatively tenuous given that the majority of research on cognitive appraisals of violence has been cross-sectional. One study examining 8-12 year old children found that younger children (8-10) reported higher levels of threat and self blame than did older children (10-12; Jouriles, et al., 2000). However, the association between appraisals and adjustment problems was more strongly related in older children, leading Jouriles and colleagues (2000) to conclude that while younger children reported higher levels of maladaptive cognitions, they may be a less potent predictor of adjustment problems. One longitudinal study assessing the effects of age on children's appraisals (8-19 years) in non-violent families has been conducted (Richmond & Stocker, 2007). The results of this study indicated that children's appraisals of threat decrease rapidly between childhood and early adolescence, but children's appraisals of self-blame are relatively unchanged over time. Although there has been little longitudinal research on appraisals and even less on very young children, available studies suggest a general decline in maladaptive cognitive appraisals over time.

Researchers have recently prompted others to focus additional studies on cognitive appraisals in children exposed to more severe levels of interparental conflict or IPV (Fosco, DeBoard, & Grych, 2007). Despite this call to research in these high-risk populations, only one study has examined those children most at risk for violence exposure – those under the age of 6 (Miller, et al., 2012b). This is, perhaps, in part due to the reluctance of researchers to glean self-report data on the cognitions of very young children due to doubts about their linguistic and cognitive abilities (e.g., Piaget, 1952). Yet, contemporary studies have given reason to believe that while not all of these young children are capable of self-reporting

internal cognitions, a significant proportion are in fact able to do so (Hughes, Lecce, & Wilson, 2007; Miller, et al., 2012b).

The Current Study

The recent examination of this younger population of children is a first step in filling the large gap in research on children's cognitive appraisals of threat and self-blame. Yet the longitudinal development of these cognitions has rarely been examined in older children, and has never before been addressed in children exposed to IPV who are under the age of 6. The current study therefore proposes to expand current knowledge on the development of cognitive appraisals in the early childhood years by examining 4 to 6 year old children who have been recently exposed to IPV.

Study 1 Aims and Hypotheses

Due to the lack of research on children's appraisals of threat and self-blame for this age group, Study 1 seeks to examine how these appraisals naturally develop over time. For each of these hypotheses, changes will be examined across three time points (baseline, 5 weeks later, and 6 to 8 month follow-up). It is hypothesized that:

1) As children age their attributions of threat and self-blame will naturally decrease over time.
2) There will be a main effect of gender on children's appraisals of self-blame, such that girls will have higher levels of self-blame overall than will boys. No differences in child appraisals of threat are hypothesized.

Methods

Participants

The study included 68 preschool-aged children exposed to severe IPV in the past two years. Children ranged in age from 4-6 years old (M = 4.93, SD = .82). There were 37 boys

and 31 girls. Forty-four percent of the children were European American, 32% were African American, 18% were Biracial, and 6% were Hispanic American.

Procedures

The data for this dissertation are derived in part from a larger, ongoing study of the efficacy of an intervention program for preschool-aged children exposed to intimate partner violence (Graham-Bermann, 2006-2011). All study materials and procedures were approved by the Institutional Review Board of the University of Michigan. Mothers and their preschool-aged children were recruited using advertisements and flyers posted in a variety of cooperating public agencies, such as county legal, medical, and mental health services, shelters, and stores. The advertisements included a toll free number and email address (See Appendix I). After contacting the study coordinator, the mothers completed a brief phone screen to determine whether she had experienced severe IPV in the past 2 years and had a 4 to 6 year old child living in the home. If mothers and their children met these criteria for inclusion and were interested in participating, they were scheduled for an initial interview. The study coordinator scheduled this interview at a location that was both convenient for the mother and maintained the health and safety of all participants and interviewers. For example, if there was no abuser living in the home, mothers were given the option of completing the interview at home. If there was an abusive partner living in the home, however, mothers were offered the opportunity to meet at the research lab, a women's shelter, or at another location of their choosing (e.g., a public library).

Following informed consent and child assent for participation, mothers and children completed the interviews, which were conducted by trained graduate and undergraduate students. Mothers' interviews lasted approximately 1.5 hours and children's interviews lasted approximately 30 minutes. Child interviewers were trained to take breaks as necessary throughout the interview in order to maximize children's attention to interview content.

Mothers received $25 for their participation and children received a toy valued at approximately $4. At the conclusion of the baseline interview, each mother provided interviewers with updated contact information. Each mother also provided signed consent to contact other close family members and friends to obtain the mother's contact information in case the family moved or had a phone number change between interviews. Mothers who were interested in obtaining resources (including intervention) for themselves and their children were placed on a 5 week wait-list for treatment and provided community resources for housing, mental health, and legal services.

Measures

Demographics. Mothers completed a questionnaire to gather basic background information such as a mother's age, the age of her child**,** income, ethnicity, educational attainment, housing history and relationship status (See Appendix A)

Intimate Partner Violence. Family violence was assessed with the Revised Conflict Tactics Scales (CTS2; Straus, et al., 1996). The CTS2 is a 78-item instrument measuring the severity and frequency of Psychological Aggression (e.g., "My partner accused me of being a lousy lover"), Physical Assault (e.g., "My partner slapped me"), Injury (e.g., "You had a broken bone from a fight with your partner"), Sexual Coercion (e.g., "My partner insisted that I have sex when I didn't want to"), and Negotiation (e.g., "My partner agreed to try a solution I suggested") over the past year in a couple's relationship. A total of 39 maternal victimization questions were administered (See Appendix B). For each item, mothers were asked to estimate the frequency with which their partner had used different violence tactics toward them within the past year. Though the CTS2 was given at all time points, only the baseline and 6 to 8 month follow-up data were used as the 5 weeks between baseline and first follow-up would be insufficient time to examine changes in violence over the past year. The CTS2 has been shown to be reliable, with subscales ranging from α=.79 to α=.95 (Straus, et

al., 1996). At follow-up, only scales assessing physical assault, sexual coercion, and injury were included as other subscales were inconsistently administered. The reliabilities for the CTS2 Total Scale at each measurement time point in the present study were (α) .81 at baseline and .91 at follow-up with subscales of Negotiation (α=.65), Psychological Aggression (α=.60), Physical Assault (α=.72, .87), Sexual Coercion (α=.80, .82), and Injury (α=.62, .47).

Children's Appraisals of Interparental Conflict. Appraisals were assessed using the Children's Perception of Interparental Conflict Scale (CPIC; Grych, et al., 1992), a 48-item measure of school-aged children's constructs that has three subscales: Conflict Properties, Self-Blame and Threat (See Appendix F). The *Conflict Properties* subscale includes: Frequency (e.g. "I never see my parents arguing or disagreeing"), Intensity (e.g. "My parents get really mad when they argue"), and Resolution (e.g. "When my parents argue, they usually make up right away"). The *Self-Blame* subscale includes: Content (e.g. "My parents' arguments are usually about me") and Self-Blame (e.g. "It's usually my fault when my parents argue."). The *Threat* subscale includes: Threat (e.g. "I get scared when my parents argue") and Coping Efficacy (e.g. "I don't know what to do when my parents have arguments.") For each item, children can choose whether it is true (2), sometimes true (1) or not true (0) of their families. A number of accommodations were made make the measure amenable to administration in preschool-aged populations. Interviewers first taught children hand gestures that would help them express their answers (e.g., spreading their arms wide for "true", more narrowly for "sometimes true" and crossing their hands over their chest for "not true"). In order to ensure that children were cognizant of possible responses, interviewers then guided children through a series of "practice" questions wherein they responded with the prescribed response set to a series of statements (e.g., "I like ice cream"). Interviewers were also trained to take frequent breaks to prevent child fatigue. This measure has been used in a number of studies with test-retest reliability ranging from .68 to .76 (Grych, et al., 1992).

Scale reliabilities for the current study can be found in Table 1. Broadband scales were used for Threat and Self-Blame. The Conflict Properties scale was not used as a broadband scale due to failure to cohere to a clear factor structure (See Principal Component Analyses, below), but the subscales of Intensity and Resolution were used as these had adequate factor structure and reliability (See Table 2.1).

Child Comprehension. Children's comprehension of the interview was assessed using the vocabulary subtest of the *WPPSI-III* (Wechsler, 2002) to gain an approximation of the child's verbal ability. This test consists of 25 questions requiring preschoolers to either accurately identify pictures (5 items) or provide definitions for words (20 items). Children's responses were then scored and scaled using national norms. In addition to this, interviewers evaluated children's level of comprehension at the end of each interview. A 5-point Likert scale was used to assess "How much do you think the child understood the questions?" with 1 representing "Not at all" and 5 representing "All of the time"

Analytic Protocol

A previous study using the CPIC with preschool aged children indicated that not all preschoolers are capable of providing valid answering patterns (Miller, Howell & Graham-Bermann, 2012b). Criteria established for inclusion in this previous study will also be used in the current study. In addition, the current study will provide information about the factor structure of this measure using principal components analysis. Items that do not correctly load onto scales or scales that do not hang together in a cohesive structure, given the theoretical basis of the measure, (Grych, Seid, & Fincham, 1992) will be removed. Those children who did not complete the interview, but qualified for inclusion based on other data will have primary outcome scores imputed using multiple imputation with random draws.

Study hypotheses were analyzed multilevel models in STATA. In order to account for multiply imputed data, the "mi estimate" procedure was used, which adjusts the coefficients

and standard errors for variability across the 20 imputations according to the rules for multiple imputed dataset combinations outlined by Rubin (1987; STATA manual, 2012). Data were modeled using full maximum likelihood estimation. For both dependent variables (self-blame and threat, noted here as y_{it}) the following model was fitted with random intercepts:

$$y_{it} = \beta_0 + \beta_1(\text{Time}) + \beta_2(\text{Child Age}) + \beta_3(\text{Intensity}) + \beta_4(\text{Resolution}) + \beta_5(\text{Violence Exposure}) + \beta_6(\text{Child Sex}) + \beta_7(\text{Child Sex*Time}) + u_0 + e_{it}$$

Time was included in each model as a continuous variable, measured in weeks since baseline interview. Child age was measured in months. Here, u_0 represents individual random variation. The term e_{it} accounts for individual error.

Results

Violence Exposure

Due to the inclusion criteria used for the study, all children had been an eyewitness to intimate partner violence. On average, mothers reported that in the past year, there had been 184 incidents of violence (*SD*=129.23). Specifically, mothers reported an average of 93 acts of psychological aggression (*SD*=49.33), 51 acts of physical assault (*SD*=54.06), 25 acts of sexual coercion (*SD*=39.31), and 14 injuries sustained from the violence (*SD*=14.17) within the last year.

Drop Analyses

At baseline, 68 children were interviewed, with some attrition at each follow-up point. At five week follow-up, 51 children were interviewed with 36 children completing the final 6 to 8 month follow-up interview. This represents an attrition of 25% between baseline and five-week follow-up and a total cumulative attrition rate of 47% at 6 to 8 month follow-up. Preliminary analyses were conducted to verify that there were no differences based on drop out status. From baseline to five week follow-up, there were significantly more minority children who did not return to the study ($\chi^2(1)=3.90$, $p<.05$). There were no other significant

differences on any other study variable. At 6 to 8 month follow-up, children in the drop out group were significantly more likely to report higher levels of threat at baseline than children in the non-drop group (*M drop*=7.07, *SD*=4.57; *M non-drop*=6.96, *SD*=4.36, t(47)=2.08, $p<.05$). There were no other significant differences between drops and non-drops on any other study variables.

Inclusion Protocol

In addition to children excluded from the analyses based on drop-status, the remaining interviewed children were required to meet a set of inclusion criteria based on previous use of the *Children's Perceptions of Interparental Conflict Scale* with preschool aged children. These criteria were enforced to eliminate possible random responses due to insufficient cognitive as well as language development (Miller, Howell, & Graham-Bermann, 2012b). This is an especially important analytic protocol to employ with preschoolers exposed to IPV as there is evidence that the verbal ability of these children may be suppressed as compared to their non-exposed peers (Graham-Bermann, Howell, Miller, Kwek & Lilly, 2010). As such, children who fulfilled any of the three following criteria were dropped from the analyses: (1) an interviewer rating of "no understanding" regarding comprehension of interview material (2) a verbal ability score in the extremely low range (Scaled Score <5) and (3) measure completion rate of less than 40%. Of the 68 children interviewed at baseline, 10 of these children's interviews were dropped based on the above criteria. As compared to children who met inclusion criteria for valid responding, children who were dropped from the analyses were younger (age in months, *M drop*=56.05, *SD*=10.48; *M non-drop*=65.16, *SD*=9.75; t(66)=-2.70, $p<.05$), had less housing instability (moves in the past 4 years, *M drop*=1.30, *SD*=0.82; *M non-drop*=2.97, *SD*=3.00; t(53.44)=-3.53, $p<.01$), and had mothers who reported less use of positive negotiation strategies to resolve conflict (*M drop*=28.40, *SD*=25.51; *M non-drop*=52.75, *SD*=28.98; t(66)=-2.49, $p<.05$). Children who were dropped from the analyses

did not differ from non-drops based on any other demographic characteristic (e.g., ethnicity, maternal education, sex) and were not living in homes with significantly different levels of intimate partner violence. At five week follow-up, 6 of 51 interviewed children were dropped. There were no significant differences on any study variable for children dropped at the five week follow-up interview as compared to children who qualified for inclusion. Finally, at 6 to 8 month follow-up, two of 36 interviewed children were dropped. These two children had mothers who reported significantly less psychological aggression at baseline (*M drop* =12.00, *SD*=14.14; *M non-drop*=101.72, *SD*=47.30; t(34)=2.64, $p<.05$) and significantly higher use of positive negotiation strategies (*M drop*=70.50, *SD*=2.12; *M non-drop*=55.29, *SD*=28.14; t(30.34)=-3.00, $p<.05$). The final sample included 58 children at baseline, 45 children at 5-week follow-up, and 34 children at 6 to 8 month follow-up.

Principal Component Analyses

In order to further enhance the accuracy and validity of the results, principal components analyses were conducted to determine whether preschool aged children's responses factored in a similar manner as did older children. The current study used the same varimax rotation method employed in the original factor analysis of the measure (Grych, Seid, & Fincham, 1992). Each omnibus scale was examined separately to determine whether the identified subscales factored correctly within the scale. Items that had poor factor loadings (<.40) or that were not consistent with any theoretically reasonable factor solution were removed. With regards to the Threat scale, a two factor solution was obtained, with all kept items loading onto their originally proposed subscales (Threat and Coping Efficacy). Items 6, 23, and 45 were removed ("When my parents argue I can do something to make myself feel better", "When my parents argue or disagree I can usually help make things better", and "When my parents argue, I worry they might get divorced"). Analyses of the Self-Blame scale also resulted in a two factor solution. However, it should be noted that items 9 and 47

were removed from the self-blame subscale due to poor factor loading ("I'm not to blame when my parents have arguments" and "Usually it's not my fault when my parents have arguments") and item 41 ("My parents blame me when they have arguments") loaded onto the content subscale rather than the original loading on the Self-blame subscale. As such, that item was included in the Content subscale in the current analyses. Finally, the Conflict Properties subscale was examined. The current study was unable to replicate a three factor structure for this omnibus scale. However, when the subscales were examined in isolation, they did cohere to single factor structure scales once some items were removed (Items 1, 36 and 46; "I never see my parents arguing or disagreeing", "My parents hardly ever yell when there is a disagreement", and " My parents still act mean after they have an argument"). It should be noted that removed items were primarily items that were negatively worded or were at the end of the measure.

Imputation Procedure

Following this analysis, multiple imputation was used to complete data for those children meeting inclusion criteria, but failing to fully complete the *CPIC* interview. Twenty imputations of the data were completed in STATA 12. The creation of 20 datasets is a recent estimate of the number of datasets required to create stable estimates with minimal bias and maximum power (Graham, Olchowski, & Gilreath, 2007). The specific imputation procedure employed was multivariate normal ("mi impute mvn"), which is recommended for repeated measures data, as it takes into account the clustering of responses within each individual, and recognizes that these are related over time (Allison, 2002). That is, this specific procedure recognizes that the best predictor of a person's score at one time point is their score and other time points (Engels & Diehr, 2002).

Threat and Self-Blame Analyses

Descriptive analyses of the CPIC omnibus scales and subscales can be found in Table 1.

[Insert Table 2.1 here]

Prior to conducting multilevel analyses, direct relationships between study variables were examined in order to determine model construction. Correlational analyses can be found in Table 2.2. Each model tested for the fixed effects of child age and violence exposure, child sex, and child sex over time and included a random intercept.

[Insert Table 2.2 here]

Time Effects. In order to test the first hypothesis regarding change in threat and self-blame over time. Unconditional models were first run, including only time effects with random intercepts. The model for threat was non-significant, indicating no significant growth or decline in children's appraisals over time. The model for self-blame was significant ($F=6.59$, $p<.05$), and showed that children's appraisals of threat rose over time ($\beta=0.02$, $p<.05$). These results were also evident in the full models presented below.

Threat. Multi-level modeling with random intercepts was employed to test changes in children's appraisals of threat over time, controlling for child age in months and for exposure to violence (by child and maternal reports) at baseline. Results were the same whether or not these control variables were mean centered. Children's reports of conflict frequency were not used in the model as internal reliability on this subscale was poor (See Table 2.1). No significant between-group differences were found, indicating no differences in child sex at baseline. Children's perception of threat was significantly related to their own reports of the intensity of the conflicts they witnessed at baseline ($\beta=.75$, $t=4.86$, $p<.001$). Specifically, increased rates of child perception of parental conflict intensity at baseline were

related to higher appraisals of threat. Notably, older children reported significantly lower levels of threat than did younger children at baseline (β=-1.57, t=-2.51, $p<.05$).

[Insert Table 2.3 here]

Self-Blame. Multi-level modeling with random intercepts was also used to assess children's appraisals of self-blame over time. Children's perceptions of self-blame did change in relation to their appraisals of parental resolution of conflict at baseline, with a trend showing children reporting greater self-blame when parents were more effective in resolving conflict (β=-.28, t=-1.99, $p<.05$). Self-blame was not significantly related to child age at baseline. There was also a trend present indicating that girls reported higher levels of self-blame than boys did boys (β=-1.66, t=-1.81, $p=.07$), and that this main effect did not change as time progressed.

Discussion

The results of the current study are important in that they provide longitudinal data on a population that has received relatively little investigation to date. The first hypothesis postulated decreases in young children's appraisals of threat and self-blame over time. This hypothesis was not supported, as children's appraisals of threat showed no change over time, and children's appraisals of self-blame increased. This finding is consistent with previous literature that shows stability in perceptions of threat across the period of one year (Ablow, et al., 2009). However, children's appraisals of threat were related to child age at entry into the study, indicating that there may be some developmental differences in appraisals of threat across 4 to 6 year olds. Although this provides preliminary insight into changes and stability of threat and self-blame in the preschool years, more research needs to be done in order to examine the timing and course of these developmental changes. This research would benefit from the use of multi-method assessment of threat including cognitive, physiological, and observational measures that extend over a longer period of time (e.g., Hoehl & Striano, 2008;

Kinzler & Shutts, 2008). Using longer assessment time periods, as well as a multi-method assessment of threat, may help identify drops in children's perceptions of threat over time as have been found in studies of older children (e.g., Richmond & Stocker, 2007).

The relatively consistent course of children's appraisals of threat and self-blame also indicates a high need for intervention with this young population. Many research studies have linked the presence of threat and self-blame to negative mental health outcomes for children at all stages of development (e.g. Dodd, Hudson, Morris & Wise, 2012; Kiel & Buss 2011; McDonald & Grych, 2006). Most of these studies have been cross-sectional and have therefore not differentiated children who are experiencing cross-sectionally heightened self-blame/threat from those with prolonged and stable maladaptive attributions. Given research that shows that the stability of depressed cognitions in children places children at high risk for perpetuation of negative mood states (e.g., Cole, et al., 2011), one would expect that the stability of these maladaptive appraisals of IPV may also place these children at especially heightened risk for developmental psychopathology.

The second hypothesis was partially supported. First, there were no differences in threat appraisal by child sex. This finding supports the large body of research on threat appraisal across development, which consistently shows no differences by child sex (e.g., Grych, et al., 1992; McDonald & Grych, 2006; Miller, et al., 2012). There was, however, some evidence for differences in children's appraisals of self-blame by child sex, with a trend for higher reports of self-blame in girls. This finding holds with other research in child development that shows higher rates of self-blame, shame, and guilt – a gender difference that first arises in the preschool years (Kochanska, De Vet, Goldman, Murray & Putman, 2008).

One notable (and unexpected) finding of the current study is that there was a trend for higher threat and self-blame when children reported *more* conflict resolution between their

parents (e.g., “When my parents have an argument, they usually work it out”). One potential explanation for this finding is that children exposed to IPV are at high risk for both violence exposure and victimization (e.g., Finkelhor, Ormrod, Turner, & Hamby, 2005; Jouriles, et al., 2008). Unlike children living in non-violent families, where resolution could enhance emotional security in the parental relationship and foster positive adjustment (Davies, Harold, Goeke-Morey & Cummings, 2002), resolution between couples in chronically violent relationships may extend the length of violence exposure and thereby heighten the risk of child victimization.

Limitations. Despite the strengths of this study in the longitudinal examination of children’s perceptions of threat and self-blame over time, there are a number of important limitations to consider when interpreting these results. First, the sample is unique in that it represents a selected sample of children exposed to severe IPV drawn from a specific region. As such, the results may not be able to be generalized to other populations. More notably, the data collected from these children had inconsistent reliability over time, indicating that the factor structure of the *CPIC* scale for this population may be weaker than it is for older children. One reason for this is that the constructs may have different functional meaning in children exposed to high levels of violence, as evidenced by the unique finding on the conflict resolution subscale.

Although differences in drop/non-drop and included/excluded participants were statistically controlled for in the modeling, it is important to recognize that the resulting sample was generally those children who had better cognitive functioning and may have been exposed to lower levels of certain types of violence (i.e., psychological aggression). It is therefore possible that children who were at the highest-level of risk within this violence exposed group may have unique needs that were not captured by the methods and analyses used in the current study.

It is also important to note that only one type of violence exposure was measured in the current study. This is important to recognize as there is significant overlap between children's exposure to IPV and other types of violence, such as child abuse (Zolotor, et al., 2007). Exposure to other types of violence in addition to exposure to IPV may have important and complex effects on children's appraisals of threat and self-blame as exposure to compound trauma has been shown to have significant impacts on other aspects of child adjustment and functioning (e.g., Margolin, Vickerman, Oliver, & Gordis, 2010; Spinazzola, et al., 2005).

Clinical Implications. Fortunately, the limitations of the current study do not compromise the clinical utility of the results. It appears maladaptive appraisals of threat and self-blame were relatively stable over the time period assessed, though older children did report lower levels of threat than do younger children. The perpetually heightened presence of maladaptive cognitive attributions during a key period of cognitive, emotional, social, and behavioral development may place these children at particular risk for developmental psychopathology. Because of this, it is essential that clinicians monitor and provide appropriate intervention to address these appraisals. This should be done only in conjunction with relevant safety skills training and psychoeducation to prevent any possible physical risk posed to children by restructuring possible threat appraisals that are realistic in import. That is, children's appraisals of threat, especially in populations exposed to high levels of violence, are likely to be at least partially based in a realistic threat assessment (e.g, real threat of harm in the environment). Clinicians should work to decrease appraisals that represent distorted views of threat and risk while maintaining appropriate cognitive appraisals that serve a protective function for children. Further, assistance to the child's family should include ways of reducing the violence and threat to the child.

Future Directions. Future research should examine the development of these appraisals over a longer time period, so as to more completely determine periods of relative stability versus times of change. It may also be helpful to incorporate other measures of threat and self-blame to provide better validation for these cognitive evaluations and determine if changes in threat and self-blame in the preschool years are due to true developmental change in the meaning of these constructs or whether children have difficulty in the reliability of these reports over extended periods of time.

References

Ablow, J. C., Measelle, J. R., Cowan, P. A., & Cowan, C. P. (2009). Linking marital conflict and children's adjustment: The role of young children's perceptions. *Journal of Family Psychology*, *23*(4), 485–499. doi:10.1037/a0015894

Allison, P. D. (2002). Missing data: Quantitative applications in the social sciences. *British Journal of Mathematical and Statistical Psychology*, *55*(1), 193-196.

Gerard, J. M., Buehler, C., Franck, K., & Anderson, O. (2005). In the eyes of the beholder: cognitive appraisals as mediators of the association between interparental conflict and youth maladjustment. *Journal of Family Psychology*, *19*(3), 376–384. doi:10.1037/0893-3200.19.3.376

Cole, D. A., Jacquez, F. M., LaGrange, B., Pineda, A. Q., Truss, A. E., Weitlauf, A. S., Tilghman-Osborne, C., et al. (2011). A longitudinal study of cognitive risks for depressive symptoms in children and young adolescents. *The Journal of Early Adolescence*, *31*(6), 782–816. doi:10.1177/0272431610376248

Davies, P. T., Harold, G. T., Goeke-Morey, M. C., & Cummings, E. M. (2002). Child emotional security and interparental conflict. *Monographs of the Society for Research in Child Development*, *67*(3), vii–viii. doi:10.1111/1540-5834.00205

DeBoard-Lucas, R. L., Fosco, G. M., Raynor, S. R., & Grych, J. H. (2010). Interparental conflict in context: Exploring relations between parenting processes and children's conflict appraisals. *Journal of Clinical Child and Adolescent Psychology*, *39*(2), 163–175. doi:10.1080/15374410903532593

Dodd, H. F., Hudson, J. L., Morris, T. M., & Wise, C. K. (2012). Interpretation bias in preschool children at risk for anxiety: A prospective study. *Journal of Abnormal Psychology*, *121*(1), 28–38. doi:10.1037/a0024589

Engels, J. M., & Diehr, P. (2003). Imputation of missing longitudinal data: A comparison of methods. *Journal of Clinical Epidemiology*, *56*(10), 968–976. doi:10.1016/S0895-4356(03)00170-7

Fantuzzo, J. W., & Fusco, R. A. (2007). Children's direct exposure to types of domestic violence crime: A population-based investigation. *Journal of Family Violence*, *22*(7), 543–552. doi:10.1007/s10896-007-9105-z

Finkelhor, D., Ormrod, R., Turner, H., & Hamby, S. L. (2005). The victimization of children and youth: A comprehensive, national Survey. *Child Maltreatment*, *10*(1), 5–25. doi:10.1177/1077559504271287

Fosco, G. M., DeBoard, R. L., & Grych, J. H. (2007). Making sense of family violence: Implications of children's appraisals of interparental aggression for their short- and long-term functioning. *European Psychologist*, *12*(1), 6–16. doi:10.1027/1016-9040.12.1.6

Fusco, R. A., & Fantuzzo, J. W. (2009). Domestic violence crimes and children: A population-based investigation of direct sensory exposure and the nature of involvement. *Children and Youth Services Review*, *31*(2), 249–256. doi:10.1016/j.childyouth.2008.07.017

Graham, J. W., Olchowski, A. E., & Gilreath, T. D. (2007). How many imputations are really needed? Some practical clarifications of multiple imputation theory. *Prevention Science*, *8*(3), 206–213. doi:10.1007/s11121-007-0070-9

Graham-Bermann, S. A., Gruber, G., Howell, K. H., & Girz, L. (2009). Factors discriminating among profiles of resilience and psychopathology in children exposed to intimate partner violence (IPV). *Child Abuse & Neglect*, *33*(9), 648–660. doi:10.1016/j.chiabu.2009.01.002

Graham-Bermann, S. A., Howell, K. H., Miller, L. E., Kwek, J., & Lilly, M. M. (2010). Traumatic events and maternal education as predictors of verbal ability for preschool children exposed to intimate partner violence (IPV). *Journal of Family Violence*, *25*(4), 383–392. doi:10.1007/s10896-009-9299-3

Graham-Bermann, S. A., & Perkins, S. (2010). Effects of early exposure and lifetime exposure to intimate partner violence (IPV) on child adjustment. *Violence and Victims*, *25*(4), 427–439. doi:10.1891/0886-6708.25.4.427

Grych, J. H., Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development*, *71*(6), 1648–1661. doi:10.1111/1467-8624.00255

Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The Children's Perception of Interparental Conflict Scale. *Child Development*, *63*(3), 558–572.

Hoehl, S., & Striano, T. (2008). Neural processing of eye gaze and threat-related emotional facial expressions in infancy. *Child Development*, *79*(6), 1752–1760. doi:10.1111/j.1467-8624.2008.01223.x

Howell, K. H., & Graham-Bermann, S. A. (2011). The multiple impacts of intimate partner violence on preschool children. In S. A. Graham-Bermann & A. A. Levendosky (Eds.), *How intimate partner violence affects children: Developmental research, case studies, and evidence-based intervention* (pp. 87–107). Washington, DC, US: American Psychological Association.

Hughes, C., Lecce, S., & Wilson, C. (2007). "Do you know what I want?" Preschoolers' talk about desires, thoughts and feelings in their conversations with sibs and friends. *Cognition and Emotion*, *21*(2), 330–350. doi:10.1080/02699930600551691

Jouriles, E. N., McDonald, R., Slep, S., Amy, M., Heyman, R. E., & Garrido, E. (2008). Child abuse in the context of domestic violence: Prevalence, explanations, and practice implications. *Violence and Victims*, *23*(2), 221–235.

Kennedy, A. C., Bybee, D., Sullivan, C. M., & Greeson, M. (2010). The impact of family and community violence on children's depression trajectories: Examining the interactions of violence exposure, family social support, and gender. *Journal of Family Psychology*, *24*(2), 197–207. doi:10.1037/a0018787

Kerig, P. K., Fedorowicz, A. E., Brown, C. A., Patenaude, R. L., & Warren, M. (1999). When warriors are worriers: Gender and children's coping with interparental violence. *Journal of Emotional Abuse*, *1*(2), 89–114. doi:10.1300/J135v01n02

Kiel, E. J., & Buss, K. A. (2011). Prospective relations among fearful temperament, protective parenting, and social withdrawal: the role of maternal accuracy in a moderated mediation framework. *Journal of abnormal child psychology*, *39*(7), 953–966.

Kinzler, K. D., & Shutts, K. (2008). Memory for "mean" over "nice": The influence of threat on children's face memory. *Cognition*, *107*(2), 775–783. doi:10.1016/j.cognition.2007.09.005

Kochanska, G., DeVet, K., Goldman, M., Murray, K., & Putnam, S. P. (1994). Maternal reports of conscience development and temperament in young children. *Child Development*, *65*(3), 852–868.

Margolin, G., Vickerman, K. A., Oliver, P. H., & Gordis, E. B. (2010). Violence exposure in multiple interpersonal domains: Cumulative and differential effects. *Journal of Adolescent Health*, *47*(2), 198–205. doi:10.1016/j.jadohealth.2010.01.020

McDonald, R., & Grych, J. H. (2006). Young children's appraisals of interparental conflict: Measurement and links with adjustment problems. *Journal of Family Psychology*, *20*(1), 88–99. doi:10.1037/0893-3200.20.1.88

McDonald, R., Jouriles, E. N., Tart, C. D., & Minze, L. C. (2009). Children's adjustment problems in families characterized by men's severe violence toward women: Does other family violence matter? *Child Abuse & Neglect*, *33*(2), 94–101. doi:10.1016/j.chiabu.2008.03.005

Miller, L. E., Howell, K. H., & Graham-Bermann, S. A. (2012a). Potential mediators of adjustment for preschool children exposed to intimate partner violence. *Child abuse & neglect*, *36*(9), 671–675. doi:10.1016/j.chiabu.2012.07.005

Miller, L. E., Howell, K. H., & Graham-Bermann, S. A. (2012b). Predictors of preschoolers' appraisals of conflict in families experiencing intimate partner violence. *Journal of Interpersonal Violence*, *27*(3), 568–586. doi:10.1177/0886260511421675

Miller, L. E., VanZomeren-Dohm, A., Howell, K. H., & Graham-Bermann, S. A. (in press). Larger family networks are associated with better adjustment for children exposed to intimate partner violence (IPV). *Journal of Family Issues*.

Onyskiw, J. E. (2003). Domestic violence and children's adjustment: A review of research. *Journal of Emotional Abuse*, *3*(1-2), 11–45. doi:10.1300/J135v03n01_02

Onyskiw, J. E, & Hayduk, L. A. (2001). Processes underlying children's adjustment in families characterized by physical aggression. *Family Relations*, *50*(4), 376–385.

Piaget, J. (1952). The origins of intelligence. *Children*.

Richmond, M. K., & Stocker, C. M. (2007). Changes in children's appraisals of marital discord from childhood through adolescence. *Journal of Family Psychology*, *21*(3), 416–425. doi:10.1037/0893-3200.21.3.416

Shelton, K. H., & Harold, G. T. (2008). Interparental conflict, negative parenting, and children's adjustment: Bridging links between parents' depression and children's psychological distress. *Journal of Family Psychology*, *22*(5), 712–724. doi:10.1037/a0013515

Spinazzola, J., Ford, J. D., Zucker, M., van der Kolk, B. A., Silva, S., Smith, S. F., & Blaustein, M. (2005). Survey evaluates complex trauma exposure, outcome, and intervention among children and adolescents. *Psychiatric Annals*, *35*(5), 433–439.

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues*, *17*(3), 283–316. doi:10.1177/019251396017003001

UNICEF. (2005). Behind closed doors: The impact of domestic violence on children. New York: UNICEF Child Protection Section.

Wechsler, D. (2002). WPPSI-III administration and scoring manual. *San Antonio, TX: Psychological Corporation*.

Zolotor, A. J., Theodore, A. D., Coyne-Beasley, T., & Runyan, D. K. (2007). Intimate partner violence and child maltreatment: Overlapping risk. *Brief Treatment and Crisis Intervention*, *7*(4), 305–321. doi:10.1093/brief-treatment/mhm021

Table 2.1
Study 1 Descriptive Analyses for *Children's Perceptions of Interparental Conflict Scale (CPIC)* Omnibus Scales and Subscales[a] at Three Time Points

	Baseline (N=58)				5 week follow-up (N=45)				6 to 8 month follow-up (N=34)			
	M	SD	Range	α	M	SD	Range	α	M	SD	Range	α
Threat	**8.40**	**4.61**	**0-18**	**.70**	**8.25**	**4.11**	**0-18**	**.65**	**9.27**	**4.50**	**2-18**	**.72**
Self-Blame	**10.28**	**3.24**	**2-14**	**.70**	**10.78**	**3.46**	**0-14**	**.71**	**11.86**	**2.93**	**5-14**	**.76**
Frequency	3.84	2.54	0-10	.55	4.29	2.53	0-9	.44	4.71	2.20	0-9	.13
Intensity	4.24	3.77	0-12	.82	5.10	3.35	0-12	.73	3.78	2.25	0-10	.39
Resolution	3.89	2.86	0-10	.63	3.51	2.73	0-10	.64	3.39	2.75	0-10	.67

[a]Descriptives are reported on non-imputed data

Table 2.2
Study 1 Correlation Analyses of Dissertation Study 1 Variables[a]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Self-Blame	1															
2. Threat	.27*	1														
3. Frequency	.17	.45***	1													
4. Intensity	.14	.52***	.55***	1												
5. Resolution	-.28*	-.18	.22*	.30**	1											
6. CTS Violence	-.05	.12	.08	.07	-.18	1										
7. T2 Self-Blame	.42***	.02	.15	.02	-.02	-.08	1									
8. T2 Threat	-.08	.07	.20	.15	-.08	.05	.30**	1								
9. T2 Frequency	.15	.11	.15	.12	.16	.12	.18	.35**	1							
10. T2 Intensity	-.14	.47***	.38*	.37**	.14	.01	.15	.60***	.47***	1						
11. T2 Resolution	-.06	.22	.23	.40**	.45***	-.02	-.14	.13	.21	.21	1					
12. T3 Self-Blame	.48***	.00	-.02	-.02	-.02	-.08	.43**	.00	.02	-.16	-.12	1				
13. T3 Threat	.17	.02	-.05	-.10	-.27	.01	.09	.26	-.06	-.03	-.22	.22	1			
14. T3 Frequency	.14	-.03	.26	.28	.32*	-.19	.23	.09	.10	.19	.18	.31**	.34**	1		
15. T3 Intensity	.28	.17	.11	.18	-.10	-.17	.11	.04	.15	.15	-.03	.13	.51***	.61***	1	
16. T3 Resolution	.12	-.03	.34*	.18	.29	-.28*	.10	.11	.18	.26	.26	-.03	-.02	.31*	.27	1

*p<.05, **p<.01, ***p<.001, [a]Descriptives are reported on non-imputed data

Table 2.3
Study 1 Multi-level Models for Threat and Self-Blame[b]

	Threat			Self-Blame		
Predictors	β	SE β	t	B	SE β	t
Constant	6.14	1.21	6.14***	11.96	1.02	11.72***
Time	0.01	0.02	0.51	0.03	0.02	1.62[†]
Child Age[c]	-1.57	0.62	-2.51*	-0.57	0.55	-1.02
Intensity	0.75	0.15	4.86***	0.11	0.13	0.85
Resolution	-0.32	0.17	-1.48[†]	-0.28	0.14	-1.99*
CTS Violence	-0.00	0.01	-0.60	-0.00	0.01	-0.78
Child Sex	1.03	1.07	0.96	-1.66	0.92	-1.81[†]
Child Sex*Time	0.01	0.02	0.51	0.00	0.01	0.13
Error Terms	Estimate	Standard Error	Confidence Interval (95%)	Estimate	Standard Error	Confidence Interval (95%)
Individual Intercept Random Effect	4.50e-[6]	.00	.00-.00	1.83	0.55	1.02-3.32
Residual	3.21	0.41	2.49-4.13	2.39	0.39	1.73-3.28

[†]$p<.10$, *$p<.05$, **$p<.01$, ***$p<.001$, [b]Calculated using multiply imputed data, [c]Child age in months mean centered, results the same with un-centered variable for age

Figure 2.1

Estimated linear models of children's reports of threat over time

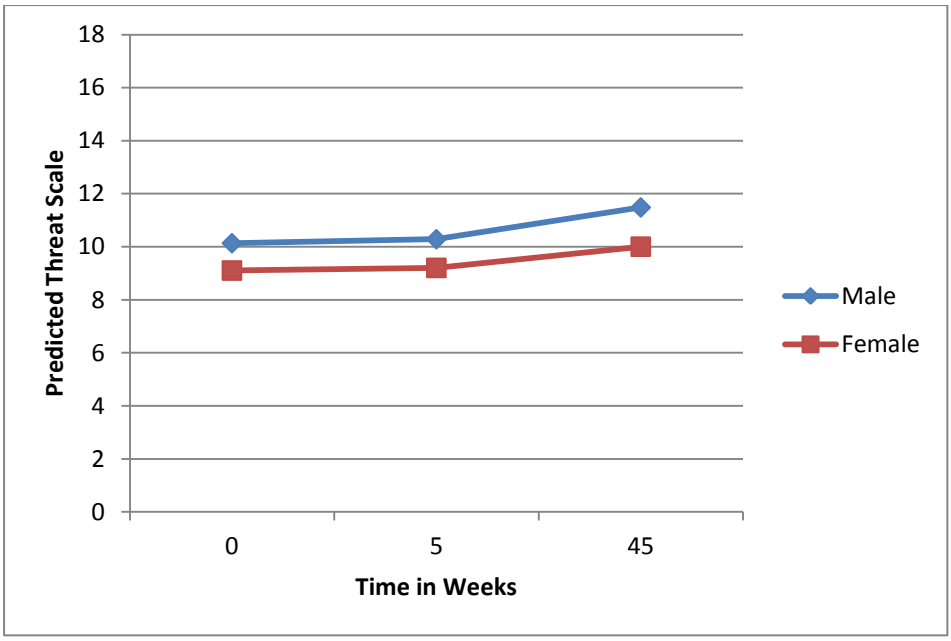
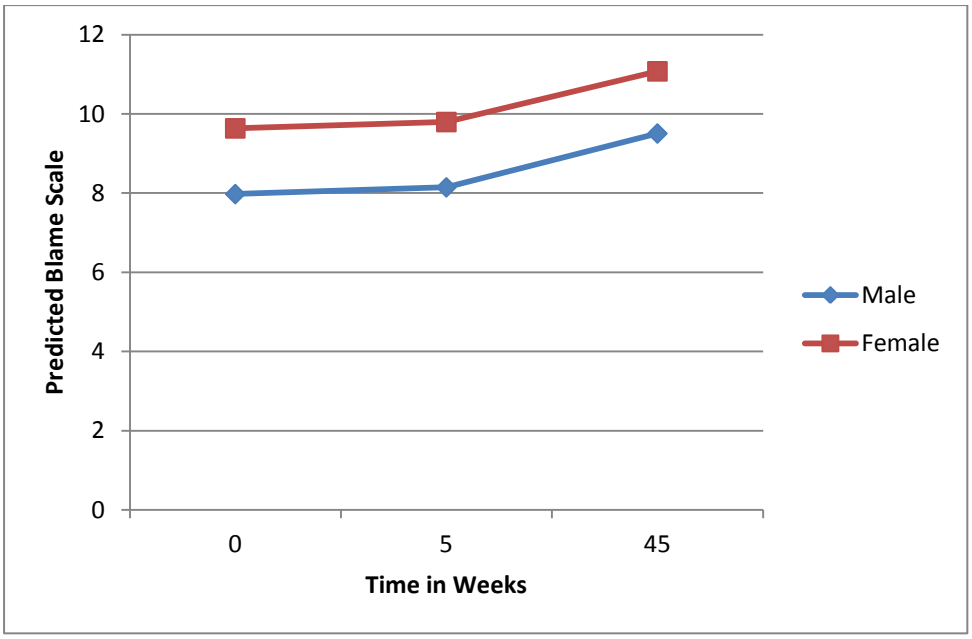


Figure 2.2

Estimated linear models of children's reports of self-blame over time



Chapter III.

Longitudinal Effects of an Evidence-Based Intervention on the Appraisals of Threat and Self-Blame in Young Children Exposed to Intimate Partner Violence (IPV)

Exposure to intimate partner violence (IPV) is unfortunately common, with an estimated 15.5 million American children living in a home where IPV has occurred in the past year (McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006). Although there are a number of direct and significant effects of violence exposure on children's physical, emotional and behavioral health, there has been increasing focus on how children interpret and understand the violence they witness. This investigation was first carried out in children exposed to non-violent conflicts between parents and evaluated the constructs of *threat* and *self-blame* (Grych & Fincham, 1990; Grych, Seid, & Fincham, 1992). Grych and colleagues (1992) standardized and validated a measure known as the *Children's Perception of Interparental Conflict Scale* (CPIC), which assesses these constructs with older, school-aged children, but recent research has made a variety of modifications that have allowed and informed its use with children as young as four (McDonald & Grych, 2006; Miller, et al., 2012, Miller Dissertation Study 1).

It was originally hypothesized that children's appraisals of threat and self-blame would mediate the relationship between exposure to conflict and children's adjustment (Grych & Fincham, 1990). Consequent research has confirmed this hypothesis, with the overwhelming finding across studies being that children's appraisals of threat and self-blame mediate the relationship between interparental conflict and children's internalizing problems (e.g. Ablow, Measelle, Cowan, & Cowan, 2009; Fortin, Doucet, & Damant 2005; Gerard,

Buehler, Franck, & Anderson, 2005; Grych, Harold, & Miles, 2003; Grych, Fincham, Jouriles, & McDonald, 2000; McDonald & Grych, 2006). Emerging evidence from longitudinal models provides additional support for the long-term impact of maladaptive cognitive appraisals on externalizing problems as well (Grych, Harold, & Miles, 2003). In this study by Grych and colleagues (2003), children's appraisals of self-blame mediate the relationship between exposure to conflict at baseline and externalizing problems at follow-up approximately one year later. Findings of this study also show that appraisals of threat mediated the relationship between exposure to marital conflict at baseline and internalizing problems one year later.

Although these relationships have been well-established in children ranging from 7 to 15 years of age, only two studies have assessed cognitive appraisals in children under the age of 6 (Ablow, et al., 2009; Miller, Howell, & Graham-Bermann, 2012). Both of these studies examined primarily cross-sectional relationships between cognitive appraisals and a wide variety of adjustment and family-level factors. In addition to the lack of research on very young children, few studies have examined children living in homes where intimate partner violence is present (Grych, Fincham, Jouriles, & McDonald, 2000; Grych, Jouriles, Swank & McDonald, 2009; Jouriles, Spiller, Stephens, McDonald & Swank, 2000; Miller, et al., 2012). Although past research has provided valuable information about the content of appraisals and relationships between cognitive appraisals and outcomes for young children, few of these studies have evaluated longitudinal relationships.

The need for additional research in children living in households where IPV is present has been recognized by other researchers due to the unique presentation of risk factors inherent to these children (Fosco, DeBoard, & Grych, 2007). Specifically, research in children exposed to high levels of non-violent interparental conflict and aggression has indicated that children become more sensitized to conflict over time, reporting higher levels

of perceived threat (Cummings, Pellegrini, Notarius, & Cummings, 1989, Grych, 1998). Although exposure to conflict may sensitize children to threat, there may also be a significant developmental component to increased attenuation to threat as research that examines cognitive and physiological threat in young children shows that children have increased vigilance to and better memory for fearful stimuli than happy/positive stimuli (e.g., Baltazar, Shutts, Kinzler, 2012; Kiel & Buss, 2011). As such, children exposed to violence may be at great risk for developing maladaptive threat responses due to the intensity of conflict paired with a developmental vulnerability to increased attention to threat.

Further, children living in violent homes may feel particular responsibility for failing to prevent violence and protect the victimized parent (Fosco, DeBoard & Grych, 2007). This may be especially salient in cases where mothers either do not talk with their children about the violence or, in some situations, explicitly blame the child for causing the conflict (Graham-Bermann, 2011).

Interventions Aimed at Reducing Maladaptive Cognitive Appraisals

Despite the overwhelming evidence linking the role of appraisals of parental conflict to mental health outcomes in children of all ages, no studies have specifically addressed how these results can be translated to effective intervention practices. Theoretical recommendations given by Grych (2005) suggest that teaching parents more effective ways of handling conflict, increasing parenting skills, increasing child coping skills, and targeting children's attributions of blame are all possible venues for decreasing the risk of child adjustment problems following exposure to conflict. After reviewing existing literature, Grych (2005) puts forward parent education programs and child psychoeducation groups as potentially effective methods to employ in interventions.

Evidence-based interventions employing some of these recommendations are available for children exposed to severe IPV, one of which includes components that are

specifically designed to address children's appraisals of self-blame (Graham-Bermann, et al., 2007). This program and others, form the theoretical basis for the current study, which considers the impact of an intervention specifically aimed at reducing children's maladaptive appraisals about violence.

Evidence-Based Interventions for Children Exposed to Intimate Partner Violence

Due to the increasing recognition of young children's exposure to intimate partner violence, a number of recent research studies have examined interventions targeted at assuaging the impact of IPV on children's psychological and behavioral adjustment problems. There are several programs currently being enacted, but many are in their nascence and few have had designs that include comparison groups. There are, however, four programs that have a relatively strong body of research supporting their efficacy.

The first of these, Project Support, targets young children with diagnosed conduct problems (Jouriles, et al., 2009). This program provides a parenting intervention for mothers of children with clinical levels of conduct problems and includes both parent management training and social support (Jourlies et al. 2009; Jouriles, et al., 2001). The therapeutic modality primarily involves individual work with the parent, with occasional inclusion of the child in session to allow the mother to practice parenting skills under clinician supervision. In these studies, children were "mentored" by undergraduate students while mothers were in session, though the nature and scope of this mentorship model is not described (Jouriles, et al, 2001). Jouriles and colleagues have now completed two randomized-controlled trials of this program in two populations.

First, the intervention was applied to 66 mother-child dyads living in domestic violence shelters that had at least one child exhibiting clinical levels of conduct problems. Thirty-two families were designated as comparison group, and were encouraged to independently seek resources in the community as necessary. Jouriles and colleagues (2009)

note that any services received by comparison group participants over the course of the 20-month period were "minimal". Children ranged in age between 4 and 9 years, and were primarily male (58.8% in the treatment group). For the comparison group, weekly program attendance was not required. Experimental families averaged 23 sessions of attendance over an 8-month period (Jouriles, et al., 2009). The treatment condition of Project Support was designed to target two key areas of intervention. First, a unit on "child management skills", which included teaching skills specific to managing behavior, followed by "instrumental and emotional support to mothers", which included assisting mothers gain access to basic needs and safety planning (Jouriles, et al., 2009, pp.709). Findings indicated that mothers who participated in Project Support had significantly improved parenting skills after the completion of the intervention. Further, 74% of the children in the treatment group were in the normal range for conduct problems at the 20-month follow up, as compared to 48% of children in the comparison group who were in the normal range for conduct problems (Jouriles, et al., 2009).

In a second randomized-controlled trial in families who had been reported to Child Protective Services (CPS) due to allegations of abuse and neglect, Project Support was found to improve maternal parenting self-efficacy and decrease consequent CPS reports as compared to a treatment-as-usual comparison group (Jouriles, et al., 2010). Children in the study ranged from ages 3 to 8. No information on child sex of participating families was provided. Children were not screened for clinical levels of problems prior to inclusion, but a number of mothers who had "significant untreated maternal psychopathology" were dropped from the study and referred to other mental health services (Jouriles, et al., 2010, pp. 330).

Strengths of the Project Support studies include a scientifically rigorous design and analytic protocol (e.g., longitudinal, rigorous training in treatment protocol, adherence to consort standards), specific methodological and treatment considerations for families

experiencing severe levels of violence (e.g., in-home or in-shelter sessions), and the inclusion of very young children in the sample. Despite these strengths, sample size for both Project Support RCTs has been relatively small, with only 32 treatment group families in the first (Jouriles, et al., 2009), and 17 in the second study (Jouriles, et al., 2010). This is a potential limit to the power and scope of statistical analyses conducted. Further, the exclusion criteria used in each of these studies limits the external validity of the findings. In the first examination, only children with conduct disorder were included, making it difficult to determine the utility of the program for all children exposed to severe IPV, as these children experience a wide array of mental health problems following exposure to violence including anxiety, depression, PTSD, and health problems (e.g., Graham-Bermann, Castor, Miller, & Howell, in press; Graham-Bermann, Gruber, Howell & Girz, 2009; Graham-Bermann & Seng, 2005; Kennedy, Bybee, Sullivan, & Greeson, 2010; Zinzow et al., 2009). In the second examination, some mothers with mental health difficulties were excluded from participation – arguably the group most in need of parenting intervention given the vast amount of literature on how parental mental health problems interfere with parenting skills and augment abuse risk (e.g. Lee, Taylor, & Bellamy, 2012; Shelton & Harold, 2008). Finally, the therapeutic modality included individual therapy for mothers only. Although these studies show strong support for the effectiveness of this type of intervention, mother-only intervention fails to address very significant psychoeducational and safety issues pertinent to children, such as safety training (Miller, Howell, Hunter & Graham-Bermann, 2012). Individual therapy is also more costly to implement than group therapy and may not show significantly different treatment outcomes, depending on the presenting problems (Howing, Wodarski, Gaudin, & Kurtz, 1989).

A second evidence-based treatment for families experiencing IPV is Child-Parent Psychotherapy (CPP; Lieberman, Van Horn, & Ippen, 2005). This intervention is aimed at

treating preschool-aged children (3-5) exposed to IPV who are referred for services due to behavior problems and/or parenting problems (Lieberman, Van Horn, & Ippen, 2006; Ippen, Harris, Van Horn, & Lieberman, 2011). CPP is a relationship-based intervention in which the parent and child are treated conjointly in once weekly sessions over the course of one year (Lieberman & Van Horn, 2005, 2008). During treatment sessions, parents and children are coached in play, care-giving routines, and interactions designed to foster children's sense of safety (Lieberman & Van Horn, 2005, 2008).

One randomized control trial has been conducted, with three resulting studies supporting treatment efficacy for this population (Lieberman, Ippen & Van Horn, 2006; Liberman, Van Horn & Ippen, 2005; Ippen, Harris, Van Horn, & Lieberman, 2010). This RCT included 75 mother-child dyads, 27 of whom were determined to have completed sufficient treatment and also participated in the 6-month follow-up interview. Long-term follow-ups of treatment indicate that at a 6-month follow up, children in the treatment group had significantly fewer behavioral symptoms (total CBCL scores comprised of internalizing, externalizing, and items not included in omnibus scales) than did children in the comparison group. At one year, mothers in the treatment group had significantly fewer symptoms of avoidance than mothers in the comparison group, even though many of these mothers were receiving individual therapy (Lieberman, Ippen & Van Horn, 2006; Lieberman, Van Horn, & Ippen, 2005). However, it should be noted that there were no differences in overall maternal PTSD symptoms or the global severity of mental health problems between the treatment and comparison groups. A re-analysis of this RCT with a special focus on exposure to traumatic events also indicated treatment effectiveness for children's PTSD symptoms (Ippen, et al., 2010).

With regard to intervention strengths, Liebermann and colleagues employ a conjoint therapy model, which has been found to enhance treatment effectiveness in other populations

(Dowell & Ogles, 2010). This conjoint model is also appropriate given the high risk of mental health problems for both mothers and children exposed to IPV. In terms of strengths of their examination of treatment efficacy, Liebermann and colleagues (2005, 2006, 2010) employed assessment of a wide array of mental health problems for both mothers and children and assessed both short and long-term therapeutic outcomes. However, there are a number of limits to the possible utility of these findings. First, for mental health and parenting outcomes other than PTSD symptoms, statistical analysis of change, though significant, only had small to moderate effect sizes (Lieberman, et al., 2006; Lieberman, et al., 2005). Further, the program experienced relatively significant drop-out, even prior to treatment completion, leaving only 27 of the 75 mother-child dyads with complete treatment outcome data. This small sample size was an unfortunate impediment to a more rigorous analysis of outcome data.

Recently, Trauma-Focused Cognitive Behavioral therapy, developed by Cohen, Mannarino and Deblinger (2006) was applied with a randomized control trial design for children exposed to IPV (Cohen, Mannarino, Iyengar, 2011). This study included 124 mothers and their 7 to 14 year old children. Of the 64 families designated to the treatment condition, 43 were considered "completers" and were included in the statistical analyses. Only children experiencing at least 5 symptoms of posttraumatic stress disorder qualified for participation in the program. The program consisted of 8 sessions for both mothers and children that focused primarily on safety planning, sharing experiences about IPV, and reducing self-blame. Results of this study found that PTSD symptoms of hyper-arousal, avoidance and total PTSD symptoms were significantly reduced for children in the treatment condition. Children in the treatment condition also were significantly less likely to qualify for a PTSD diagnosis at follow-up than were children in the control group.

A strength of this study was the thorough assessment of PTSD using multiple clinical and standardized measures. It also cohered to a RCT design and was able to demonstrate significant

treatment effects within a relatively short period of time. However, there were a number of statistical methods that obscured the clarity of the results. First, multiple imputation was conducted to provide outcome scores for treatment drop-outs, but the model used did not account for all of the relationships tested in the consequent model. That is, the imputation model failed to include predictor variables that were used in subsequent analyses, which can lead to serious bias in results, leading to problems ranging from low sensitivity to significant relationships between variables to misspecification in relationship due to omission of confounding variables (Sterne, et al., 2009). In addition, the article reported using multi-level models to analyze results and stated that they were "similar" to the results of 2-tailed t-tests, and opted to present the latter. The failure to present more sophisticated analyses (when available) that are better able to control for confounding effects and random variation in family and sibling pairs, is problematic. In addition, the authors fail to report effect sizes for the majority of their findings.

The largest evidence-based intervention study to date is The Kids' Club program, which evaluated a group-based treatment for 221 mother-child dyads exposed to IPV (Graham-Bermann, 1992; Graham-Bermann, Lynch, Banyard, DeVoe, & Halabu, 2007). This study compared outcomes across three groups: school-aged children (7 to 12 years) who were randomly assigned either to participate in a child-only intervention, a child-plus-mother intervention, or a comparison group that received "usual" services (Graham-Bermann, Lynch, Banyard, DeVoe, & Halabu, 2007). All conditions (intervention or treatment as usual) were implemented over the course of ten weeks. The Kids' Club intervention targeted children's maladaptive attitudes and beliefs about family violence using cognitive restructuring activities about family violence communicated through play modalities. For example, one primary program theme, "It's never the kids' fault when the parents fight" was taught to the children through song, puppet shows, role plays, and drawing activities. The program also allowed children to discuss their experience and knowledge of family violence, and provided

children with the opportunity to receive social support from other children who had also recently experienced IPV. For families assigned to the child-plus-mother intervention, mothers participated in a simultaneously occurring program designed to empower mothers, allow them to reflect on the impact of violence on various areas of their child's development, enhance parenting skills and warmth, provide a safe place to discuss fears and worries about their children, and build self-esteem in the context of a supportive group (Graham-Bermann & Levendosky, 1994). Children showed a number of positive changes in adjustment after treatment. Namely, children participating in the intervention had fewer negative attitudes about violence, greater social skills, and fewer internalizing and externalizing behavior problems. The impact of the program was significantly greater for those children whose mothers also participated than if they participated in the program alone (Graham-Bermann, Lynch, Banyard, DeVoe, & Halabu, 2007).

The Kids' Club Program had a particular strength in its ability to compare a range of treatment modalities and results ultimately provided support for a child-plus-mother model. It should be noted, however, that this was in comparison to other group treatment options and not in comparison to individual treatment. The Kids' Club program is also significantly shorter in duration than either Project Support or Child-Parent Psychotherapy, and has a group rather than individual model. Both of these aspects of the program make it easier and more cost-effective to provide. Not only may this short duration make group coordination more practical for agencies to employ from an administrative perspective, but the shorter duration of treatment still resulted in clinically significant change for the treatment group. Despite the many strengths of the Kids' Club program, data were not collected on children's traumatic stress symptoms, which have since been shown not only to be present in a large portion of children exposed to violence (Graham-Bermann, et al., 2012), but are highly responsive to targeted treatment as well (Ippen, et al., 2010). Further, this study only examined treatment effects in school-aged children, and has yet to be extended to determine

its efficacy in younger populations.

The Current Study

The current study aims to provide evidence of treatment effectiveness for preschool children exposed to intimate partner violence and draws together the reviewed literature as a theoretical basis for its design. First, literature on children's cognitive appraisals of interparental conflict calls for more research in populations experiencing severe conflict (Fosco, DeBoard, & Grych, 2007) and as of yet has only theoretical recommendations for intervention (Grych, 2005). Available interventions for children exposed to IPV indicate efficacy for reducing mental health problems, but only one has addressed children's attitudes toward violence (Graham-Bermann, et al., 2007), and none have specifically addressed an intervention's impact on appraisals of threat and self-blame. The current study is part of a series of outcome evaluation studies of the Preschool Kids' Club and Moms' Empowerment program (Graham-Bermann, 2000), a treatment based on the Kids' Club Program (Graham-Bermann, 1992). This treatment model is based on recommendations and evidence that combined child-parent treatment provides the best outcomes for families experiencing a wide range of difficulties (Dowell & Ogles, 2010; Graham-Bermann, et al., 2007; Grych, 2005). It also includes treatment approaches specifically aimed at reducing attributions of threat and self-blame, which will be described in detail below. Finally, it includes an evaluation of both short and long-term treatment outcomes.

Dissertation Study 2 Aims and Hypotheses

The aim of Dissertation Study 2 is to examine the impact of the Preschool Kids' Club and Mom's Empowerment Program on children's appraisals of conflict. It is hypothesized that:

1) Children in the intervention group will have lower appraisals of self-blame at over time than will children in the comparison group.

2) Children in the intervention group will have lower levels of threat at over time than will children in the comparison group.
3) Children in the intervention group who attended a greater number of sessions will have significantly lower levels of threat and self-blame over time than will children in the intervention group that attended fewer sessions.

Methods

Procedures

The data for this dissertation are derived in part from a larger, ongoing study of the efficacy of an intervention program for preschool-aged children exposed to intimate partner violence that was reviewed and approved by the University of Michigan Institutional Review Board (Graham-Bermann, 2006-2011). Mothers and their preschool-aged children were recruited using advertisements and flyers in a variety of cooperating public agencies, such as county legal and mental health services, shelters, and stores. The advertisements included a toll free number and email address (See Appendix I). After contacting the study coordinator, the mothers completed a brief phone screen to determine whether she had experienced severe IPV in the past 2 years and had a 4 to 6 year old child living in the home. The assignment method for the current project was a randomized block assignment process that was used in order to recruit a sufficient number of families to begin an intervention group relatively quickly and to prevent attrition prior to the start of groups. Mothers who called in during an intervention recruitment group block were asked if they were interested in participating in the free intervention program (the Preschool Kids' Club, Graham-Bermann, 2000), and if they were able to meet at the group times. If they were willing and able, mothers were assigned to the intervention group. Those who called during a comparison group assignment block, were assigned to the comparison group and informed that they would be able to participate in the intervention program at any point after their second interview had been completed, which

typically took between 5 and 8 weeks. All families were then scheduled for their baseline interview.

At the baseline interview, each mother completed an IRB-approved consent to participate, consent for her child to participate, and a form giving permission for the project coordinator to contact her for future interviews (See Appendices J-M). Interviewers fully explained the interview process to the mothers, indicating that they would be participating in a follow-up interview in approximately 5 weeks, and then a third interview between 6 and 8 months after the second assessment. Mothers received $25 compensation for each interview, and her child received a gift valued at approximately $4 at each interview. The mothers' interviews took approximately 1.5-2 hours and the children's interviews lasted approximately 30-45 minutes. Precautions were taken to ensure the safety and comfort of the study participants and interviewers, such as completing interviews in a local shelter or community center. The interviewers were clinical graduate students and advanced undergraduates who were trained in structured interview techniques and received certification in research ethics. Adherence to interview protocol was assessed during a weekly group meeting which reviewed completed interviews and addressed any questions or problems that arose.

Mothers and children in the treatment group completed the Preschool Kids' Club and Mom's Empowerment Program between the baseline and first follow-up interview. The intervention program took place in a community center at a battered women's shelter in Southeast Michigan and in a children's community center in Southern Ontario, Canada. Childcare was provided for non-participating siblings by trained undergraduate students. Transportation was also provided for those women who did not own a car. Group therapists were social workers, psychologists, and graduate students in clinical psychology and social work and were supervised by a licensed clinical psychologist. Therapists met during two, two-hour weekly meetings. During these meetings, therapists shared process notes with the

clinical supervisor and session plans were discussed and approved for adherence to treatment protocol. The mothers' and children's groups took place concurrently, twice weekly over five weeks.

After the conclusion of the intervention, families in the treatment group completed the follow up interview. Families in the comparison group also completed the follow up interview after the five-week wait period. The comparison group families were then given the opportunity to join the next intervention. While this compromised some of the 6 to 8 month follow up interviews for the comparison group, the researchers determined that since many of these families were in critical need of intervention, placing families on a 6 to 8 month waitlist would have been unethical. All families completed their third and final interview 6 to 8 months after the completion of their second interview except for seven control families who elected to complete the intervention program. These families' third interview was dropped as they were no longer pure comparison families. All study measures were administered at each time at each time point.

The Preschool Kids' Club and Moms' Empowerment Program Intervention

A full description of the intervention program can be found in the treatment manuals (Graham-Berman, 2000, 2012). In the current manuscript, specific aspects of the program relevant to reducing attributions of threat and self-blame are addressed. In the first session of the Preschool Kids' Club group, group leaders immediately begin to establish group rules to promote safety and assuage any hypervigilance/threat perception. For example, group leaders establish a "pass" rule, enabling children to remain silent if they would not like to discuss a topic. A "privacy" rule is also discussed, informing children that they should not share one another's stories outside of the group. Typically, children readily offer the inclusion of rules restricting physical aggression (e.g., no hitting, biting, kicking), but if they are not offered, group leaders make sure that these are added to the list of group "rules".

Following the second session, which addresses emotion identification, the groups turn towards a discussion of attributions about responsibility for the violence. Due to the young age of the participants, this is accomplished using stories and role plays about violence, with group leaders assisting in restructuring beliefs about the acceptability of violence and any attributions of self-blame that are noted. For example, in one session, group leaders act out a family conflict with dog puppets. Following this, children are asked questions about who started it, whose fault it was and what could be done to keep the puppies safe if it happened again. Any misattributions children report (e.g., the puppies are somehow responsible for the fight between "mom dog" and "dad dog") are corrected. At this session, a theme of the program, "It's never the kids' fault when the parents fight", is also introduced. This cognition is incorporated into games and activities throughout the remainder of the program as a way of alleviating self-blaming attributions that children might hold about family violence. For example, one group made a series of art projects centering on this theme and gave them to their mothers. Artwork included this central phrase and was accompanied by children's self-portraits and/or favorite "coping" activities. Further, children discuss their fears and worries about family violence and are coached on appropriate coping and safety planning strategies as a way of decreasing both real physical threat and cognitions about threat in response to family violence. Some safety strategies that are specifically addressed in the program include practice calling 911, identifying safe places in the home, and identifying social supports that could assist when violence occurs (e.g., calling a grandparent).

Throughout the Mom's Empowerment Program, mothers are informed about the content of the co-occurring preschool group that day and are coached on at-home practice of concepts. For example, mothers frequently report that they have not spoken with their children about the violence, and group leaders work with mothers to help them develop what they would like to say to their young children, ensuring that it is both developmentally

appropriate and includes a clear message that the child is not at fault. Further, they receive specific interventions regarding developmentally appropriate ways to talk with their children about the violence, information on when to seek further intervention (i.e., what behaviors are developmentally typical vs. indicate some underlying mental health problems), and what possible strategies can be used for co-coping, emotion coaching, and fostering positive, healthy attachment. For example, mothers are encouraged to model good emotion identification for their children by identifying their own emotions and also stating a positive coping strategy that they are using to feel better.

Participants

The study included 120 mothers and their preschool-aged children exposed to severe IPV in the past two years. Children ranged in age from 4-6 years old (*M*=4.93, *SD*=.86). There were 64 boys. Thirty-eight percent of the children were European American, 37% were African American, 20% were Biracial, and 5% were Hispanic American. Mothers ranged in age from 21 to 54 years (*M*=31.8, *SD*=7.2). Forty-eight percent of the mothers were European American, 37% were African American, 8% were Biracial, 6% were Hispanic American, and 1% was Asian American. The mothers had a wide range of education, with 61% completing at least some college. Thirty-eight percent of the women were currently employed. Forty-three percent identified as single, 16% of the women were married, 34% were divorced or separated, and 7% were living with a partner. Seven percent of the women were living with a violent partner at the time of the baseline interview. Average income was $1,414 per month (*SD*=$1,549).

Measures

Demographics. Mothers completed a questionnaire to gather basic background information such as her age and age of her child**,** income, ethnicity, educational attainment, housing history and relationship status (See Appendix A)

Intimate Partner Violence. Family violence was assessed with the Revised Conflict Tactics Scales (CTS2; Straus, et al., 1996). The CTS2 is a 78-item instrument measuring the severity and frequency of Psychological Aggression (e.g., "My partner accused me of being a lousy lover"), Physical Assault (e.g., "My partner slapped me"), Injury (e.g., "You had a broken bone from a fight with your partner"), Sexual Coercion (e.g., "My partner insisted that I have sex when I didn't want to"), and Negotiation (e.g., "My partner agreed to try a solution I suggested") over the past year in a couple's relationship. Because only the mothers participated in the interviews, a total of 39 violence victim questions were administered and the remaining violence aggressor questions were removed (See Appendix B). For each item, mothers were asked to estimate the frequency with which their partner had used different violence tactics toward them within the past year. Though the CTS2 was given at all time points, only the baseline and 6 to 8 month follow-up data were analyzed as the 5 weeks between baseline and first follow-up would be insufficient time to examine changes in violence over the past year. The CTS2 has been shown to be reliable, with subscales ranging from α=.79 to α=.95 (Straus, et al., 1996). The reliabilities for the CTS Total Scale at each measurement time point in the present study were (α) .81 at baseline at .91 at 6 to 8 month follow-up. At 6 to 8 month follow-up, only scales of Physical Assault, Sexual Coercion and Injury were used, as other scales were administered inconsistently due to the fact that this portion of the interview was eliminated for mothers who reported "no violence". Reliabilities for subscales were: Negotiation (α=.65), Psychological Aggression (α=.60), Physical Assault (α=.72, .87), Sexual Coercion (α=.80, .82), and Injury (α=.62, .47). Because the reliabilities for the injury subscale were quite low, this scale was not examined in isolation in the current analyses.

Child Physical and Sexual Abuse. Mothers reported on whether or not their child had ever experienced physical or sexual abuse by a family member or stranger (Yes or No). Two

families who were interviewed reported on-going abuse, which was reported by CPS by study coordinators. Mothers were aware of these reports, were open to receiving assistance, and neither family dropped out of the study.

Children's Appraisals of Interparental Conflict. Child cognitive appraisals were assessed using the Children's Perception of Interparental Conflict Scale (CPIC; Grych, et al., 1992), a 48-item measure of school-aged children's appraisals of conflict that has three subscales: Conflict Properties, Self-Blame and Threat (See Appendix F). The *Conflict Properties* subscale includes: Frequency (e.g. "I never see my parents arguing or disagreeing"), Intensity (e.g. "My parents get really mad when they argue"), and Resolution (e.g. "When my parents argue, they usually make up right away"). The *Self-Blame* subscale includes: Content (e.g. "My parents' arguments are usually about me") and Self-Blame (e.g. "It's usually my fault when my parents argue."). The *Threat* subscale includes: Threat (e.g. "I get scared when my parents argue") and Coping Efficacy (e.g. "I don't know what to do when my parents have arguments.") For each item, children can choose whether it is true (2), sometimes true (1) or not true (0) of their families. As described in Study one, interviewers were trained on developmentally appropriate modifications to interview structure to help ensure the quality of children's responses. This measure has been used in a number of studies with test-retest reliability ranging from .68 to .76 (Grych, et al., 1992). Subscale reliabilities for the current study can be found in Table 1.

Analytic Protocol

Prior to conducting any analyses, initial differences between the intervention and no-treatment comparison groups at baseline were examined to confirm randomization. Any significant differences between the intervention and comparison groups at baseline are reported below and statistically controlled for in all analyses.

The first and second hypothesis of this study posits that children in the intervention group will have lower appraisals of self-blame and threat over time than will children in the comparison group. The models for hypotheses 1 and 2 will be run using maximum likelihood estimation in STATA and can be summarized as follows:

$$y_{it} = \beta_0 + \beta_1(\text{Treatment}) + \beta_2(\text{Time}) + \beta_3(\text{Treatment*Time}) + \beta_4(\text{Child Age}) + \beta_5(\text{Child Minority}) + \beta_6(\text{Child Sex}) + \beta_7(\text{Child Sex*Treatment}) + \beta_8(\text{Child Sex*Time}) + \beta_9(\text{Child Sex*Treatment*Time}) + \beta_{10}(\text{Intensity}) + \beta_{11}(\text{Resolution}) + \beta_{12}(\text{Frequency}) + \beta_{13}(\text{IPV}) + \beta_{14}(\text{Intensity*Time}) + \beta_{15}(\text{Resolution*Time}) + \beta_{16}(\text{Frequency*Time}) + \beta_{17}(\text{IPV*Time}) + \beta_{18\text{-}20}(\text{Abuse History}) + u_0 + e_{it}$$

Here, y_{it} is the outcome variable (either threat or self-blame) for each individual child over time, β_0 represents the model intercept, and β_1-β_{11} are regression parameters. Random intercepts are accounted for in this model by u_0 and e_{it} represents individual-specific variation in outcomes over time.

The third and final hypothesis of this study posits that increased session attendance will strengthen the impact of intervention on appraisals of threat and self-blame. In order to test this hypothesis, the number of sessions attended will be added as a predictor to the previous model.

Results

Violence Exposure

All children in this study, regardless of group assignment, were exposed to intimate partner violence at some point in the past two years. Across both groups, mothers reported an average of 191 incidents of violence (*SD*=137.67), including acts of psychological aggression (*M*=95.98, SD=52.59), physical assault (*M*=54.62, *SD*=54.06), sexual coercion (*M*=25.73, *SD*=38.34), and violence-related injury (*M*=15.23, *SD*=17.92). There was no significant difference in level of violence between treatment and comparison groups at baseline.

According to their mothers, 21% of children had experienced physical assault/abuse by a stranger and 3% had experienced physical abuse by a family member. Six percent of children had experience sexual abuse by a stranger and none of the children had experienced sexual abuse by a stranger. Frequency data was not collected, but abuse history was entered into the current analyses (along with IPV) as a covariate. There were no significant difference in physical and sexual abuse histories between boys and girls.

Drop Analyses

At baseline, 120 children were interviewed (Comparison, n=62; Treatment, n=58), with some attrition at each follow-up point. At five week follow-up, 97 children were interviewed (Comparison, n=46; Treatment, n=51). At the final follow up 6 to 8 months later, a total of 69 were interviewed (Comparison, n=34; Treatment, n=35). Logistic regressions were used to examine any consistent relationships in missing data – first for children who dropped from the study and then for those who were excluded for the purposes of the current analyses. Predictors in the logistic regression models included all predictor variables used in the current study.

Drop rates between baseline and five-week follow-up were not significantly related to any study variable. In all, there was an attrition rate of 19% between baseline and five-week follow-up. The attrition rate at 6 to 8 month follow-up was greater, with a cumulative attrition rate of 42% from baseline to final observation. Again, children who did not participate in the follow up interview did not differ from those who remained in the study in any regard.

Inclusion Protocol

Following an analysis of dropped participants, additional inclusion criteria were applied to the remaining children to ensure quality of the data. These inclusion criteria were based on those used in a previous study with a preschool-age population (Miller, Howell, & Graham-Bermann, 2012). Specifically, children were dropped from the analysis if their

response pattern exhibited any of the following characteristics: (1) an interviewer rating of "no understanding" regarding comprehension of interview material (2) a verbal ability score in the "extremely low" range (Scaled Score <5) or (3) measure completion rate of less than 40%.

Of the 120 children interviewed at baseline, 18 of these children's interviews were excluded based on the above criteria (Treatment, n=11; Comparison, n=7) groups. Logistic regressions were conducted to determine potential patterns in missing data. Children who were excluded from the analysis at baseline were younger (β=-.08, z=-2.59, p=0.01), but did not differ from included children in any other regard. At five week follow-up, 11 of 96 interviewed children were excluded from the analyses (Treatment, n=5; Comparison, n=6). There were no significant differences on any study variable for children excluded at the five week follow-up interview as compared to children who qualified for inclusion. Although not all children were excluded at both baseline and five-week follow-up, meeting criteria for exclusion at baseline was significantly associated with meeting criteria for exclusion at five-week follow-up ($\chi^2(1)=12.34$, $p<.001$).

At 6 to 8 month follow-up, three of the 69 interviewed children were excluded from the analyses (Treatment, n=1; Comparison, n=2). There were no significant differences on any study variable by inclusion status, but children who were excluded at 6 to 8 month follow-up were more likely to have been excluded at previous time points (baseline, $\chi^2(1)=10.80$, $p<.01$; five week follow-up $\chi^2(1)=8.27$, $p<.01$).

Imputation Procedure

In order to account for incomplete data amongst those children qualifying for inclusion, multiple imputation was conducted using the multivariate method. This imputation structure, when completed in a dataset organized in wide-format, allows the imputations to account for the longitudinal structure of the observations (Allison, 2002). Twenty imputations

of the data were completed in order to gain recommended stability in the weights of predictor variables (Graham, Olchowski, & Gilreath, 2007). Data was not imputed for children who were dropped from or excluded from the analyses.

Threat and Self-Blame Analyses

Descriptive analyses of the CPIC omnibus scales and subscales can be found in Table 3.1. There were no significant differences between treatment and comparison groups on any scale at baseline.

[Insert Table 3.1 Here]

Relationships between study variables were examined in order to inform modeling. Correlational analyses can be found in Table 3.2.

[Insert Table 3.2 Here]

Self-Blame. The first hypothesis sought to test the impact of the intervention on children's appraisals of self-blame over time. Results from the multilevel model with random intercepts indicated no significant effect for Treatment (tested by the Treatment*Time interaction in Table 3.3). As such, the first hypothesis was not supported. However, children did report higher levels of self-blame if parents reported high levels of resolution at baseline (β=-.35, p<.01), although there was a trend level finding indicating that the strength of this relationship reduced over time (β=0.01, p=.08). As seen in dissertation study one, girls reported significantly higher self-blame at baseline than did boys (β=-2.01, p<.01), and this relationship was time invariant. Finally, those children who had been physically abused by a stranger in the past reported slightly higher levels of self-blame at baseline (β=1.58, p=.07). Notably, there was quite a significant amount of random variation in reports of self-blame between children, with 39% of variation (Intra-class correlation co-efficient) over time accounted for by characteristics of the individual not measured by this model.

Threat. The second hypothesis tested the effect of intervention on children's appraisals of threat using the same modeling structure. In this model, there was a trend-level finding for the effect of Treatment over time (β=-0.14, p<.10), indicating that children who were assigned to the treatment group reported lower levels of threat over time. There was also a significant three-way interaction indicating differential treatment effects by gender, which when mapped out, indicated that although boys in the treatment group begin with lower average appraisals of threat, the rate of improvement is slightly better for girls than for boys (β=.11, p<.05; See Figure 3.1). Children's reports of conflict frequency and intensity were significantly related to increases in threat appraisal (β=.43, p<.05, β=.54, p<.001, respectively). Similar to the previous model, children's report of conflict resolution between their parents was significantly related to more appraisals of threat at baseline (β=-.58, p<.001), and this main effect was unchanged over time. Again, children who were older reported significantly lower appraisals of threat at baseline than did younger children (β=-1.61, p<.01). In sum, the second hypothesis was partially supported, indicating that the intervention was successful (at the trend level) for reducing children's appraisals of threat. In addition, there was less than 1% random individual variation over time (Intraclass correlation co-efficient), indicating that the current model is a good description of predictors of children appraisals of threat across individuals.

Dosage Effect of Treatment. Finally, a dosage effect of treatment was hypothesized, such that children's appraisals of threat and self-blame would be significantly and negatively related to session attendance frequency. In order to test this hypothesis, data on linear and quadratic session effects was added as a predictor of the above models. No dosage effect was found, indicating that the slope of children's appraisals over time was not significantly affected by number of sessions attended. Thus, the third hypothesis was not supported. This

model is not presented here as significant effects from the more parsimonious models were stable in the larger model as well.

Discussion

The current study sought to determine the effectiveness of an evidence-based intervention program, the Preschool Kids' Club, on children's appraisals of threat and self-blame. It was hypothesized that children's appraisals of self-blame would exhibit a significant decrease following participation in treatment. This hypothesis was not supported; for these children, treatment was not significantly related to change in self-blame over time. Rather, children's appraisals of self-blame were better explained by individual and environmental factors such as child sex and reports of parental conflict resolution (See Table 3.3). As in other studies (Barrett, Zahn-Waxler, & Cole, 1993; Miller et al., 2012), there was females to reported higher levels of self-blame than males. Notably, there was no differential effect of treatment across boys and girls, indicating that girls maintained higher levels of self-blame than did boys at all evaluations. This indicates that while there need to be continued improvements in intervention aimed at attributions of self-blame, it may be particularly important to target young girls, as the presence of their maladaptive and self-blaming thoughts may be relatively difficult to alter. It is also important to note that the CPIC self-blame scale contains many items asking children to identify whether or not their parents arguments are about them, in addition to asking about self-blame. As these items compose the majority of the scale, it is possible that the lack of improvement in self-blame may actually represent a lack of improvement on the part of the parents in refraining from directly involving their children in arguments. Parental blaming of children for violence has arisen in the finding of other studies (Graham-Bermann, 2011), and it is possible that children are therefore reporting accurately on events in the home environment. It may be that in order to achieve reductions in this type of appraisal, parents may need additional intervention on how best to reduce the

level to which they involve their children in arguments. This is especially important for children living in violent families, as involvement in arguments puts them at high risk for becoming an accidental/unintentional target of the violence between their parents (Fusco & Fantuzzo, 2009).

The second hypothesis addressed children's appraisals of threat and predicted that they, too, would be reduced by participation in the Preschool Kids' Club Program. Overall, there was a trend-level effect of treatment on children's appraisals of threat indicating that children in the treatment group reported lower appraisals of threat over time than children in the comparison group. Further, a significant three-way interaction appeared, indicating that while boys in the treatment group began with lower average appraisals of threat, girls in the treatment group improved at a faster rate (See Figure 3.1). It is important to note that this finding indicates a difference *controlling* for reported level of violence, which increases for children of the course of the study. As such, although mean levels of threat increase over time for both groups, the degree to which children feel threatened in relation to this violence exposure improves for the those children in the treatment. This responsiveness to treatment is hopeful, as a primary focus of the Preschool Kids' Club program is improving children's sense of safety in the home. It is crucial to note that for these children, threat in the face of violence likely serves an adaptive function, encouraging children to move away from the violence. However, the Preschool Kids Club program aims to preserve children's safety by teaching safety planning strategies that preserve child safety while at the same time, reducing chronic exposure to threatening stimuli, which have been related to poor adjustment outcomes for these young children (e.g., Swartz, Graham-Bermann, Mogg, Bradley & Monk, 2011).

The third and final hypothesis, that there would be a dosage effect of treatment, was not supported. It may be that this was not found because the Preschool Kids' Club program is described to mothers and children as a time-limited treatment of 10-sessions. In the current

study, children attended an average of 6 sessions. As such, it may be that in order to gain full benefits, children needed to attend a greater number of sessions.

In closing, it is important to note some unique relationships between violence exposure and children's reports of self-blame and threat that were identified in this study. First, and most notably, children's reports of better parental resolution were related to higher levels of both threat and self-blame. This relationship has not been found in children who are exposed to non-violent marital conflict. It appears that in the case of children exposed to IPV, parental conflict resolution, rather than enhancing emotional security in the family system, may have deleterious effects on children. That this relationship dissipates over time for self-blame may indicate that children in violent homes report relatively consistent levels of self-blame over time, regardless of the qualitative differences in parent conflict. In contrast, parental resolution and reconciliation may result in a continued threat to children's physical safety in the home (e.g., if an abusive partner increases contact with the family following reconciliation, new violence may occur), perhaps explaining why no parallel changes were noted in children's appraisals of threat

Also of note is that additional exposure to physical and sexual abuse was not related to increased appraisals of threat in regards to interparental conflict, but a history of sexual abuse by a stranger was related to higher appraisals of self-blame. This finding is consistent with research that shows that high levels of self-blame following experiences of sexual abuse (Cahill, Llewelyn, & Pearson, 2011) and shows preliminary evidence that these cognitions may spill over into self-blaming appraisals in other life experiences (here, exposure to IPV).

Limitations

Several limitations of the current study must be noted in order to assist in the interpretation of results. First, it is important to recognize that these children likely had a history of multiple types of trauma and/or other types of violence exposure. As such, it is

possible that treatment effects may have been tempered by exposure to other types of violence, such as child abuse and community conflict, that may result in similar cognitive attributions of threat and self-blame. This is particularly true of self-blame, which has been extensively studied in children who have been exposed to sexual abuse (e.g., Coffey, Leitenberg, Henning, Turner, & Bennett, 1996; Filipas & Ullman, 2006). Although children's history of abuse exposure was included as a covariate in the current analyses, data on the frequency and duration of these exposures were not collected, limiting the extent to which this is an effective control for previous violence exposure.

The participants were recruited from both shelters and the community, allowing for greater diversity in the backgrounds of the families assessed. Despite this diversity, study participants were from a relatively limited geographic area - in and surrounding Southeast Michigan. It is therefore possible that some regional effects in participation may have been evident. For example, for those groups occurring in the winter season, some attendance irregularity was due to serious winter storms. In addition, while European Americans and African Americans were well represented in the sample, other racial and ethnic minorities were not. Given this, it is crucial to note that this sample may not be well-representative of the general population.

Another limitation of the current study is that only male-to-female violence was assessed. Because of this, it is likely that the current study underestimates the degree to which these children were exposed to IPV. Without including female-to-male violence, it is difficult to parse out the possible differential effects of gendered violence on boys and girls.

Finally, the current study had relatively significant attrition at the final interview 6 to 8 months later. Although this attrition rate is comparable to that of other longitudinal work with high risk populations and a number of measures were taken to ensure statistical controls for

attrition, it may influence the extent to which this information can be generalized for these children.

Clinical Implications

The results of the current study indicate some success in reduction of maladaptive cognitive appraisals of threat, but not self-blame. The lack of dosage effect on treatment success suggests that children might not need *more* treatment, but perhaps a treatment that is targeted more specifically toward their needs. It is possible that girls may benefit from specific intervention surrounding the gendered nature of IPV, especially since they are at increased risk for self-blaming appraisals. It also may be that while boys were able to benefit from a co-ed intervention group, girls may evidence greater improvements in a girls-only group. It does not appear that the effects of single-sex group therapy in children exposed to violence have ever been examined, and as such, are an important area for future research.

Further, the lack of decrease in children's appraisals of self-blame may indicate a greater need for intervention with parents regarding these constructs. The Moms' Empowerment Program does work with mothers to reinforce the information taught to the children during the Preschool Kids' Club Program, but mothers may benefit from specific strategies and planning surrounding things that they may say or do that unintentionally (or intentionally) allude to children's responsibility for IPV.

Future Directions

Future research can build on the current study in a number of important ways. First, it does appear that these young children are in great need of intervention and are capable of participating and responding to this type of treatment. However, it will be important to test the effects of gender composition of groups on treatment effectiveness, especially for girls. Further, it may be helpful for future research to evaluate children's appraisals at regular intervals throughout treatment to produce a more nuanced perspective of fluctuations in

children's appraisals as treatment progresses. This may provide helpful insight into the relative usefulness of particular intervention content and assist in maximizing the effectiveness of session content.

References

Ablow, J. C., Measelle, J. R., Cowan, P. A., & Cowan, C. P. (2009). Linking marital conflict and children's adjustment: The role of young children's perceptions. *Journal of Family Psychology*, *23*(4), 485–499. doi:10.1037/a0015894

Baltazar, N. C., Shutts, K., & Kinzler, K. D. (2012). Children show heightened memory for threatening social actions. *Journal of Experimental Child Psychology*, *112*(1), 102–110. doi:10.1016/j.jecp.2011.11.003

Barrett, K. C., Zahn-Waxler, C., & Cole, P. M. (1993). Avoiders vs. amenders: Implications for the investigation of guilt and shame during toddlerhood? *Cognition & Emotion*, *7*(6), 481–505.

Cahill, C., Llewelyn, S. P., & Pearson, C. (2011). Long-term effects of sexual abuse which occurred in childhood: A review. *British Journal of Clinical Psychology*, *30*(2), 117-130.

Cohen J.A., Mannarino, A., Iyengar S. (2011). Community treatment of posttraumatic stress disorder for children exposed to intimate partner violence: A randomized controlled trial. *Archives of Pediatrics & Adolescent Medicine*, *165*(1), 16–21. doi:10.1001/archpediatrics.2010.247

Coffey, P., Leitenberg, H., Henning, K., Turner, T., & Bennett, R. T. (1996). Mediators of the long-term impact of child sexual abuse: Perceived stigma, betrayal, powerlessness, and self-blame. *Child Abuse & Neglect*, *20*(5), 447–455. doi:10.1016/0145-2134(96)00019-1

Cummings, J. S., Pellegrini, D. S., Notarius, C. I., & Cummings, E. M. (1989). Children's Responses to Angry Adult Behavior as a Function of Marital Distress and History of Interparent Hostility. *Child Development*, *60*(5), 1035. doi:10.2307/1130777

Dowell, K. A., & Ogles, B. M. (2010). The effects of parent participation on child psychotherapy outcome: A meta-analytic review. *Journal of Clinical Child & Adolescent Psychology*, *39*(2), 151–162. doi:10.1080/15374410903532585

Filipas, H. H., & Ullman, S. E. (2006). Child sexual abuse, coping responses, self-blame, posttraumatic stress disorder, and adult sexual revictimization. *Journal of Interpersonal Violence*, *21*(5), 652–672. doi:10.1177/0886260506286879

Fortin, A., Doucet, M., & Damant, D. (2011). Children's appraisals as mediators of the relationship between domestic violence and child adjustment. *Violence and Victims*, *26*(3), 377–392. doi:10.1891/0886-6708.26.3.377

Fosco, G. M., DeBoard, R. L., & Grych, J. H. (2007). Making sense of family violence: Implications of children's appraisals of interparental aggression for their short- and long-term functioning. *European Psychologist*, *12*(1), 6–16. doi:10.1027/1016-9040.12.1.6

Fusco, R. A., & Fantuzzo, J. W. (2009). Domestic violence crimes and children: A population-based investigation of direct sensory exposure and the nature of involvement. *Children and Youth Services Review*, *31*(2), 249–256. doi:10.1016/j.childyouth.2008.07.017

Gerard, J. M., Buehler, C., Franck, K., & Anderson, O. (2005). In the eyes of the beholder: cognitive appraisals as mediators of the association between interparental conflict and youth maladjustment. *Journal of Family Psychology*, *19*(3), 376–384. doi:10.1037/0893-3200.19.3.376

Graham-Bermann, S. A. (1992). *The Kids' Club: A Preventive Intervention Program for Children of Battered Women.* Department of Psychology, University of Michigan.

Graham-Bermann, S. A. (2000). *Fostering Resilience in Young Children Exposed to Violence.* Department of Psychology, University of Michigan.

Graham-Bermann, S.A. (2011). Evidence-based practices for school-age children exposed to intimate partner violence and evaluation of the Kids' Club Program In *How intimate partner violence affects children: Developmental research, case studies, and evidence-based intervention*. (eds. Graham-Bermann and Levendosky). Washington, DC, US: American Psychological Association.

Graham-Bermann, S. A. (2012). *The Moms' Empowerment Program: A Training Manual.* Department of Psychology, University of Michigan.

Graham-Bermann, S. A., Castor, L. E., Miller, L. E., & Howell, K. H. (2012). The impact of intimate partner violence and additional traumatic events on trauma symptoms and PTSD in preschool-aged children. *Journal of Traumatic Stress*, *25*(4), 393–400. doi:10.1002/jts.21724

Graham-Bermann, S. A., Lynch, S., Banyard, V., DeVoe, E. R., & Halabu, H. (2007). Community-based intervention for children exposed to intimate partner violence: An efficacy trial. *Journal of Consulting and Clinical Psychology*, *75*(2), 199–209. doi:10.1037/0022-006X.75.2.199

Graham-Bermann, S. A., & Seng, J. (2005). Violence exposure and traumatic stress symptoms as additional predictors of health problems in high-risk children. *The Journal of Pediatrics*, *146*(3), 349–354. doi:10.1016/j.jpeds.2004.10.065

Grych, J. H. (1998). Children's appraisals of interparental conflict: Situational and contextual influences. *Journal of Family Psychology*, *12*(3), 437–453. doi:10.1037/0893-3200.12.3.437

Grych, J. H. (2005). Interparental conflict as a risk factor for child maladjustment: Implications for the development of prevention programs. *Family Court Review*, Special Issue on Prevention: Research, Policy, and Evidence-Based Practice, *43*(1), 97–108. doi:10.1111/j.1744-1617.2005.00010.x

Grych, J. H., Harold, G. T., & Miles, C. J. (2003). A prospective investigation of appraisals as mediators of the link between interparental conflict and child adjustment. *Child Development*, *74*(4), 1176–1193. doi:10.1111/1467-8624.00600

Grych, J. H., Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development, 71*(6), 1648–1661. doi:10.1111/1467-8624.00255

Grych, John H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin, 108*(2), 267–290. doi:10.1037/0033-2909.108.2.267

Grych, J. H., Jouriles, E. N., Swank, P. R., McDonald, R., & Norwood, W. D. (2000). Patterns of adjustment among children of battered women. *Journal of Consulting and Clinical Psychology, 68*(1), 84–94. doi:10.1037/0022-006X.68.1.84

Grych, J. H, Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The Children's Perception of Interparental Conflict Scale. *Child Development,*

Howing, P. T., Wodarski, J. S., Gaudin, J. M., & Kurtz, P. D. (1989). Effective interventions to ameliorate the incidence of child maltreatment: The empirical base. *Social Work, 34*(4), 330–338. doi:10.1093/sw/34.4.330

Ippen, C.G., Harris, W. W., Van Horn, P., & Lieberman, A. F. (2011). Traumatic and stressful events in early childhood: Can treatment help those at highest risk? *Child Abuse & Neglect, 35*(7), 504–513. doi:10.1016/j.chiabu.2011.03.009

Jouriles, E. N., McDonald, R., Rosenfield, D., Norwood, W. D., Spiller, L., Stephens, N., Corbitt-Shindler, D., et al. (2010). Improving parenting in families referred for child maltreatment: A randomized controlled trial examining effects of Project Support. *Journal of Family Psychology, 24*(3), 328–338. doi:10.1037/a0019281

Jouriles, E. N., McDonald, R., Rosenfield, D., Stephens, N., Corbitt-Shindler, D., & Miller, P. C. (2009). Reducing conduct problems among children exposed to intimate partner violence: A randomized clinical trial examining effects of Project Support. *Journal of consulting and clinical psychology, 77*(4), 705–717.

Jouriles, E. N., McDonald, R., Spiller, L., Norwood, W. D., Swank, P. R., Stephens, N., Ware, H., et al. (2001). Reducing conduct problems among children of battered women. *Journal of Consulting and Clinical Psychology, 69*(5), 774–785. doi:10.1037/0022-006X.69.5.774

Kennedy, A. C., Bybee, D., Sullivan, C. M., & Greeson, M. (2010). The impact of family and community violence on children's depression trajectories: Examining the interactions of violence exposure, family social support, and gender. *Journal of Family Psychology, 24*(2), 197–207. doi:10.1037/a0018787

Kiel, E. J., & Buss, K. A. (2011). Toddlers' duration of attention toward putative threat. *Infancy, 16*(2), 198–210. doi:10.1111/j.1532-7078.2010.00036.x

Kimmel, M. S. (2002). 'Gender symmetry' in domestic violence: A substantive and

methodological research review. *Violence Against Women. Special Issue: use of violence in intimate relationships Part I, 8*(11), 1332-1363.

Lieberman, A. F, Van Horn, P., & Ippen, C. G. (2005). Toward evidence-based treatment: child-parent psychotherapy with preschoolers exposed to marital violence. *Journal of the American Academy of Child and Adolescent Psychiatry*, *44*(12), 1241–1248.

Lieberman, Alicia F., Ippen, C. G., & Van Horn, P. (2006). Child-Parent Psychotherapy: 6-month follow-up of a randomized controlled trial. *Journal of the American Academy of Child & Adolescent Psychiatry*, *45*(8), 913–918. doi:10.1097/01.chi.0000222784.03735.92

McDonald, R., & Grych, J. H. (2006). Young children's appraisals of interparental conflict: Measurement and links with adjustment problems. *Journal of Family Psychology, 20*(1), 88–99. doi:10.1037/0893-3200.20.1.88

McDonald, R., Jouriles, E. N., Ramisetty-Mikler, S., Caetano, R., & Green, C. E. (2006). Estimating the number of American children living in partner-violent families. *Journal of Family Psychology*, *20*(1), 137–142. doi:10.1037/0893-3200.20.1.137

Miller, L. E., Howell, K. H., & Graham-Bermann, S. A. (2012). Predictors of preschoolers' appraisals of conflict in families experiencing intimate partner violence. *Journal of Interpersonal Violence, 27*(3), 568–586. doi:10.1177/0886260511421675

Sterne, J. A. C., White, I. R., Carlin, J. B., Spratt, M., Royston, P., Kenward, M. G., Wood, A. M., et al. (2009). Multiple imputation for missing data in epidemiological and clinical research: potential and pitfalls. *BMJ, 338*(jun29 1), b2393–b2393. doi:10.1136/bmj.b2393

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised Conflict Tactics Scales (CTS2) development and preliminary psychometric data. *Journal of family issues, 17*(3), 283–316.

Swartz, J. R., Graham-Bermann, S. A., Mogg, K., Bradley, B. P., & Monk, C. S. (2011). Attention bias to emotional faces in young children exposed to intimate partner violence. *Journal of Child & Adolescent Trauma, 4*(2), 109–122. doi:10.1080/19361521.2011.573525

Zinzow, H. M., Ruggiero, K. J., Resnick, H., Smith, D., Saunders, B., & Kilpatrick, D. (2009). Prevalence and mental health correlates of witnessed parental and community violence in a national sample of adolescents. *Journal of Child Psychology and Psychiatry, 50*(4), 441–450. doi:10.1111/j.1469-7610.2008.02004.x

Table 3.1

Study 2 Descriptive Analyses for *Children's Perception of Interparental Conflict (CPIC)* Omnibus Scales and Subscales[a] at Three Time Points

	Baseline (N=102)				5 week follow-up (N=85)				6 to 8 month follow-up (N=66)			
	M(SD) Treatment	M(SD) Comparison	Range	α	M(SD) Treatment	M(SD) Comparison	Range	α	M(SD) Treatment	M(SD) Comparison	Range	α
Threat	**7.13(4.35)**	**8.40(4.60)**	**0-18**	**.70**	**7.48(3.91)**	**8.25(4.10)**	**0-18**	**.60**	**9.03(3.68)**	**9.26(4.50)**	**0-18**	**.58**
Self-Blame	**10.69(4.00)**	**10.28(3.24)**	**0-14**	**.77**	**10.84(4.17)**	**10.78(3.46)**	**0-14**	**.84**	**11.44(2.69)**	**11.86(2.93)**	**0-14**	**.73**
Frequency	3.89(3.02)	3.84(2.54)	0-10	.61	3.90(2.82)	4.29(2.53)	0-10	.59	4.93(3.14)	4.71(2.20)	0-10	.59
Intensity	4.18(2.90)	4.24(3.67)	0-12	.74	3.84(2.98)	5.09(3.36)	0-12	.66	5.33(3.64)	3.78(2.25)	0-12	.69
Resolution	3.76(3.19)	3.89(2.86)	0-10	.68	4.31(3.06)	3.51(2.73)	0-10	.68	4.37(3.14)	3.39(2.75)	0-10	.70

[a]Descriptives are reported on non-imputed data

Table 3.2

Study 2 Correlation Analyses of Study Variables[a]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Self-Blame	1																
2. Threat	.27*	1															
3. Frequency	.17	.45***	1														
4. Intensity	.14	.52***	.55***	1													
5. Resolution	-.28*	-.18	.23*	.34**	1												
6. CTS Violence	-.05	.12	.08	.08	-.18†	1											
7. T2 Self-Blame	.42***	.02	.15	.02	-.02	-.08	1										
8. T2 Threat	.07	.46***	.20	.15	-.08	.05	.30**	1									
9. T2 Frequency	.15	.10	.14	.11	.15	.12	.18	.35**	1								
10. T2 Intensity	-.14	.30*	.38**	.38**	.14	.01	.15	.60***	.47***	1							
11. T2 Resolution	-.06	.15	.23†	.40**	.45***	-.02	-.14	.13	.22	.29	1						
12. T3 Self-Blame	.48***	.00	-.02	-.09	.07	-.08	.43**	.00	-.16	-.11	-.12	1					
13. T3 Threat	.17	.23	-.05	-.02	-.27†	.01	.09	.26†	-.03	-.21	-.22	.21	1				
14. T3 Frequency	.14	-.03	.26†	.28†	.32*	-.20	.11	.09	.09	.19	.17	.31*	.34**	1			
15. T3 Intensity	.28†	.17	.11	.18	-.09	-.17	.22	.04	.15	.15	-.03	.13	.51***	.62***	1		
16. T3 Resolution	.12	-.03	.34*	.18	.29†	-.28*	.11	-.07	.18	.26†	.26†	-.03	-.02	.30*	.27†	1	
17. T3 Violence	-.07	-.02	-.09	.03	.02	.09	-.00	.09	-.25†	.11	-.01	.03	.08	.05	-.12	-.19	1

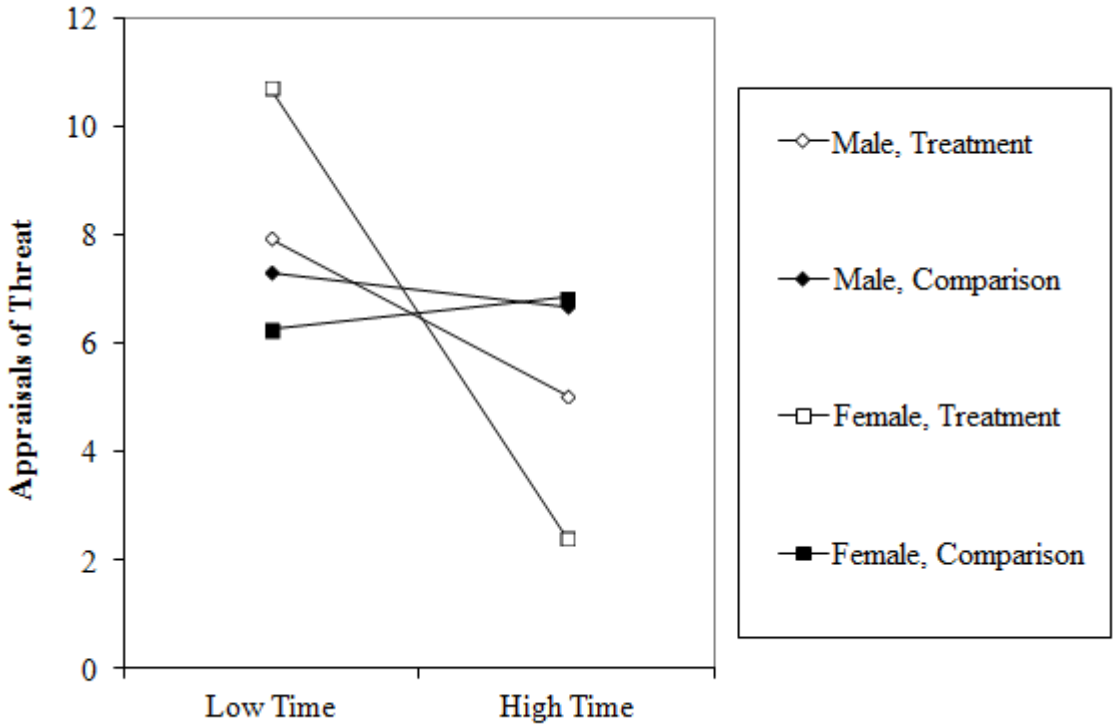
$^{\dagger}p<.10$, *$p<.05$, **$p<.01$, ***$p<.001$, [a]Descriptives are reported on non-imputed data

Table 3.3 Study 2 Multi-level Models for Threat and Self-Blame[b]

	Threat			Self-Blame		
Predictors	β	SE β	t	β	SE β	t
Demographics						
Child Age[c]	-1.61	0.48	-3.36***	-0.27	0.43	-0.63
Child Sex	0.78	1.15	0.68	-2.01	0.99	-2.01*
Treatment Effects						
Treatment	2.53	2.56	0.99	-2.38	2.25	-1.06
Time	0.01	0.04	0.82	-0.03	0.04	-0.61
Treatment*Time	-0.15	0.09	-1.66†	0.07	0.07	0.93
Child Sex*Time	-0.02	0.04	-0.39	0.04	0.04	1.05
Child Sex*Treatment	-2.36	1.66	-1.42	2.42	1.44	1.68†
Child Sex*Treatment*Time	0.11	0.05	1.97*	-0.05	0.04	-1.21
Violence Exposure						
Intensity	0.55	0.15	3.64***	0.07	0.13	0.53
Resolution	-0.58	0.15	-3.95***	-0.35	0.13	-2.76**
Frequency	0.44	0.18	2.45*	0.11	0.16	0.65
CTS Violence	-0.00	0.00	-0.76	-0.00	0.00	-1.10
Intensity*Time	0.00	0.01	0.58	-0.01	0.01	-1.32
Resolution*Time	0.01	0.00	1.49	0.01	0.00	1.74†
Frequency*Time	-0.01	0.01	-1.03	0.01	0.01	1.37
CTS Violence*Time	0.00	0.00	1.49	0.00	0.00	0.58
Physical Abuse - Family	-2.19	2.74	-0.80	-1.55	1.93	-0.80
Physical Abuse - Stranger	-0.66	0.97	-0.68	1.58	0.86	1.85†
Sexual Abuse	-1.33	1.57	-0.85	0.73	1.25	0.58
Constant	6.38	1.19	5.36***	11.44	1.05	10.84***
Error Terms	Estimate	Standard Error	CI (95%)	Estimate	Standard Error	CI (95%)
Individual Intercept Random Effect	$9.72*10^{-9}$	0.00	0-0	1.71	0.61	0.85-3.43
Residual	3.41	0.30	2.86-4.07	2.43	0.40	1.76-3.37

†$p<.10$, *$p<.05$, **$p<.01$, ***$p<.001$, [b]Calculated using multiply imputed data, [c]Child age in month is mean-centered, results for this model with un-centered data were the same

Figure 3.1 Study 2 Three-way Interaction between Treatment, Time, and Child Sex on Child Appraisals of Threat



Chapter IV.

Parent and Child Predictors of Appraisals of Threat and Self-Blame for Children Living in Families Experiencing Intimate Partner Violence (IPV)

Children exposed to intimate partner violence (IPV) are at risk for developing a number of negative psychological, emotional, cognitive and behavioral problems. With regard to cognitive processes, for example, violence exposure has been linked to higher appraisals of threat (Miller, Howell, & Graham-Bermann, 2012). These appraisals, in conjunction with appraisals of self-blame, have been associated with greater internalizing (i.e., anxiety and depression) problems in children of all ages (e.g., Ablow, Measelle, Cowan & Cowan, 2009; Gerard, Buehler, Franck, & Anderson, 2005; McDonald & Grych, 2006). In addition to the deleterious impact of violence exposure on children's cognitive processes, a number of direct effects of violence exposure on child functioning have been identified. Namely, children exposed to IPV experience higher levels of anxiety, depression, behavioral problems, health problems, and may even have suppressed verbal and cognitive ability as compared to their non-exposed peers (e.g., DePrince, Weinzieri, & Combs, 2009; Graham-Bermann & Seng, 2005; Graham-Bermann, Howell, Miller, Kwek, & Lilly, 2010; Paterson, Carter, Gao, Cowley-Malcolm, & Iuisitini, 2008; Zinzow et al., 2009).

In recent years, research on child exposure to violence has become increasingly sophisticated and has moved towards the inclusion of individual and family level factors that may mediate or moderate the relationship between IPV exposure and adjustment outcomes (Graham-Bermann, et al., 2010; Miller, Howell & Graham-Bermann, 2012; Kennedy, Bybee, Sullivan, & Greeson, 2010). A number of these studies emphasize that a more nuanced

analysis of family and individual-level factors provides a more comprehensive perspective on how and why violence has such negative effects on children. Despite recognition of the importance of these intermediary processes, most studies examining IPV have been limited to the use of one or two constructs, and have lacked examination of more complete models that exist for the parallel construct of exposure to normative, non-violent marital discord (e.g., Cummings, George, McCoy, & Davies, 2012). In part, this may be due to the difficulty of recruiting and retaining high-risk families exposed to violence in research studies over time, making sample sizes generally small and prevents use of such complex statistical models. As of yet, only one study examining school-age children exposed to violence over time and including a wide variety of adjustment and family variables has exceeded a sample size of 100 participants (Graham-Bermann, Lynch, Banyard, DeVoe, & Halabu, 2007). The current study aims to provide a comprehensive analysis of the relative contribution of a wide array of family and child factors to the development of preschooler's appraisals of threat and self-blame over time, following exposure to intimate partner violence.

Potential Factors Influencing Children's Cognitive Appraisals

Parenting. Theory in parenting research posits that interparental conflict results in a "spill-over" effect where parental resources are diverted away from parenting and toward a partner/conflict (Krishnakumar & Buehler, 2000). Interestingly, while there is strong evidence to suggest that negative parenting practices are indeed related to poor child adjustment (e.g., Bayer, et al., 2011, Haskett & Willoughby, 2007), it is unclear to what extent parenting practices are directly affected by IPV. Examining the effects of IPV on parenting practices has shown conflicting results, with some large studies showing that IPV is not related to significantly poorer parenting (e.g. Huth-Bocks & Hughes, 2008), and in fact may even be related to better parenting following departure from the abusive home (Casanueva, Martin, Runyan, Barth, & Bradley, 2008; O'Campo, Caughy, & Nettles,

2010). Others, however, have found that maternal IPV exposure is associated with higher levels of harsh-intrusive parenting and lower levels of sensitive-supportive parenting (Gustafsson , Cox, & Blair, 2012). Similarly, Olaya and colleagues (2010) found that mothers exposed to IPV are more likely to be overprotective of sons and punish daughters, and paternal perpetrators of IPV are more likely to be punishing and rejecting of their children (Olaya, Ezpeleta, de la Osa, Granero, & Domenecho, 2010).

The extent to which IPV alters parenting remains a question for future research, but there is relatively consistent research supporting the possible mediating or moderating role of parenting on the relationship between exposure to violence and child adjustment outcomes. For example, Jouriles and colleagues (2012) found that in a sample of adolescents compound exposure to harsh parenting practices and IPV relates to negative outcomes three months later, such as teen dating violence perpetration (Jouriles, Mueller, Rosenfield, McDonald, & Dodson, 2012). Further, teens who perceived their parents to be more accepting and responsive are at decreased risk for delinquent and risky behavior, such as running away from home and early pregnancy (Tajima, Herrenkohl, Moylan, & Derr, 2011). Research on school-aged children indicates that parenting stress may mediate the relationship between IPV and child internalizing and externalizing behavior, but this study has significant limitations in that it is cross-sectional and fails to specify the direct contribution of IPV on child adjustment in the model (Owen, Thompson & Kaslow, 2006). A recent cluster analysis of mothers and children exposed to IPV shows that it may not be parenting stress alone that contributes to poor child adjustment but a pattern of pervasive distress following violence victimization that includes parenting stress, parent-child dysfunctional interactions, and high levels of maternal mental health problems (Hughes & Huth-Bocks, 2007).

The unique and significant challenges that may be inherent in families experiencing IPV is also noteworthy. Specifically, children who are exposed to one type of violence are at

high risk for exposure to other types of violence (e.g., Margolin et al., 2009). Other violence exposures include (but are not limited to) witnessing violence in the community, being physically/psychologically victimized by peers, and having increased exposure to violence in the media. Research on complex violence exposure has indicated that these multiply-victimized children are even more strongly and negatively affected than are children exposed to one type of violence alone (e.g., Pelcovitz, Kaplan, DeRosa, Mandel, 2001; Sternberg, Baradan, Abbot, Lamb & Guterman, 2006; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003). These multiply exposed children are likely to demand significant amounts of parent resources, as they exhibit more difficulties in a wide range of areas across the lifespan, including internalizing problems and traumatic stress, social skills, and aggressive behaviors (e.g., Graham-Bermann, Castor, Miller, & Howell, 2012; Felitti, et al., 1998; Dube, et al., 2005). Therefore, following exposure to IPV, children are likely to make large demands on parenting resources in a context where mothers' ability to parent may be more limited due to their own victimization.

There are two existing studies that evaluate the impact of parenting on children's appraisals of conflict. Siffert, Schwarz, and Stutz (2012) recently examined this relationship in a sample of Swiss adolescents, finding that both perception of parenting skills and teen self-reports of threat mediate the relationship between previous marital conflict and current adolescent self-esteem. However, this two wave study failed to collect information on threat at the first time point, and as such was unable to control for threat at baseline, limiting the utility of this result. It is important to control for threat at multiple time points as research in young children shows that appraisals of threat are related over time (Ablow et al., 2009). In another study of 8 to 12 year olds, DeBoard and colleagues (2010) found that parenting styles moderated the relationship between conflict and children's self-blame with harsh and coercive parenting magnifying the relationship between exposure to conflict and children's

self-blame. Emotionally supportive parenting, however, acted as a buffer and diminished the relationship between exposure to conflict and child self-blame. Although this study had stronger statistical methodology, it was limited by the fact that it was cross-sectional (DeBoard, Fosco, Raynor, & Grych, 2010). As of yet, no studies exist that specifically examine the link between parenting and child appraisals of conflict in families experiencing high levels of violence or that include children under the age of eight.

Social Support. In adults, the presence of greater social support has been linked to a number of positive mental health outcomes, including better physical health, greater satisfaction in relationships, and more positive ratings of emotional well-being (Fiori, Smith, & Antonucci, 2007; Pressman, et al., 2006). In evaluations of women experiencing IPV, social support has been linked to a decreased risk of violence and fewer mental health problems in addition to better parenting (e.g., Beeble, Bybee & Sullivan, 2009; Clark, Silverman, Shahrouri, Everson-Rose & Groce, 2010). Notably, the vast majority of research on social support examines the indirect benefits to children via maternal social support and does not address children's social support structures directly. The direct effects of children's social support networks requires evaluation, especially for children who live in homes where violence is present, as social supports can be an important part of children's safety planning in the event that their primary caregiver is unavailable or incapacitated by injuries (Miller, Howell, Hunter, & Graham-Bermann, 2012). Further, children exposed to violence may require positive and non-violent role models as one means of buffering maladaptive social modeling and gender biases witnessed in the home (Hunter & Graham-Bermann, in press).

To date, one study has examined the direct effect of social networks in children exposed to violence. This study found that children's larger in-home family networks were related to decreased adjustment problems in preschoolers (Miller, VanZomeren-Dohm, Howell, Hunter & Graham-Bermann, in press). This relationship was also moderated by

maternal educational attainment such that children whose mothers had greater education were unaffected by changes in network size, but when mothers had low educational attainment, larger network size was associated with greater decreases in adjustment problems (Miller, et al., in press). This study illuminates the possible complexity of the impact of social support on children exposed to violence but has some limitations, including the cross-sectional nature of the study and the evaluation of only in-home (rather than total) social networks. Although in-home social networks are undoubtedly important for these preschool-aged children as they are still developmentally reliant on adults for their care, examining out-of-home social supports will be an important venue to examine to provide a more holistic perspective on the impact of young children's social supports. As of yet, no studies have examined the impact of children's social support on cognitive appraisals of conflict.

Maternal Mental Health. The effect of intimate partner violence on women's mental health has been relatively well-studied, with both cross-sectional and longitudinal research linking violence victimization to higher rates of depression, anxiety, panic disorder, and posttraumatic stress disorder, among other difficulties (e.g., Blasco-Ros, Sanchez-Lorente, & Martinez, 2010; Cerulli, Talbot, Tang, & Chaudron, 2011; Postmus, Huang, & Mathisen-Stylianou, 2012). The mental health ramifications of exposure to IPV are long-standing and may be unlikely to remit without intervention, especially for those women experiencing higher levels of psychological abuse (Blasco-Ros, et al., 2010). Evidence for this longitudinal pattern of mental health sequelae following violence victimization indicates that mothers may experience significant and impairing mental health problems throughout critical periods of their children's development, even if the violence has ceased.

There is a wealth of research linking maternal mental health problems to decreases in children's adaptive functioning. One longitudinal study of children ages 7 to17 found that children's risk of internalizing and externalizing problems rose with greater length of

maternal depressive episodes (Foster, et al., 2008). Research in preschool-age children has confirmed this pattern, with children in the clinical range of internalizing problems being significantly more likely to have chronically depressed mothers (Trapolini, McMahon, & Ungerer, 2007). In regards to maternal traumatic stress symptoms, one recent longitudinal study found that children whose mothers had posttraumatic stress symptoms had higher rates of posttraumatic stress symptoms themselves following a traumatic injury (Ostrowski, Christopher, & Delahanty, 2007). This relationship was especially strong for girls (Ostrowski, Christopher, & Delahanty, 2007). Further, research that has examined families experiencing IPV has found that maternal mental health problems are linked to more depressive symptoms in children 6 to 12 years old (Gerwitz, DeGarmo, & Medhanie, 2011). Notably, this study found that parenting problems were also linked to child internalizing problems, but parenting problems did not mediate the relationship between maternal mental health and child adjustment. In sum, it appears that maternal mental health problems have a unique and direct impact on child functioning in high-risk families above and beyond what could be explained by increased parenting stress alone.

To date, only one study has specifically examined how maternal mental health is related to children's attributions of threat and self-blame in preschoolers exposed to IPV, finding a negative relationship between child appraisals of threat and maternal posttraumatic stress, but no other significant associations (Miller, Howell, & Graham-Bermann, 2012). However, this study was cross-sectional and could not describe how constructs related over longer periods of time, an important fact that has been noted in other studies of children exposed to violence (Gerwitz, et al., 2011). There is reason to believe that maternal mental health problems would influence child appraisals of interparental conflict over time, as there is evidence that maternal mental health problems affect other types of children's cognitive appraisals. For example, in a study of 5 year old children, those exposed to maternal

depression were more likely to exhibit maladaptive cognitions of hopelessness, pessimism, and low self-worth (Murray, Woolgar, Cooper, & Hipwell, 2001).

Child Mental Health. As with mothers exposed to IPV, there is no question regarding the negative impact of exposure to IPV on children's mental health. Children exposed to IPV have been found to be at great risk for a number of problems, including behavioral and emotional problems, lower cognitive ability, health problems, posttraumatic stress symptoms/disorder, and social difficulties (e.g., Graham-Bermann, Castor, Miller, & Howell, 2012; Graham-Bermann, Howell, Miller, Kwek & Lilly, 2010; Graham-Bermann & Seng, 2005; Marakovitz, Wagmiller, Mian, Briggs-Cowan & Carter, 2011; Suglia & Enlow, 2009; Kullowatz & Wright, 2009). There is also substantial support showing that maladaptive patterns of cognitive appraisals are highly associated with mental health problems, accounting for as much as 60-65% of child posttraumatic stress symptoms in one study (Stallard & Smith, 2007). This is also true of child onset depressive symptoms, which have been found to be related to a negative cognitive style (e.g., Cole, et al., 2009, Luebbe, Bell, Allwood, Swenson, & Early, 2010). Cognitive errors have also been found to moderate the relationship between divorce and child internalizing *and* externalizing problems (Mazur, Wolchik, & Sandler, 1992).

A number of studies have specifically examined the mediating effect of cognitive appraisals of conflict. This research has systematically supported a mediating effect of threat and self-blame on children's internalizing problems (e.g., Gerard et al., 2005; Grych, Fincham, Jouriles & McDonald, 2000; Shelton & Harold, 2008), but has produced more inconsistent results for externalizing problems (e.g. Ablow, et al., 2009; Gerard et al., 2005; Grych et al., 2000). Most of these studies, however, have involved a cross-sectional examination of these constructs. Longitudinal analyses provide greater support for the mediating role of maladaptive cognitive appraisals on externalizing problems over time

(Grych, Harold, & Miles, 2003). Further, only one of these studies (Grych, et al, 2000) has included children experiencing IPV, who are likely at greater risk for maladaptive cognitive appraisals than children not experiencing IPV (Fosco, DeBoard, & Grych, 2007; Miller, et al., 2012).

The Current Study

The aforementioned studies have examined how children's appraisals are associated with mental health problems, but there has been a dearth of research on the possible bi-directional nature of this relationship. A recent longitudinal study of school-aged children between the ages of 11 and 13 provided some preliminary evidence for mental health difficulties preceding maladaptive cognitions, finding that aggression in children at baseline was significantly related to appraisals of self-blame at time 2 (Harold, Aitken, & Shelton, 2007). As children exposed to IPV are at particular risk for mental health problems, it will be essential for research to examine how these mental health problems could predict maladaptive cognitive appraisals over time.

Finally, there is little available research on the cognitive appraisals of children in the preschool years. To the knowledge of this author, only two studies to date have examined the cognitive appraisals of children under the age of six (Ablow, et al., 2009; Miller, et al., 2012), and both of these studies were cross-sectional. The need for additional information on the appraisals of preschoolers is clear, as children at this age are exposed to IPV more frequently than are older children (Fantuzzo & Fusco, 2007; Finkelhor, Ormrod, Turner, & Hamby, 2005), and therefore may be at greater risk for developing pathology.

Study 3 Aims and Hypotheses

A handful of previous studies on children's cognitive appraisals of interparental conflict have found relationships between these appraisals and a number of demographic and

environmental variables. However, no studies have examined the potential impacts of a number of individual and family level variables. Therefore, it is hypothesized that:

1) Positive parenting practices will be significantly associated with fewer maladaptive cognitive appraisals.
2) Children with greater levels of social support (as assessed by the number of close relationships with those living in the home) will report fewer maladaptive cognitive appraisals.
3) Children whose mothers have fewer mental health problems (e.g., PTSD and depression symptoms) will report fewer maladaptive cognitive appraisals.
4) Children who have fewer mental health problems (e.g., PTSD and adjustment problems) will report fewer maladaptive cognitive appraisals.

Methods

Analytic Protocol

The third and final study of this dissertation uses the same modeling structure presented for Study 2, but adds parenting practices, child and mother mental health, and mother and child social support as predictors. Because of the number of relationships being tested, variables are grouped theoretically to simplify model structure. Specifically one "child model" including all child characteristics and one "parent model" including all parent characteristics is run for each outcome variable.

Procedures

Data for this dissertation study were collected as a part of a larger, ongoing study that addresses the effectiveness of an evidence-based intervention program for children exposed to IPV (Graham-Bermann, 2006-2011). All data collection procedures were approved by the University of Michigan Institutional Review Board. Following this approval, mothers and their preschool-aged children were recruited using advertisements and flyers that were posted

in local agencies, such as county legal and mental health services, domestic violence shelters, and grocery stores. All advertisements included a toll free number and email address for the mother to contact the study coordinators (See Appendix I). Following contact, all mothers completed a brief phone screen in order to determine inclusion eligibility, which were: the mother must have experienced IPV in the past two years, the child must have been a witness to at least one of these events, and the child must be between the ages of 4 and 6. Mothers were assigned to either the treatment or comparison group using a sequential random assignment procedure, where participants were given group assignment in alternating groups of six. This procedure was selected in order to reduce the amount of time mothers had to wait to begin the intervention. Following assignment and description of the study, if mothers were still interested in participating, all families were then scheduled for their baseline interview.

At the baseline interview, each mother completed consent forms for her and her child's participation as well as a form giving permission for the project coordinator to contact her for future interviews (See Appendices J-M). The interview process was reviewed with all of the mothers - that they would be asked to participate in a follow-up interview in approximately 5 weeks, and then a third interview between 6 and 8 months after that. Mothers received $25 for each interview, and the child received a gift valued at approximately $4 at each interview (e.g. hot wheels, kickballs). The mothers' interviews lasted approximately 1.5 hours and the children's interviews lasted approximately 30-45 minutes. In order to ensure participant and interviewer safety, interviews were only conducted at the women's homes if they were no longer living with an abuser. If she was currently living with a violent partner, the interviews were scheduled to occur at a mutually agreed upon, safe location such as a library or community center. Interviews were conducted by trained graduate and undergraduate students in psychology, all of whom had completed formal training in research ethics with at-risk populations.

Mother-child dyads assigned to the treatment group completed the Preschool Kids' Club and Mom's Empowerment Program between the first and second interviews. The intervention programs took place in shelter community centers in Southeast Michigan and in a children's community center in Southern Ontario and occurred twice weekly for 5 weeks (total of 10 sessions). Childcare was offered for those families who had children who were not in the age-range for participating in the Preschool Kids' Club group. Group therapists were social workers, psychologists, and graduate students in clinical psychology and social work. While groups were active, all therapists received weekly supervision by a licensed clinical psychologist.

Following the intervention, families in the treatment group completed the follow up interview. Comparison families completed their follow-up after a five-week wait period. At this point, comparison families were given the opportunity to participate in the intervention program. Nine families in the comparison group participated, and as such, their 6-to-8 month follow up interview was not included in data analysis. Although this did compromise the amount of available long-term follow-up data, the decision to offer the families treatment was based on ethical considerations for working with high-risk families. Data for those families in the comparison group who participated in the intervention was not included in the current analyses.

Participants

The study included 120 mothers and their preschool-aged children, all of whom had been exposed to IPV in the past two years. On average, children were five years old (*SD* = .86) and represented a diverse range of racial/ethnic backgrounds. Thirty-eight percent of the children were European American, 37% were African American, 20% were Biracial, and 5% were Hispanic American. Sixty-four of the children were boys. On average, mothers reported that their child had 3 close relationships with people who lived in the home. In general,

income for participants was low (*M*=$1,414 per month), but there was great variability (*SD*=$1,549).

Measures

Demographics. Mothers completed a questionnaire to gather basic background information such as her age and age of her child**,** income, ethnicity, educational attainment, housing history and relationship status (See Appendix A). Mothers additionally provided a list of the child's close relationships and cited which of these were currently living in the home.

Intimate Partner Violence. IPV was measured using the Revised Conflict Tactics Scales (CTS2; Straus, et al., 1996), which assesses the frequency of Psychological Aggression (e.g., "My partner accused me of being a lousy lover"), Physical Assault (e.g., "My partner slapped me"), Injury (e.g., "You had a broken bone from a fight with your partner"), Sexual Coercion (e.g., "My partner insisted that I have sex when I didn't want to"), and Negotiation (e.g.,"My partner agreed to try a solution I suggested") over the past year in a couple's relationship. In deference to participating agencies, only the 39 maternal questions assessing violence victimization (and not perpetration) were administered (See Appendix B). The CTS2 has been shown to be reliable, with subscales ranging from α=.79 to α=.95 (Straus, et al., 1996). The reliabilities for the CTS2 Total Scale at each measurement time point in the present study were (α) .81 at baseline at .91 at follow-up with subscales of Negotiation (α=.65, .60), Psychological Aggression (α=.60, .82), Physical Assault (α=.72, .87), Sexual Coercion (α=.80, .82), and Injury (α=.62, .47). Only scales of Physical Assault, Sexual Coercion, and Injury were used for the current analysis due to the fact that that the scales of Negotiation and Psychological Aggression were inconsistently administered at the final follow-up.

Maternal Parenting Practices. Mothers' parenting practices were assessed using the *Alabama Parenting Questionnaire* (APQ; Frick, 1991; Frick, Christian, & Wootton, 1999;

Shelton, Frick, & Wootton, 1996). The APQ is a 42-item measure assessing both positive and negative parenting practices (See Appendix C). A variety of more specific subscales assess particular aspects of negative and positive parenting. The Positive Parenting subscale is composed of information on Involvement (e.g., "You talk to your child about his/her friends"), Positive Parenting (e.g., "You compliment your child when he/she has done something well "), and Non-corporal punishment (e.g. "You give your child extra chores as a punishment"). The Negative Parenting subscale is composed of information on Poor monitoring/supervision (e.g., "You get so busy that you forget where your child is and what he/she is doing"), Inconsistent Discipline (e.g., "You threaten to punish your child and then do not actually punish him/her"), and Corporal Punishment (e.g., "You hit your child with a belt, switch, or other object when he/she does something wrong"). Participants are asked to rate on a five-point scale, ranging from 1 (Never) to 5 (Always), the frequency with which the parenting practices typically occur in their home. The APQ has been shown to be reliable and valid with all scales having moderate internal consistency (α=.55-.77; Dadds, et al., 2003). Current study reliabilities for the subscales were as follows: Involvement (α=.70-.71), Positive Parenting (α=.63-.88), Non-corporal Punishment (α=.34-.35), Poor monitoring/supervision (α=.51-..72), Inconsistent Discipline (α=.71-.72), Corporal Punishment (α=.39-.57). Reliability of the Negative Parenting composite scale ranged from α=.73-.74. Reliability of the Positive Parenting composite scale ranged from α=.70-.78. Because of low reliability, the Non-corporal Punishment and Corporal Punishment scales were not used in the current analyses.

Maternal Depressed Mood. Mothers were asked to complete the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), a 20 item self-report scale designed to assess levels of depressed mood in adults (See Appendix D). Items assess various symptoms of depression, including depressed affect, positive affect, somatic complaints, and

interpersonal attributes. Each item can be rated as 1-Never, 2-Sometimes, 3-Often, 4-Almost all the time/Always. The CES-D's reliability and validity have been established in numerous samples, with an internal reliability of α=.85 and test-retest reliability of .54 (Radloff, 1977; Roberts, Andrews, Lewinsohn, & Hops, 1990). It is also highly correlated with other self-report measures of depressed mood and with clinical ratings of depression (Radloff, 1977). Reliability for the present study ranged from (α)=.78 to (α)=.79.

Maternal Posttraumatic Stress. Mothers' symptoms were assessed with the Posttraumatic Diagnostic Scale (PDS; Foa, 1995). The PDS is a 49-item measure designed to assist with the detection and diagnosis of Posttraumatic Stress Disorder (PTSD) in adults (See Appendix E). First, mothers completed a brief checklist of lifetime traumas that they may have experienced and then were asked to describe their worst incident of traumatic violence with a partner. Mothers were then asked about possible symptoms that may have occurred after experiencing a traumatic event. PDS items measure traumatic Reexperiencing (e.g. "Having bad dreams or nightmares about the traumatic event"), Avoidance/Numbing (e.g. "Feeling emotionally numb"), and Physiological Reactivity/Arousal (e.g. "Having trouble falling or staying asleep"). Mothers reported how often each symptom had occurred in the past month using a Likert scale where 0 represented "not at all/only once" and 3 represented "5 or more times a week/almost always". They also reported how long after the trauma the symptoms began. In the present study, reliability for the Total PDS score was (α) .88-.89 with (α) .80-.85 for the PDS Reexperiencing scale, (α) .76-.80 for the PDS Avoidance scale and (α) .72-.75 for PDS Arousal.

Children's Appraisals of Interparental Conflict. Children's appraisals of Threat and Self-Blame were assessed using the Children's Perception of Interparental Conflict Scale (CPIC; Grych, et al., 1992). This 48-item measure was designed to evaluate school-aged children's appraisals of Conflict Properties, Self-Blame and Threat (See Appendix F). The

Conflict Properties subscale includes: Frequency (e.g. "I never see my parents arguing or disagreeing"), Intensity (e.g. "My parents get really mad when they argue"), and Resolution (e.g. "When my parents argue, they usually make up right away"). The *Self-Blame* subscale includes: Content (e.g. "My parents' arguments are usually about me") and Self-Blame (e.g. "It's usually my fault when my parents argue."). The *Threat* subscale includes: Threat (e.g. "I get scared when my parents argue") and Coping Efficacy (e.g. "I don't know what to do when my parents have arguments.") For each item, children can choose whether it is true (2), sometimes true (1) or not true (0) of their families. As described in Study one, interviewers were trained on developmentally appropriate modifications to interview structure to help ensure the quality of children's responses. This measure has been used in a number of studies with test-retest reliability ranging from .68 to .76 (Grych, et al., 1992). Following a factor analysis conducted in Dissertation Study 1, it was determined that the Conflict Properties scale was better described by use of the three separate subscales due to the fact that while factors hung together within each individual scale, they failed to cohere to a three factor structure when examined together (See Dissertation Study 1). Threat and Self-Blame were found to maintain the hypothesized factor structure outlined by Grych and colleagues (1992). Therefore, these omnibus scales were used. Reliabilities for these scales at all time points can be found in Table 1.

Child Posttraumatic Stress Symptoms. The *Posttraumatic Stress Disorder Semi-Structured Interview and Observational Record for Infants and Young Children* (Scheeringa & Zeanah, 1994) was used to assess children's posttraumatic stress symptoms. This 31-item measure is completed by the mothers and designed to identify the presence/absence of PTSD symptoms in children along four dimensions: Reexperiencing (e.g. "Did your child re-enact part of the traumatic event?"), Avoidance (e.g. "Since the event, has your child tried to avoid conversations about it?", Arousal (e.g. "Has your child seemed watchful or on guard even

when there was no reason to be?"), and a list of experimental associated symptoms (See Appendix G). For each item, mothers were asked whether or not they had witnessed that symptom or behavior, and if they responded affirmatively, they were asked to provide an example. This scale has showed acceptable levels of reliability for use with preschoolers, with reliability for all scale items reported as α=.75 (Scheeringa, Wright, Hunt, & Zeanah, 2006). Following the interviews, the responses were evaluated by a clinical psychologist and trained researchers to determine whether or not the mother's report met the threshold for a trauma symptom. Each symptom was rated as 0- not present, 1- somewhat/ a little, or 2- present a lot of the time. Total scale reliability for the present study was (α) .76-.80.

Child Adjustment. The *Child Behavior Checklist* (CBCL, Achenbach, 1991) has shown to be both valid and reliable in research with clinical populations (Achenbach & Edelbrock, 1993). Mothers completed this 113-item inventory on their child's adjustment problems using a three-point Likert scale where 0 indicates that the item is "not true" of their child, 1 indicates that the item is "somewhat or sometimes true" of their child, and 2 indicates that the item is "very true or often true" of their child (see Appendix H). Two scales represent broad areas of child adjustment: the Internalizing scale consists of Anxiety/Depression, withdrawal and somatic complaints syndrome subscales, whereas the Externalizing scale consists of aggression and delinquency syndrome subscales. The CBCL also gives a summary score for total adjustment problems. Reported internal consistency for the Internalizing, Externalizing and Total scales is (α =) .89, .93, and .96, respectively (Achenbach, 1991). Reliabilities for the current sample varied between the three data collection time points, ranging from: (α =) .91-.93 for the Externalizing subscale, (α =) .87-.90 for the Internalizing subscale, and α = .94 for the Total scale.

Results

It should be noted that the sample for the current study is the same as that used in Study 2. Therefore, a number of results in this section remain the same. However, attrition analyses and differences between included and excluded children were re-evaluated in relation to family and individual level environmental variables evaluated in the current study. In all, 120 children and their mothers were interviewed at baseline, (Comparison, n=68; Treatment, n=52), 97 at five-week follow-up (Comparison, n=51; Treatment, n=46), and 69 6 to 8 months later (Comparison, n=37; Treatment, n=32). There were no significant differences on any study variable based on group assignment, indicating that randomization techniques were effective.

Drop Analyses

Drop rates over time were also not significantly related to group assignment. However, there were a few differences between drop and non-drops on other study variables. Children who did not participate in the five-week follow-up interview were significantly more likely than non-drops to be an ethnic minority ($\chi^2(1)=6.11$, $p<.05$) and to have mothers who used less positive parenting strategies ($t(118)=-2.01$, $p<.05$). They were also less likely to report somatic complaints than were non-drops ($t(64.00)=-1.79$, $p<.05$).

At 6 to 8 month follow-up children who dropped from the study were significantly different from non-drops in the following ways: they had mothers who reported a lower income at baseline ($t(116)=2.09$, $p<.05$) and who were less likely to use positive negotiation strategies with their partner ($t(118)=2.50$, $p<.05$). Children who did not participate in the third and final interview did not differ from participating children in any other regard.

Inclusion Protocol

As with previous studies, inclusion protocol for children's responses was enforced at each time point. The rationale for this protocol stems from data analyzed in a previous study

that indicated that not all preschoolers are capable of providing valid self-report of their cognitive appraisals. Here, children were excluded from the analysis if they: (1) had an interviewer rating of "no understanding" regarding comprehension of interview material (2) a verbal ability score in the extremely low range (Scaled Score <5) and (3) measure completion rate of less than 40%. These criteria were established in a previous study of preschool age children exposed to intimate partner violence (Miller, Howell, & Graham-Bermann, 2012).

Following the exclusion of invalid interviews, a careful analysis of these children was undertaken in order to inform analytical models of possible needed controls and areas of bias. At baseline, 18 children were excluded from the analysis, with no significant difference in treatment (n=8) and comparison (n=10) group drops. However, children who were excluded from the analysis at baseline were younger ($t(118)=2.77$, $p<.01$).

At five week follow-up, children were again excluded at an even rate across groups, (n=6 comparison group and n=5 treatment group) for a total of 11 excluded interviews. The eleven children who were excluded were more likely than included children to have a mother with higher levels of traumatic stress symptoms ($t(96)=-2.23$, $p<.05$). Excluded children were also more likely to have more total posttraumatic stress symptoms both concurrently and at baseline ($t(96)=-2.01$, $p<.05$; $t(96)=-3.53$, $p<.01$). As with children who were excluded at baseline, children who were excluded from the analyses were more likely than included children to have internalizing problems (baseline, $t(96)=-1.99$, $p<.05$; concurrent $t(96)=-2.01$, $p<.01$), externalizing problems (baseline, $t(96)=-2.05$, $p<.05$), and total adjustment problems (baseline, $t(96)=-2.30$, $p<.05$; concurrent, $t(96)=-2.21$, $p<.05$). Although not all children were excluded at both baseline and five-week follow-up, meeting criteria for exclusion at baseline was significantly associated with meeting criteria for exclusion at five-week follow-up ($\chi^2(1)=12.34$, $p<.001$).

At 6 to 8 month follow-up, three of 69 interviewed children were excluded from the analyses. As in previous waves, children were dropped relatively evenly by group (Comparison=2; Treatment=1). Children who were excluded at the final interview were more likely than included children to have mothers reporting higher levels concurrent maternal depressed mood (t(65)=-2.13, $p<.05$). Children who were excluded at 6 to 8 month follow-up were also more likely than included children to have been excluded at previous time points (baseline, $\chi^2(1)=10.80$, $p<.01$; five week follow-up $\chi^2(1)=8.27$, $p<.01$).

Imputation Procedure

In order to account for incomplete data amongst those children qualifying for inclusion, multivariate normal imputation was used. Twenty datasets were created in order to achieve recommended stability in coefficient estimates (Graham, Olchowski, & Gilreath, 2007). All predictor variables that were included in the models for the current study were also included in the imputation model.

Violence Exposure

There were no significant differences in violence exposure at baseline across groups or between included and excluded children. At baseline, mothers reported an average of 197 violent events in the past year, including an average of 98 instances of psychological aggression (*SD*=51.32), 56 physical assaults (*SD*=58.35), 26 instances of sexual coercion (*SD*=39.37), and 16 incidents where violence resulted in injuries (*SD*=18.58). At 6 to 8 month follow-up, data on physical assaults, sexual coercion, and violence related injuries were gathered. Mothers in the comparison group reported an average of 6 physical assaults (*SD*=16.3), 2 instances of sexual coercion (*SD*=5.48), and 2 violence related injuries (*SD*=5.06) since the last interview. Mothers in the treatment group reported an average of two physical assaults (*SD*=6.50), one instance of sexual coercion (*SD*=2.49) and one violence related injury (*SD*=1.90) since the last interview.

Threat and Self-Blame Analyses

Descriptive analyses of the CPIC omnibus scales and subscales can be found in Table 4.1. There were no significant differences between treatment and comparison groups on any scale at baseline.

[Insert Table 4.1 Here]

Relationships between study variables were examined in order to inform modeling. Correlational analyses can be found in Table 4.2.

[Insert Table 4.2 Here]

Child Predictor Models

Threat. A multi-level model with random intercepts was run that included child predictors (child adjustment, trauma, and social support). Notably, individual random effects explained little of the residual error term, indicating that there was little unique effect of threat by person. As in Dissertation Study 1, older children reported significantly fewer appraisals of threat than did younger children at baseline (β=-1.30, t=-3.02, p<.01). Higher child reports of frequent fighting between parents and increased reports of argument intensity were also related to higher appraisals of threat (β=0.51, t=3.82, p<.001; β=0.40, t=2.66, p<.01, respectively). In addition, children's reports of conflict resolution between parents was related to higher levels of threat (β=-0.47, t=-3.71, p<.001). That is, children who reported that their parents "made up" after a fight had higher levels of threat. The hypothesis that children's in-home social support would be significantly related to decreases in appraisals of threat was not supported in this model. Finally, children who exhibited higher levels of internalizing symptoms reported increased appraisals of threat over time (β=0.08, t=1.84, p=.07), providing support for the hypothesis that poor child adjustment would be related to higher levels of maladaptive cognitive appraisals. Alternatively, children's posttraumatic stress symptoms were linked to lower appraisals of threat (β=-0.14, t=-2.13, p<.05),

Self-Blame. An identical multi-level model was run to determine predictors of child appraisals of self-blame. In this case, individual random effects accounted for a significant portion of residual error, indicating that there may be some unique individual factors associated with fluctuations in self-blame over time that are not captured by the model. Nonetheless, there were some significant main effects in the model. Like in the model of threat appraisals, children who reported greater levels of resolution between their parents after a fight reported higher levels of self-blame (β=-0.22, t=-2.06, p<.05). In contrast to hypothesized effects, children who had lower levels of externalizing behavior problems had higher levels of self-blame at baseline (β=-0.09, t=-2.31, p<.05). However, there was a trend for children with higher levels of internalizing problems to report higher levels of self-blame (β=-0.07, t=1.71, p=.08), which was consistent with the hypothesized direction of this relationship. There was no evidence in this model to support a buffering effect of child social support on appraisals of self-blame.

[Insert Table 4.3 here]

Parent Predictor Models

Threat. A multi-level model with random intercepts was used to assess the contribution of parent characteristics (maternal depression, maternal trauma, positive parenting) on children's appraisals of threat over time. The predictive qualities of basic demographic characteristics and children's reports of violence were also significant in this model (See Table 4.4). Namely, children's reports of threat were lower in older children and were positively related to argument frequency and intensity, but negatively related to conflict resolution. In addition to the stability of these findings, maternal trauma was also a significant predictor of children's appraisals of threat over time (β=-0.09, t=-2.21, p<.05), but in the opposite direction of that hypothesized, such that less maternal trauma predicted to greater

appraisals of threat. There was a trend-level effect indicating that evidence more positive parenting practices is associated with decreases in threat appraisals (See Table 4).

Self-Blame. A multi-level model with random intercepts was also used to assess the contribution of parent characteristics (maternal depression, maternal trauma, positive parenting) on children's appraisals of self-blame over time. Again, individual random effects accounted for a significant portion of the residual error term. In this model, only maternal depression was a significant predictor of children's appraisals of self blame (β=-0.08, t=-2.46, p<.05), again in contrast to the hypothesized direction, such that children who had mothers reporting higher levels of depressive symptoms reported less self-blame over time. There was no evidence to suggest that positive parenting practices were related to decreases in child appraisals of self-blame, but there was a trend-level effect indicating that controlling for parent variables those children who participated in treatment group had slightly lower appraisals in self-blame over time (See Table 4.4).

[Insert Table 4.4 here]

Discussion

The current study provided weak support for the effect of positive parenting on children's maladaptive cognitive appraisals (a trend-level finding for threat) and no support for a positive effect of social support. Despite this, there were some notable findings in regards to the effect of child and maternal mental health on threat and self-blame. First, internalizing symptoms were significantly child appraisals of threat, supporting a number of studies that have shown the relationship between these variables in older children (e.g., Gerard et al., 2005; Grych, et al., 2000; Shelton & Harold, 2008). In addition to reinforcing previous research, this finding is important for a number of reasons. First, it confirms that internalizing symptoms are meaningfully related to children's appraisals, even at this very young age. This finding not only reinforces the validity of this measure with preschool-aged

populations, but it is also important in identifying that these appraisals of threat are related to adjustment problems for children even as young as four, who are in a different developmental stage than the older, school-aged children previously evaluated with this measure.

This dissertation study also found that the presence of externalizing behavior problems was significantly related to lower appraisals of self-blame over time. Other researchers report mixed results regarding the relationship between externalizing behavior problems and self-blame, with some studies identifying a mediating role of appraisals (e.g., Grych, Harold, & Miles, 2003) and others failing to find this relationship (e.g. Ablow, et al., 2009). It should be noted that the study by Grych and colleges (2003) was with older children (11 to 12) and the study by Ablow and colleagues was with children in a similar age range to those examined in the current study (5 and 6). The measures and reporters used to assess child adjustment and children's appraisals of conflict in the study by Ablow and colleagues (2009) were different than the measures used in the current study, which could in part account for disparity in the findings. Specifically, Ablow and colleagues used the Berkeley Puppet Interview to assess child cognitions and used teacher rather than parent report of adjustment problems. Nonetheless, the examination of these two studies together indicates that the relationship between self-blame and externalizing symptoms may be significantly different in early childhood than it is for older children. It may be that children in violent families who are reporting higher levels of self-blame are not acting out at home due to fears that their misbehavior may fuel violent conflict between their parents or bring harm to themselves.

Higher maternal and child trauma symptoms were both linked to lower appraisals of child threat, a contrary finding to the hypothesized relationship. This unusual finding prompted a close examination of children's threat appraisal items to try to understand why children with highly traumatized mothers may feel less threatened. For one, it is possible that mothers and children who are experiencing increased posttraumatic stress symptoms may be

more proactive in taking measures to maintain safety. For example, mothers who are concerned about locking doors and windows to protect their own safety from the abuser (i.e., hypervigilance) are also protecting their own children's safety. In addition, mothers experiencing avoidance symptoms may be less likely to take their children to see their abusive partner, or may avoid places where violence has previously occurred, even moving to a new home. Again, this may serve a somewhat protective function for children, isolating them from stimuli that were previously threatening. Still the explanations remain speculative and suggest the need for further study in this area.

Greater maternal depressive symptoms were also related to decreases in children's reports of self-blame over time. This finding is somewhat contradictory given that preschool children with chronically depressed mothers are more likely to experience clinical levels of internalizing behavior problems (Trapolini, McMahon, & Ungerer, 2007). Given that self-blame may be one cognitive characteristic of a depressed profile, it is surprising that in the current study, children with more depressed mothers appear to be having lower levels of self-blame. One hypothesis for this finding is the participants in the current sample reported, on average, relatively high levels of positive parenting practices (See Table 2). It may be, therefore, that these children show some emerging resilience in the domain of self-blame due to complex interactions between psychosocial risk and protective factors. There is evidence that the interaction between life stress and parenting may produce such resilience under certain conditions (e.g., parent-child relationship warmth following marital conflict; Rutter, 1999; Phelps, Belsky, & Crnic, 1998).

There was also some indication that intervention may have been helpful in decreasing children's appraisals of self-blame. However, this finding was only evidenced in the parent models and did not appear in either child models or the treatment models tested in Study Two. It may be that this finding is spurious, but it may also indicate a more complex interaction

between parent and child factors in treatment that require further analyses. Although beyond the bounds of the current dissertation, future research should examine these complex relationships with larger samples, ensuring the proper level of power to detect change in these complex models.

In sum, the current study reinforces findings of the other dissertation studies in regards to the influence of violence exposure and demographic predictors of maladaptive cognitive appraisals. Additionally, it provides new data regarding the longitudinal relationships between cognition and child and parent mental health variables. As such, the findings have a range of important clinical implications.

Clinical Implications

In the current study, it appears that poor maternal mental health is a protective factor for children's maladaptive cognitive appraisals of violence. This finding must be interpreted with caution, because the goal for intervention with women and children exposed to violence is to improve mental health for both mother and child and not one at the expense of the other. As such, it is essential that mothers and children who are exposed to IPV participate in concurrent treatment. Not only has this been recommended as the most efficacious method for decreasing child adjustment problems (Graham-Bermann, et al., 2007), it also provides clinicians the opportunity to carefully monitor the symptoms of both mothers and children and may help ensure that the family unit as a whole is demonstrating responsiveness to treatment.

If it is the case that mothers with posttraumatic stress symptoms are more vigilant regarding their children's safety, it may be helpful for clinicians to work actively with both mothers and children to facilitate the development of a permanent safety plan that ensures both continued protection for the child as mothers' posttraumatic stress symptoms decrease. Similarly, working with depressed mothers to help externalize attributions of blame without increasing children's appraisals of self-blame should be an essential aspect of treatment. This

might entail joint work with mothers and children to help accurately identify the perpetrator as "at fault" for the violence.

Limitations

The current study has a number of limitations that require a careful interpretation of the results. First, due to the size of the current sample, it was not possible to enter all parent and child predictors into the same model. Although this is potentially advantageous in regards to creating parsimonious models, it is also problematic in that mother characteristics and child characteristics could not control for each other. For example, mother and child depressive symptoms were not allowed to be correlated as they were predictors in separate models. Future research could address this problem in a number of ways. First, an increase in sample size would allow for the inclusion of a greater number of predictors. Second, future research could drop variables that do not appear to significantly contribute to children's appraisals – in this case, in-home social support and maternal reports of violence.

When comparing the results of the current study to other research on children's cognitive appraisals of conflict, it is important to keep in mind that these findings are limited in their ability to be generalized to populations who have not been exposed to violence. This is particularly relevant for findings related to posttraumatic stress, which are less likely to be evident in mothers who have not been exposed to IPV. It should also be considered that the participants were from a single geographic area of the United States, and the results therefore may not generalize to other socio-cultural environments. Similarly, the participants were predominately of Caucasian or African-American descent, and the representation of Asian-American and Latina women was quite limited.

Finally, results of the current study may differ from those of other studies due to the use of maternal report rather than using outside reporters of child functioning (e.g. teacher, Ablow, et al., 2009). Children may have unique emotional and behavioral reactions to the

home environment because of constant reminders of traumatic violence, thus it is important that future research include a broad assessment of children's function in a number of domains. In this way, we will be better able to understand how maladaptive cognitive appraisals may differentially affect children's lives across domains.

Future Directions

The results of the current study illuminate significant questions about complex relationships between child cognition and parental mental health in families experiencing IPV. Future research should work to examine these relationships in statistically rigorous ways through the use of multi-level modeling and path analysis/latent modeling techniques. Given the large number of relationships that require examination, it will be important for future studies to include greater numbers of participants in order to achieve adequate power to explore complex longitudinal relationships.

In addition, future research should consider the inclusion of a control group to determine if the strength, direction, and nature of the relationships of these constructs hold true for other families, or if these findings are unique to those children who are living in highly violent and traumatizing environments. Gaining additional information on how these relationships vary across groups may provide a set of specific recommendations for treatment delivery targeted to the needs of families experiencing varying levels of conflict and violence.

Future research projects may also consider tracking children over a longer period of time. Although some effects were found in the current study, it may be that children's appraisals continue to change and be influenced by environmental variables in qualitatively different ways over additional months and years. It seems important to identify which children hold particular patterns to better serve their needs and promote their well-being.

References

Ablow, J. C., Measelle, J. R., Cowan, P. A., & Cowan, C. P. (2009). Linking marital conflict and children's adjustment: The role of young children's perceptions. *Journal of Family Psychology*, *23*(4), 485-499. doi:10.1037/a0015894

Achenbach, T. M. (1991*). Manual for the Child Behavior Checklist: 4-18 and 1991 Profile*. Burlington: Department of Psychiatry, University of Vermont.

Achenbach, T., & Edelbrock, C. (1993). *Manual for the Child Behavior Checklist and Revised Child Behavior Profile*. Burlington: University of Vermont, Department of Psychiatry.

Atkinson, E. R., Dadds, M. R., Chipuer, H., & Dawe, S. (2009). Threat is a multidimensional construct: Exploring the role of children's threat appraisals in the relationship between interparental conflict and child adjustment. *Journal of Abnormal Child Psychology*, *37*(2), 281-292. doi:10.1007/s10802-008-9275-z

Bayer, J. K., Rapee, R. M., Hiscock, H., Ukoumunne, O. C., Mihalopoulos, C., & Wake, M. (2011). Translational research to prevent internalizing problems early in childhood. *Depression and anxiety*, *28*(1), 50–57. doi:10.1002/da.20743

Chan, K. L., Brownridge, D. A., Yan, E., Fong, D. Y. T., & Tiwari, A. (2011). Child maltreatment polyvictimization: Rates and short-term effects on adjustment in a representative Hong Kong sample. *Psychology of Violence*, *1*(1), 4-15. doi:10.1037/a0020284

Beeble, M. L., Bybee, D., Sullivan, C. M., & Adams, A. E. (2009). Main, mediating, and moderating effects of social support on the well-being of survivors of intimate partner violence across 2 years. *Journal of Consulting and Clinical Psychology*, *77*(4), 718–729. doi:10.1037/a0016140

Blasco-Ros, C., Sánchez-Lorente, S., & Martinez, M. (2010). Recovery from depressive symptoms, state anxiety and post-traumatic stress disorder in women exposed to physical and psychological, but not to psychological intimate partner violence alone: A longitudinal study. *BMC Psychiatry*, *10*. doi:10.1186/1471-244X-10-98

Casanueva, C., Martin, S. L., Runyan, D. K., Barth, R. P., & Bradley, R. H. (2008). Quality of maternal parenting among intimate-partner violence victims involved with the child welfare system. *Journal of Family Violence*, *23*(6), 413–427. doi:10.1007/s10896-008-9167-6

Cerulli, C., Talbot, N. L., Tang, W., & Chaudron, L. H. (2011). Co-occurring intimate partner violence and mental health diagnoses in perinatal women. *Journal of Women's Health*, *20*(12), 1797–1803. doi:10.1089/jwh.2010.2201

Clark, C. J., Silverman, J. G., Shahrouri, M., Everson-Rose, S., & Groce, N. (2010). The role of the extended family in women's risk of intimate partner violence in Jordan. *Social Science & Medicine*, *70*(1), 144–151. doi:10.1016/j.socscimed.2009.09.024

Cole, D. A., Jacquez, F. M., Truss, A. E., Pineda, A. Q., Weitlauf, A. S., Tilghman-Osborne, C. E., Felton, J. W., et al. (2009). Gender differences in the longitudinal structure of cognitive diatheses for depression in children and adolescents. *Journal of Clinical Psychology*, Etiology, Assessment and Treatment of Depression and Suicide across the Lifespan, *65*(12), 1312–1326. doi:10.1002/jclp.20631

Cummings, E. M., George, M. R. W., McCoy, K. P., & Davies, P. T. (2012). Interparental conflict in kindergarten and adolescent adjustment: prospective investigation of emotional security as an explanatory mechanism. *Child Development*, *83*(5), 1703–1715. doi:10.1111/j.1467-8624.2012.01807.x

Dadds, M. R., Maujean, A., & Fraser, J. A. (2003). Parenting and conduct problems in children: Australian data and psychometric properties of the Alabama Parenting Questionnaire. *Australian Psychologist*, *38*(3), 238–241.

DeBoard-Lucas, R. L., Fosco, G. M., Raynor, S. R., & Grych, J. H. (2010). Interparental conflict in context: Exploring relations between parenting processes and children's conflict appraisals. *Journal of Clinical Child and Adolescent Psychology*, *39*(2), 163-175. doi:10.1080/15374410903532593

DePrince, A. P., Weinzierl, K. M., & Combs, M. D. (2009). Executive function performance and trauma exposure in a community sample of children. *Child Abuse & Neglect*, *33*(6), 353-361. doi:10.1016/j.chiabu.2008.08.002

Dube, S. R., Anda, R. F., Whitfield, C. L., Brown, D. W., Felitti, V. J., Dong, M., Giles, W. H., (2005). Long-term consequences of childhood sexual abuse by gender of victim. *American Journal of Preventive Medicine*, 28(5), 430–438.

Fantuzzo, J. W., & Fusco, R. A. (2007). Children's direct exposure to types of domestic violence crime: A population-based investigation. *Journal of Family Violence*, *22*(7), 543-552. doi:10.1007/s10896-007-9105-z

Felitti, V, Anda, R. F., Nordenberg, D, Williamson, D. S., Spitz, A. M., Edwards, V., et al. (1998).Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine*, 14, 245-58.

Finkelhor, D., Ormrod, R., Turner, H., & Hamby, S. L. (2005). The victimization of children and youth: A comprehensive, national survey. *Child Maltreatment*, *10*(1), 5–25. doi:10.1177/1077559504271287

Fiori, K. L., Smith, J., & Antonucci, T. C. (2007). Social network types among older adults: A multidimensional approach. *The Journals of Gerontology: Series B: Psychological Sciences and Social Sciences*, *62B*(6), P322–P330.

Foa, E. B. (1995). The posttraumatic diagnostic scale (PDS) manual. *Minneapolis, MN: National Computer Systems*.

Fosco, G. M., DeBoard, R. L., & Grych, J. H. (2007). Making sense of family violence: Implications of children's appraisals of interparental aggression for their short- and

long-term functioning. *European Psychologist*, *12*(1), 6–16. doi:10.1027/1016-9040.12.1.6

Foster, C. E., Webster, M. C., Weissman, M. M., Pilowsky, D. J., Wickramaratne, P. J., Rush, A. J., Hughes, C. W., et al. (2008). Course and severity of maternal depression: Associations with family functioning and child adjustment. *Journal of Youth and Adolescence*, *37*(8), 906–916. doi:10.1007/s10964-007-9216-0

Frick, P. J. (1991). *The Alabama Parenting Questionnaire*. Unpublished rating scale, University of Alabama.

Frick, P. J., Christian, R. E., & Wootton, J. M. (1999). Age trends in the association between parenting and conduct problems. *Behavior Modification*, *23*, 106-128.

Gerard, J. M., Buehler, C., Franck, K., & Anderson, O. (2005). In the Eyes of the Beholder: Cognitive Appraisals as Mediators of the Association Between Interparental Conflict and Youth Maladjustment. *Journal of Family Psychology*, *19*(3), 376-384. doi:10.1037/0893-3200.19.3.376

Gewirtz, A. H., DeGarmo, D.S. & Medhanie, A. (2011). Effects of mother's parenting practices on child internalizing trajectories following partner violence." *Journal of Family Psychology*, *25*(1), 29.

Graham, J. W., Olchowski, A. E., & Gilreath, T. D. (2007). How many imputations are really needed? Some practical clarifications of multiple imputation theory. *Prevention Science*, *8*(3), 206–213. doi:10.1007/s11121-007-0070-9

Graham-Bermann, S. A. (2006-2011). *Early intervention for children exposed to domestic violence.* Blue Cross and Blue Shield of Michigan Foundation.

Graham-Bermann, S. A., Castor, L. E., Miller, L. E., & Howell, K. H. (2012). The impact of intimate partner violence and additional traumatic events on trauma symptoms and PTSD in preschool-aged children. *Journal of Traumatic Stress*, *25*(4), 393–400. doi:10.1002/jts.21724

Graham-Bermann, S. A., Howell, K. H., Miller, L. E., Kwek, J., & Lilly, M. M. (2010). Traumatic events and maternal education as predictors of verbal ability for preschool children exposed to intimate partner violence (IPV). *Journal of Family Violence*, *25*(4), 383-392. doi:10.1007/s10896-009-9299-3

Graham-Bermann, S. A., Lynch, S., Banyard, V., DeVoe, E. R., & Halabu, H. (2007). Community-based intervention for children exposed to intimate partner violence: An efficacy trial. *Journal of Consulting and Clinical Psychology*, *75*(2), 199-209. doi:10.1037/0022-006X.75.2.199

Graham-Bermann, S. A., & Seng, J. (2005). Violence exposure and traumatic stress symptoms as additional predictors of health problems in high-risk children. *The Journal of Pediatrics*, *146*(3), 349-354. doi:10.1016/j.jpeds.2004.10.065

Grych, J. H., Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development, 71*(6), 1648-1661. doi:10.1111/1467-8624.00255

Grych, J. H., Harold, G. T., & Miles, C. J. (2003). A prospective investigation of appraisals as mediators of the link between interparental conflict and child adjustment. *Child Development, 74*(4), 1176-1193. doi:10.1111/1467-8624.00600

Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The Children's Perception of Interparental Conflict Scale. *Child Development, 63*(3), 558–572.

Gustafsson, H. C., Cox, M. J., & Blair, C. (2012). Maternal parenting as a mediator of the relationship between intimate partner violence and effortful control. *Journal of Family Psychology, 26*(1), 115–123. doi:10.1037/a0026283

Harold, G. T., Aitken, J. J., & Shelton, K. H. (2007). Inter-parental conflict and children's academic attainment: A longitudinal analysis. *Journal of Child Psychology and Psychiatry, 48*(12), 1223-1232.

Haskett, M. E., & Willoughby, M. (2007). Paths to child social adjustment: parenting quality and children's processing of social information. *Child: Care, Health and Development, 33*(1), 67–77. doi:10.1111/j.1365-2214.2006.00627.x

Hunter, E. C., & Graham-Bermann, S. A. (In press). Intimate partner violence and child adjustment: Moderation by father involvement? *Journal of Family Violence.*

Hughes, H. M., & Huth-Bocks, A. C. (2007). Variations in parenting stress in African-American battered women: Implications for children's adjustment and family intervention. *European Psychologist, 12*(1), 62–71. doi:10.1027/1016-9040.12.1.62

Huth-Bocks, A., & Hughes, H. (2008). Parenting stress, parenting behavior, and children's adjustment in families experiencing intimate partner violence. *Journal of Family Violence, 23*(4), 243–251. doi:10.1007/s10896-007-9148-1

Jouriles, E. N., Mueller, V., Rosenfield, D., McDonald, R., & Dodson, M. C. (2012). Teens' experiences of harsh parenting and exposure to severe intimate partner violence: Adding insult to injury in predicting teen dating violence. *Psychology of Violence, 2*(2), 125.

Kennedy, A. C., Bybee, D., Sullivan, C. M., & Greeson, M. (2010). The impact of family and community violence on children's depression trajectories: Examining the interactions of violence exposure, family social support, and gender. *Journal of Family Psychology, 24*(2), 197-207. doi:10.1037/a0018787

Kellogg, N. D., & Menard, S. W. (2003). Violence among family members of children and adolescents evaluated for sexual abuse. *Child Abuse & Neglect, 27*(12), 1367–1376.

Krishnakumar, A., & Buehler, C. (2004). Interparental conflict and parenting behaviors: A meta-analytic review. *Family Relations, 49*(1), 25-44.

Luebbe, A. M., Bell, D. J., Allwood, M. A., Swenson, L. P., & Early, M. C. (2010). Social information processing in children: Specific relations to anxiety, depression, and affect. *Journal of Clinical Child and Adolescent Psychology*, *39*(3), 386–399. doi:10.1080/15374411003691685

Marakovitz, S. E., Wagmiller, R. L., Mian, N. D., Briggs-Gowan, M. J., & Carter, A. S. (2011). Lost Toy? Monsters Under the Bed? Contributions of Temperament and Family Factors to Early Internalizing Problems in Boys and Girls. *Journal of Clinical Child & Adolescent Psychology*, *40*(2), 233–244. doi:10.1080/15374416.2011.546036

Margolin, G., Vickerman, K. A., Ramos, M. C., Serrano, S. D., Gordis, E. B., Iturralde, E., Oliver, P. H., et al. (2009). Youth exposed to violence: Stability, co-occurrence, and context. *Clinical Child and Family Psychology Review*, *12*(1), 39-54. doi:10.1007/s10567-009-0040-9

Mazur, E., Wolchik, S. A., & Sandler, I. N. (1992). Negative cognitive errors and positive illusions for negative divorce events: Predictors of children's psychological adjustment. *Journal of Abnormal Child Psychology*, *20*(6), 523–542. doi:10.1007/BF00911238

McDonald, R., & Grych, J. H. (2006). Young children's appraisals of interparental conflict: Measurement and links with adjustment problems. *Journal of Family Psychology*, *20*(1), 88-99. doi:10.1037/0893-3200.20.1.88

Miller, L. E., Howell, K. H., & Graham-Bermann, S. A. (2012). Potential mediators of adjustment for preschool children exposed to intimate partner violence. *Child abuse & neglect*, *36*(9), 671–675. doi:10.1016/j.chiabu.2012.07.005

Miller, L. E., Howell, K. H., & Graham-Bermann, S. A. (2012). Predictors of preschoolers' appraisals of conflict in families experiencing intimate partner violence. *Journal of Interpersonal Violence*, *27*(3), 568–586. doi:10.1177/0886260511421675

Miller, L. E., VanZomeren-Dohm, A., Howell, K. H., & Graham-Bermann, S. A. (in press). Larger family networks are associated with better adjustment for children exposed to intimate partner violence (IPV). *Journal of Family Issues*.

Murray, L., Woolgar, M., Cooper, P., & Hipwell, A. (2001). Cognitive vulnerability to depression in 5-year-old children of depressed mothers. *Journal of Child Psychology and Psychiatry*, *42*(7), 891–899. doi:10.1111/1469-7610.00785

O'Campo, P., Caughy, M. O., & Nettles, S. M. (2010). Partner abuse or violence, parenting and neighborhood influences on children's behavioral problems. *Social Science & Medicine*, *70*(9), 1404–1415. doi:10.1016/j.socscimed.2009.11.036

Olaya, B., Ezpeleta, L., de la Osa, N., Granero, R., & Doménech, J. M. (2010). Mental health needs of children exposed to intimate partner violence seeking help from mental health services. *Children and Youth Services Review*, *32*(7), 1004–1011. doi:10.1016/j.childyouth.2010.03.028

Ostrowski, S. A., Christopher, N. C., & Delahanty, D. L. (2007). Brief report: The impact of maternal posttraumatic stress disorder symptoms and child gender on risk for persistent posttraumatic stress disorder symptoms in child trauma victims. *Journal of Pediatric Psychology*, *32*(3), 338–342. doi:10.1093/jpepsy/jsl003

Owen, A. E., Thompson, M. P., & Kaslow, N. J. (2006). The mediating role of parenting stress in the relation between intimate partner violence and child adjustment. *Journal of family psychology: JFP: journal of the Division of Family Psychology of the American Psychological Association (Division 43)*, *20*(3), 505–513. doi:10.1037/0893-3200.20.3.505

Paterson, J., Carter, S., Gao, W., Cowley-Malcolm, E., & Iusitini, L. (2008). Maternal intimate partner violence and behavioural problems among Pacific children living in New Zealand. *Journal of Child Psychology and Psychiatry*, *49*(4), 395-404. doi:10.1111/j.1469-7610.2007.01841.x

Pelcovitz, D., Kaplan, S. J., DeRosa, R. R., Mandel, F. S., & Salzinger, S. (2000). Psychiatric disorders in adolescents exposed to violence and physical abuse. *American Journal of Orthopsychiatry*, *70*(3), 360-369. doi:10.1037/h0087668

Postmus, J. L., Huang, C.-C., & Mathisen-Stylianou, A. (2012). The impact of physical and economic abuse on maternal mental health and parenting. *Children and Youth Services Review*, *34*(9), 1922–1928. doi:10.1016/j.childyouth.2012.06.005

Pressman, S. D., Cohen, S., Miller, G. E., Barkin, A., Rabin, B. S., & Treanor, J. J. (2005). Loneliness, social network size, and immune response to influenza vaccination in college freshmen. *Health Psychology*, *24*(3), 297–306. doi:10.1037/0278-6133.24.3.297

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurements*, *1*(3), 385-401. doi: 10.1177/014662167700100306

Roberts, R. E., Andrews, J. A., Lewinsohn, P. M., & Hops, H. (1990). Assessment of depression in adolescents using the Center for Epidemiologic Studies Depression Scale. *Psychological Assessment*, *2*(2), 122–128.

Scheeringa, M. S., Wright, M. J., Hunt, J. P., & Zeanah, C. H. (2006). Factors affecting the diagnosis and prediction of PTSD symptomatology in children and adolescents. *The American Journal of Psychiatry*, *163*(4), 644-651. doi:10.1176/appi.ajp.163.4.644

Scheeringa, M. & Zeanah, C. (1994). *Posttraumatic Stress Disorder Semi-Structured Interview and Observational Record for Infants and Young Children.* New Orleans: Tulane University

Shelton, K. K., Frick, P. J., & Wootton, J. (1996). Assessment of parenting practices in families of elementary school-age children. *Journal of Clinical Child & Adolescent Psychology*, *25*(3), 317–329.

Shelton, K. H., & Harold, G. T. (2008). Interparental conflict, negative parenting, and children's adjustment: Bridging links between parents' depression and children's

psychological distress. *Journal of Family Psychology*, *22*(5), 712-724. doi:10.1037/a0013515

Siffert, A., Schwarz, B., & Stutz, M. (2012). Marital conflict and early adolescents' self-evaluation: The role of parenting quality and early adolescents' appraisals. *Journal of Youth and Adolescence*, *41*(6), 749–763. doi:10.1007/s10964-011-9703-1

Sternberg, K. J., Baradaran, L. P., Abbott, C. B., Lamb, M. E., & Guterman, E. (2006). Type of violence, age, and gender differences in the effects of family violence on children's behavior problems: A mega-analysis. *Developmental Review, 26*, 89-112.

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17*(3), 283-316. doi:10.1177/019251396017003001

Stallard, P., & Smith, E. (2007). Appraisals and cognitive coping styles associated with chronic post-traumatic symptoms in child road traffic accident survivors. *Journal of Child Psychology and Psychiatry*, *48*(2), 194–201. doi:10.1111/j.1469-7610.2006.01692.x

Suglia S, E. M. (2009). Maternal intimate partner violence and increased asthma incidence in children: Buffering effects of supportive caregiving. *Archives of Pediatrics & Adolescent Medicine*, *163*(3), 244–250. doi:10.1001/archpediatrics.2008.555

Tajima, E. A., Herrenkohl, T. I., Moylan, C. A., & Derr, A. S. (2011). Moderating the effects of childhood exposure to intimate partner violence: The roles of parenting characteristics and adolescent peer support. *Journal of Research on Adolescence*, *21*(2), 376–394. doi:10.1111/j.1532-7795.2010.00676.x

Trapolini, T., McMahon, C. A., & Ungerer, J. A. (2007). The effect of maternal depression and marital adjustment on young children's internalizing and externalizing behaviour problems. *Child: Care, Health and Development*, *33*(6), 794–803. doi:10.1111/j.1365-2214.2007.00739.x

Wolfe, D.A., Crooks, C.V., Lee, V., McIntyre-Smith, A., & Jaffe, P.G. (2003). The effects of children's exposure to domestic violence: A meta-analysis and critique. *Clinical Child and Family Psychology Review, 6*, 171-187.

Zinzow, H. M., Ruggiero, K. J., Resnick, H., Smith, D., Saunders, B., & Kilpatrick, D. (2009). Prevalence and mental health correlates of witnessed parental and community violence in a national sample of adolescents. *Journal of Child Psychology and Psychiatry*, *50*(4), 441-450. doi:10.1111/j.1469-7610.2008.02004.x

Table 4.1

Study 3 Descriptive Analyses for *Child Perceptions of Interparental Conflict Scale* (*CPIC)* Omnibus Scales and Subscales[a] at Three Time Points

	Baseline (N=102)				5 week follow-up (N=86)				6 to 8 month follow-up (N=66)			
	M(SD) Treatment	M(SD) Comparison	Range	α	M(SD) Treatment	M(SD) Comparison	Range	α	M(SD) Treatment	M(SD) Comparison	Range	α
Threat	**7.13(4.35)**	**8.40(4.60)**	**0-18**	**.70**	**7.48(3.91)**	**8.25(4.10)**	**0-18**	**.60**	**9.03(3.68)**	**9.26(4.50)**	**0-18**	**.58**
Self-Blame	**10.69(4.00)**	**10.28(3.24)**	**0-14**	**.77**	**10.84(4.17)**	**10.78(3.46)**	**0-14**	**.84**	**11.44(2.69)**	**11.86(2.93)**	**0-14**	**.73**
Frequency	3.89(3.02)	3.84(2.54)	0-10	.61	3.90(2.82)	4.29(2.53)	0-10	.59	4.93(3.14)	4.71(2.20)	0-10	.59
Intensity	4.18(2.90)	4.24(3.67)	0-12	.74	3.84(2.98)	5.09(3.36)	0-12	.66	5.33(3.64)	3.78(2.25)	0-12	.69
Resolution	3.76(3.19)	3.89(2.86)	0-10	.68	4.31(3.06)	3.51(2.73)	0-10	.68	4.37(3.14)	3.39(2.75)	0-10	.70

[a]Descriptives are reported on non-imputed data

Table 4.2

Study 3 Descriptive Analyses of Predictor Variables at Three Time Points

	Baseline (N=102)		5 week follow-up (N=86)		6 to 8 month follow-up (N=66)	
	M(SD) Treatment	M(SD) Comparison	M(SD) Treatment	M(SD) Comparison	M(SD) Treatment	M(SD) Comparison
Parenting						
Positive	3.70(.49)	3.74(.35)	3.73(.39)	3.66(.41)	3.78(.43)	4.62(2.71)
Negative	1.80(.43)	1.76(.35)	2.52(1.71)	1.73(.41)	2.48(1.74)	1.11(2.81)
CESD	26.15(12.34)	25.55(14.28)	21.97(13.42)	19.39(12.77)	18.60(10.81)	16.94(9.41)
PDS						
Re-exp.	6.55(3.87)	5.85(3.93)	4.10(3.36)	3.65(3.64)	3.27(3.69)	2.64(2.80)
Avoidance	8.18(5.81)	7.94(4.64)	7.89(5.64)	6.66(4.91)	6.90(5.83)	4.55(4.60)
Arousal	7.09(4.25)	7.71(4.44)	6.17(4.01)	5.68(4.08)	5.17(3.98)	4.77(3.83)
CPTSD						
Re-exp.	2.27(1.57)	2.26(1.94)	2.42(1.93)	2.24(1.76)	1.60(1.94)	1.45(1.72)
Avoidance	2.54(2.26)	2.00(2.25)	2.03(2.32)	1.46(1.67)	1.46(1.69)	0.95(1.07)
Arousal	4.91(3.61)	4.10(3.36)	3.55(3.39)	3.41(2.57)	2.80(3.22)	2.54(2.46)
CBCL						
Internalizing	57.84(11.86)	52.81(12.31)	55.23(11.55)	52.21(10.17)	56.70(12.09)	52.64(11.58)
Externalizing	59.86(12.48)	58.37(10.54)	57.92(11.44)	57.45(11.88)	56.83(12.78)	56.55(11.60)

Table 4.3

Study 3 Multi-level Models for Threat and Self-Blame[b] – Child Predictor Models

	Threat			Self-Blame		
Predictors	β	SE β	t	β	SE β	t
Treatment	-1.03	0.82	-1.25	0.93	0.72	1.29
Time	-0.00	0.01	-0.03	0.02	0.01	1.15
Treatment*Time	0.03	0.02	1.60	-0.02	0.01	-1.77†
Child Age[c]	-1.30	0.43	-3.02**	-0.19	0.38	-0.50
Child Sex	0.51	0.70	0.74	-0.85	0.64	-1.36
Intensity	0.51	0.13	3.82***	-0.00	0.12	-0.02
Resolution	-0.47	0.13	-3.71***	-0.22	0.11	-2.06*
Frequency	0.40	0.15	2.66**	0.22	0.13	1.73†
CTS Violence	0.00	0.00	0.11	-0.00	0.00	-0.63
Internalizing	0.08	0.05	1.84†	0.07	0.04	1.74†
Externalizing	-0.05	0.05	-0.98	-0.09	0.04	-2.31*
Child PTSD	-0.15	0.07	-2.13*	-0.00	0.05	-0.06
In-home network	0.17	0.21	0.81	-0.15	0.19	-0.79
Constant	4.95	2.34	2.12***	13.80	2.90	4.75***
Error Terms	Estimate	SE	95% CI	Estimate	SE	95% CI
Intercept Random Effect	0.00	0.04	$1.62e^{-10}$-155222.2	1.94	0.45	1.22-3.07
Residual	3.44	0.38	2.76-4.28	2.32	0.33	1.76-3.08

†p<.10, *p<.05, **p<.01, ***p<.001, [b]Calculated using multiply imputed data, [c]Child age in month is mean centered, significant of results are the same with an un-centered variable

Table 4.4

Study 3 Multi-level Models for Threat and Self-Blame[b] – Parent Predictor Models

	Threat			Self-Blame		
Predictors	β	SE β	t	β	SE β	T
Treatment	-0.93	0.79	-1.18	1.12	0.68	1.66[†]
Time	0.00	0.011	0.23	0.02	0.01	1.83[†]
Treatment*Time	0.03	0.02	1.89	-0.02	0.01	-1.43
Child Age[c]	-1.34	0.43	-3.10**	-0.21	0.38	-0.56
Child Sex	0.49	0.68	0.71	-0.56	0.61	0.36
Intensity	0.55	0.13	4.19***	0.40	0.11	0.35
Resolution	-0.42	0.12	-3.38***	-0.28	0.11	-2.72**
Frequency	0.36	0.12	2.43**	0.19	0.13	1.45
CTS Violence	0.00	0.00	0.33	-0.00	0.00	-0.69
Positive Parenting	-1.36	0.79	1.73[†]	-0.51	0.71	-0.72
Maternal Depression	0.03	0.04	0.83	-0.08	0.03	-2.46*
Maternal Trauma	-0.09	0.04	-2.21*	0.04	0.04	1.13
Constant	19.21	3.99	4.81***	13.64	2.79	4.89***
Error Terms	Estimate	SE	95% CI	Estimate	SE	95% CI
Intercept Random Effect	0.46	1.62	0-521.59	1.70	0.54	0.91-3.18
Residual	3.35	0.42	2.62-4.29	2.46	0.36	1.84-3.27

[†]$p<.10$, *$p<.05$, **$p<.01$, ***$p<.001$, [b]Calculated using multiply imputed data, [c]Child age in month is mean centered, significant of results are the same with an un-centered variable

Chapter V.

Conclusion

This dissertation has addressed the cognitive effects of exposure to intimate partner violence (IPV) in preschool-aged children. Large national studies indicate that over 50% of child eyewitnesses of IPV are under the age of 6 (Fantuzzo & Fusco, 2007), yet little research has examined this age group. It is particularly important to study the cognitive effects of violence exposure for a number of reasons. First, it is during this time period that children's language and cognition develops rapidly (e.g., Flavell, Miller & Miller, 1985) allowing them to express, perhaps for the first time, developed cognitions or thoughts about their parents' conflicts. Although there is evidence that a minority of preschoolers have difficulty reporting on their own cognitions, there is strong evidence that many are able to reliably do so (Miller, Howell, Graham-Bermann, 2012).

Based on the cognitive-contextual theory proposed by Grych and Fincham (1990), children engage in two primary cognitive processes following exposure to interparental conflict. First, children evaluate *threat*, or the level to which they feel frightened about their parents' conflict and the level of risk it poses to the integrity of the family system. Second, children make higher-order cognitive appraisals about who is to blame for the conflict, with many children taking on *self-blame* for the events that have occurred. Many research studies in older children have confirmed that the presence of such cognitions is linked to poor outcomes for children, especially in the domain of internalizing behavior problems (e.g., Ablow, Measelle, Cowan, &

Cowan, 2009; Gerard, Buehler, Franck, & Anderson, 2005; Grych, Fincham, Jouriles, & McDonald, 2000; McDonald & Grych, 2006). Despite evidence for the validity of this theory, there has been little research to support its applicability for children exposed to more severe levels of violence and only two studies that have studied children ages 6 and under (Ablow, Ablow, Measelle, & Cowan, 2009; Miller, et al., 2012). Further, longitudinal relationships have rarely been explored, leaving significant gaps in our understanding of how children's appraisals about conflict may develop as they grow older.

The aims of this dissertation were to (1) provide information on the development of cognitive appraisals of threat and self-blame in preschoolers exposed to IPV, (2) determine whether a 10-session community-based intervention would be beneficial in reducing these maladaptive cognitive appraisals, and (3) examine individual and family characteristics that may act as protective or risk factors for maladaptive cognitive attributions over time. Each of these aims was addressed in the three dissertations studies, respectively.

Data Preparation

Prior to conducting these analyses, a significant amount of data preparation was required. Because the measure in question, the *Children's Perception of Interparental Conflict Scale (CPIC)* has rarely been used in children this young, the author first sought to establish scale structure for this population. This is especially important given that in addition to their youth, these children have been exposed to severe IPV, a factor which Grych (2007) hypothesizes might result in significant differences in the nature and relationships between cognitive appraisals, conflict, and child outcomes. Principal component analyses employing the same methodology used to validate this scale in older children indicated that there were some necessary changes in order for the scale to cohere to a logical factor structure for this younger age group. First,

children in this age group appeared to have difficulty answering negatively worded questions (e.g., "I never see my parents arguing or disagreeing"). They also had difficulty reliably responding to items at the end of the questionnaire, likely due to fatigue. Following the removal of these items with poor response quality, factor analyses indicated that the responses of preschool aged children cohered to the same scale structure found in older children for the broadband scales of threat and self-blame. However, the *CPIC* also includes another broadband scale of conflict properties, on which children report on the frequency, intensity, and resolution of their parent's conflicts. In older children exposed to non-violent conflict, these three domains factor together into one broadband scale, but there was no evidence for this structure in this younger, violence exposed population. Rather, there was evidence that children's reports of frequency, intensity, and resolution were best examined as separate constructs.

Following a careful analysis of scale structure, measures were taken to ensure quality of response by excluding those children who had low verbal ability, did not understand the interview, or failed to achieve at least a 40% rate of scale completion, per protocol established in a previous study (Miller, et al., 2012). Because there were some included children who had missing data, multiple imputation analyses were conducted using the multivariate normal procedure, which accounts for the longitudinal nature of the data by using children's responses on the scale at other time points as primary predictors of missing time points.

Summary of Study One Results

Results of the first study indicated that over a roughly one year period, children's appraisals of threat and self-blame did not naturally reduce. In regards to children's appraisals of threat, it was found that older children in the sample (e.g., 6 year olds) reported lower levels of self-blame than did younger children, but that there were no reductions in threat over the course

of the study for children in any age group. Further, children's reports of threat were meaningfully related to their report of their parents' conflict such that higher reports of conflict intensity were related to higher reports of threat. The model for self-blame indicated significant increases in children's self-blame over time, with no differences by child age. Girls also reported higher levels of self-blame than did boys and children's reports of conflict resolution were negatively related to appraisals self-blame. That is, the more children reported that their parents "made-up" after conflict, the greater the appraisals of self-blame. This finding illuminates one potential reason that it is more beneficial to examine the elements of the conflict properties scale separately in violence-exposed children, as the direction of the relationships are different than those seen in children who have not been exposed to violence. It may be that in the case of intimate partner violence, resolution represents a continuation of violence rather than reparation of emotional security, as seen in non-violent households.

Summary of Study Two Results

The second study employed a randomized control trial design to determine whether an evidence based intervention was successful in reducing children's appraisals of threat and self-blame. Findings indicated that treatment was marginally effective in reducing children's appraisals of threat, with an especially good rate of change for girls. The effectiveness of treatment for appraisals of threat indicates that these cognitions are malleable and responsive to a relatively brief intervention.

Again, girls were noted to report higher rates of self-blame than did boys, and appraisals of self-blame were not effectively addressed by the intervention. This is of concern here given the link between self-blame and internalizing symptoms that has been found across childhood (e.g., Filipas & Ullman, 2006; Graham & Juvonen, 1998; Miller Dissertation Study 3). The lack

of positive findings is also surprising given that reducing self-blame is a primary goal of the Kids' Club and Mom's Empowerment Program. There are a few potential explanations for this unexpected result. Although there is strong evidence that children in this age range can and do experience self-blame, it is less clear that their cognitive understanding of self-blame is developed enough to be meaningfully related to their environment. For example, in the first dissertation study, children's reports of self-blame, while reliably reported, structurally cohesive, and increasing over time, were not significantly related to reports of violence in the same way as appraisals of threat. This has been found in cross-sectional examinations of children in this age group as well (Miller, et al., 2012). It may be that these young children experience self-blame regardless of the level of violence in their environment, which may make combating these firmly held beliefs with cognitive restructuring more difficult. A competing hypothesis might be that additional work needs to be done with mothers and fathers to prevent any *actual* blaming of the child that may occur during arguments. This could include additional psychoeducational material about how to productively discuss conflicts related to children including, problems at school, conflicts about parenting techniques, and discussions about discipline.

Because girls endorse higher levels of self-blame over time, it is also possible that this may provide insight into how intimate partner violence (which is inherently gendered) may be affecting the long-term outcomes of boys and girls differentially. If this is the case, it may be that girls who witness gendered violence with the female as victim may need additional targeted intervention. One possible suggestion is the inclusion of girl-only treatment groups that specifically address issues related to the safety of girls/women.

Summary of Study Three Results

The third study undertook a comprehensive examination of parent and child predictors of appraisals of threat and self-blame over time for both the intervention and comparison groups. Findings for the model examining child predictors of threat and self-blame indicated that as in previous studies, children's appraisals of threat were significantly related to child age, with older children reporting lower levels of threat and no additional decreases over time. Children's reports of conflict intensity, frequency, and higher reports of resolution between their parents were also linked to increases in appraisals of threat. Notably, children's internalizing symptoms significantly predicted increases in appraisals of threat over time, reinforcing the relationship between these constructs that has been indicated in cross-sectional studies (e.g., Ablow, Measelle, Cowan, & Cowan, 2009; Gerard, Buehler, Franck, & Anderson, 2005; Grych, Fincham, Jouriles, & McDonald, 2000; McDonald & Grych, 2006), but providing new information about how the presence of mental health problems may serve to worsen cognitive appraisals over time. In this case, it appears that the presence of anxiety and depression make children more vulnerable to making threat appraisals. This finding reinforces previous literature on the interactive nature of depressive symptoms and maladaptive cognitions and may indicate the necessity for a multi-modal treatment for children exposed to IPV that simultaneously addresses maladaptive cognitions while shoring up other strategies for coping with internalizing symptoms (relaxation therapies, coping, developing social supports).

Regarding the model for self-blame, the presence of externalizing behavior problems was significantly related to *lower* appraisals of self-blame over time, a surprising finding given that the results in cross-sectional literature have generally found no relationship between these constructs. It may be that children who are reporting higher levels of self-blame are not acting out

at home due to fears that their misbehavior may fuel violent conflict between their parents, whereas those who act out aggressively do not feel that they are responsible for the violence between their parents. They may have reduced ability to empathize or they may be modeling the behavior of the most powerful adult in the family. However, it will be important that future studies examine this relationship in-depth, potentially looking at causal modeling techniques that would help to illuminate the order and direction of this relationship with other family-level variables.

The examination of parent predictors of appraisals of threat and self-blame also indicated some unexpected findings. Namely, while the direction of the relationship between demographic and violence variables remained the same, maternal mental health problems arose as a predictor of *lower* appraisals of threat and self-blame in children. Specifically, higher maternal trauma (and child trauma) was related to lower appraisals of threat and higher maternal depression was related to lower appraisals of self-blame. This counter-intuitive finding sparked a number of potential hypotheses about the causes for these relationships. First, it may be possible that mothers and children who are experiencing increased PTSD symptoms may be more proactive in taking measures to protect their own and their safety. For example, mothers who are concerned about locking doors and windows to protect their own safety from the abuser are also protecting their own children's safety. In addition, those experiencing PTSD symptoms may be less likely to see their abusive partner/father, or may avoid places where violence has previously occurred, even moving to a new home. Again, this may serve a somewhat protective function for children, isolating them from stimuli that were previously threatening. Further, women who are experiencing higher levels of depressed mood themselves may be more likely to verbalize cognitions of self-blame, thinking and saying that violence against them is their own fault.

Although this cognition in mothers could cause significant problems regarding mood and victimization risk for mothers, it may be that when young children are exposed to such attributions, they are in fact relieved to some degree of their own personal responsibility. However, a great deal more research needs to be conducted to determine the veracity of these relationships in other samples, with particular consideration given to the treatment implications of these findings for families exposed to violence.

Limitations

There are a number of limitations in these dissertation studies that are important to take into account here and will also be important in determining goals for future studies. First, although these very young children do seem able to report on their cognitions about violence, the extent of missing data on the questionnaire indicates that it may be too lengthy for the attention span/cognitive limitations of a preschool age group. Although the creators of this measure have recently developed a shorter version of the questionnaire (McDonald & Grych, 2006), this shorter version is more limited in its ability to assess children's cognitions about violence as it removed a number of domains of interest that are included in the longer version (e.g., it loses the distinct subscales of frequency, intensity and resolution). The current study took a number of steps to enhance the quality, validity, and reliability of children's reports using age-appropriate administration techniques, factor analysis of scales and multiple imputation techniques, but this is no substitute for full response rates and may mean that the current data exhibit some degree of bias that is unable to be captured by the analytic techniques used in the study.

In addition to problems with missing data, the current study is limited in its ability to capture long term developmental change. Children in the current study ranged in age from 4 to 6 and were followed for a little under one year. In order to provide information about time and age

trajectories, both of these time-sensitive variables were included in all studies. Results generally indicated that there were some significant changes in children's appraisals of self-blame over the course of their time in the study, but that appraisals of threat might change more slowly as children age, as no differences were noted across the 8 months (but there were differences between older and younger children). This finding emphasizes the importance of extending longitudinal evaluations of children's appraisals to include data points over the course of several years. This kind of study will hopefully provide the high quality information needed on the development of these appraisals in early childhood.

It would also have been helpful to have a comparison group of children exposed to non-violent interparental conflict, especially in the first study that examined development of children's cognitive appraisals excluding intervention. If such a comparison group had been included, more information could have been given in regard to the magnitude of the effect of exposure to more severe levels of conflict.

Finally, children in the current study were drawn from a unique geographic region. All were from the Midwestern area of the United States and Southern Canada and may not therefore be representative of children nationally. For example, many children drawn from the area closest to the university have highly educated mothers, a sample quite different from those living in more impoverished, low-resources areas.

Clinical Implications

Despite the limitations present in the current study, the findings do provide some clinical utility for those working with young children exposed to IPV. First, it is apparent from Study One that without any kind of intervention, children's maladaptive cognitive appraisals are relatively stable or worsen over time, indicating a great need for intervention in this population.

Given that children are able to report on these cognitive appraisals in a meaningful way, it emphasizes the importance of addressing cognitions in clinical work, even with these very young children. The results of Study Two, however, show that one evidence-based intervention showed only partial success in addressing these maladaptive cognitions. Specifically, boys' cognitive appraisals of threat were able to be reduced, but girls' cognitions were relatively treatment resistant. Perhaps addressing children's maladaptive cognitions in this young age group may require a more extended intervention or may necessitate increased parental involvement in cognitive restructuring. If such interventions could be accomplished, Study Three reinforces the notion that children's adjustment improves as their appraisals of threat and self-blame decrease.

Future Directions

Developmental Trajectories of Threat and Self-Blame. As noted earlier, it will be essential that future research to include a longer assessment period for tracking children's appraisals. This will allow for a more nuanced view of the developmental trajectories of children's appraisals in early childhood. It may also be helpful to follow children into middle and late childhood to track changes in these appraisals across developmental periods. This will be helpful both in providing information about child cognitive development, but also in identifying those age groups most at risk and in need of intervention.

In order to provide greater construct validity for appraisals of threat and self-blame, it may be helpful for future research to integrate other methods of assessment used to measure these constructs, such as eye-tracking data or cognitive attention tasks (to measure threat) or behavioral observations and additional reporters (to measure self-blame). Integrating multiple methods of assessment would be helpful in validating the content of children's appraisals, but

also in providing information about the continuity of these appraisals across a variety of contexts.

Given that the factor structure of the CPIC was slightly different for this young population, it behooves future researchers to continue to pay close attention to the appropriate scale structure to use in newly examined groups. In addition, since there was evidence that children in this age range have difficulty answering questions that are negatively worded, future studies may want to consider examining the elimination of the use of these items in favor of positively worded items. Further, researchers may want to consider the use of a two-point response system, as other research on this measure shows that this may be more appropriate for younger children (McDonald & Grych, 2006). Although some of these modifications have been made to the CPIC already (McDonald & Grych, 2006), there are other changes that should be considered for the use of this measure with violence-exposed populations. For example, the threat scale may want to consider the inclusion of children's awareness of safety and safety practices. This may help distinguish adaptive functions of threat appraisals from maladaptive ones in this high-risk group of children. It may also be helpful to have more targeted questions about self-blame regarding violence. On the current measure, many of the questions on the self-blame subscale ask children to report on whether or not their parents' fights are *about* them. While it is reasonable to connect this to responsibility for arguments, it seems that taking on blame for violence occurs may be a much more powerful attribution (e.g., "When my dad hits my mom, it's really my fault"). It would also be interesting to include items on the blame scale that are external to the immediate family context to determine if these young children exposed to violence believe that the root causes of violence are interpersonal or external (e.g., My dad hit my mom because of money problems"). Since these modifications would require the testing of

newly worded questions, future analyses should conduct careful item and factor analyses prior to conducting more complex analyses.

Finally, future studies examining children's appraisals following conflict may want to consider how appraisals develop differentially across three groups: children exposed to non-violent marital conflict, children exposed to IPV, and children exposed to IPV and concurrent abuse. In this way, analyses will be better able to parse out attributions specific to certain types of stressful and potentially traumatic events that may trigger children's maladaptive cognitive appraisals. Studies may also wish to consider child exposure to other types of violence (e.g., child abuse) to determine the relative effects of IPV on maladaptive cognition as compared to other types of violence.

Intervention. In order to enhance the clinical utility of assessments of children's cognitive appraisals, a number of new directions might be considered. First, it may be helpful for therapists to complete in-vivo measurements of children's cognitive appraisals of threat and self-blame across treatment. This may assist in giving more insight into how children's cognitions are affected by specific components of evidence-based treatment practices, thereby increasing the efficiency and effectiveness of programs in reducing these maladaptive belief systems.

It may also be helpful to consider testing how a baseline assessment of children's cognitive appraisals could be used in treatment sequencing, or to help target intervention needs. For example, those children who are high in appraisals of self-blame may need additional sessions aimed at restructuring these beliefs, whereas children low in self-blame might be best helped by one session with more psycho-educational content reviewing these concepts.

Given that Study Two indicates differential treatment effects by child gender, it will be helpful for future research to examine the cause of these effects. One way to examine this might be to include a greater amount of information about group composition – that is, are boys and girls helped differentially depending on the gender composition of the group (e.g., all boys, all girls, mixed gender). It might also be helpful to consider how the gendered nature of male-to-female IPV might affect young girls differentially and could act to make them more treatment resistant. For example, perhaps mothers who are victimized and experiencing significantly difficulties themselves may express more maladaptive beliefs about the gendered nature of violence (e.g., women are to blame for this event occurring).

Along this line, it may then be essential to track maternal/paternal appraisals of threat and self-blame in reaction to violence exposure. This could provide valuable information about how children may acquire specific patterns of cognitive appraisals, how these appraisals interact with other appraisals and/or other information about violence provided by parents, and how intervention may work to effectively intervene inter-generationally.

Functional Analysis of Threat and Self-Blame. Although this and other research has been helpful in linking appraisals of threat and self-blame to psychosocial outcomes in children, there is more work needed in determining the potential adaptive/maladaptive utility of these appraisals in behavioral functioning. There is some evidence to show, for example, that children with heightened levels of threat detection are more responsive to intervention than are other children who avoid threatening cues (Legerstee, et al., 2009). Similarly, it may be that in children living in violent households, appraisals of threat, though harmful to adjustment, may work to increase children's use of safety practices (such as hiding when violence occurs). Or perhaps those children who express higher levels of self-blame are more likely to seek help from

other adults. These ideas, while speculative, are promising avenues to examine in order to prevent any iatrogenic effects of treatment on these very high risk children.

Summary

In sum, these dissertations studies provide helpful information on the development of appraisals of threat and self-blame in young children exposed to IPV. Results show that without intervention, maladaptive beliefs are unlikely to abate. These beliefs are related to poor child adjustment. Yet, the evidence based intervention showed limited utility in addressing these appraisals, indicated a great need for additional research in intervention strategies aimed to assist these young children.

References

Ablow, J. C., Measelle, J. R., Cowan, P. A., & Cowan, C. P. (2009). Linking marital conflict and children's adjustment: The role of young children's perceptions. *Journal of Family Psychology, 23*(4), 485–499. doi:10.1037/a0015894

Fantuzzo, J. W., & Fusco, R. A. (2007). Children's direct exposure to types of domestic violence crime: A population-based investigation. *Journal of Family Violence, 22*(7), 543–552. doi:10.1007/s10896-007-9105-z

Filipas, H. H., & Ullman, S. E. (2006). Child sexual abuse, coping responses, self-blame, posttraumatic stress disorder, and adult sexual revictimization. *Journal of Interpersonal Violence, 21*(5), 652–672. doi:10.1177/0886260506286879

Flavell, J. H., Miller, P. H., & Miller, S. A. (1985). *Cognitive development*. Englewood Cliffs, NJ: Prentice-Hall.

Gerard, J. M., Buehler, C., Franck, K., & Anderson, O. (2005). In the eyes of the beholder: cognitive appraisals as mediators of the association between interparental conflict and youth maladjustment. *Journal of Family Psychology, 19*(3), 376–384. doi:10.1037/0893-3200.19.3.376

Graham, S., & Juvonen, J. (1998). Self-blame and peer victimization in middle school: An attributional analysis. *Developmental Psychology, 34*(3), 587–538. doi:10.1037/0012-1649.34.3.587

Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin, 108*(2), 267–290. doi:10.1037/0033-2909.108.2.267

Grych, J. H., Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development, 71*(6), 1648–1661. doi:10.1111/1467-8624.00255

Legerstee, J. S., Tulen, J. H. M., Kallen, V. L., Dieleman, G. C., Treffers, P. D. A., Verhulst, F. C., & Utens, E. M. W. J. (2009). Threat-related selective attention predicts treatment success in childhood anxiety disorders. *Journal of the American Academy of Child & Adolescent Psychiatry, 48*(2), 196–205. doi:10.1097/CHI.0b013e31819176e4

McDonald, R., & Grych, J. H. (2006). Young children's appraisals of interparental conflict: Measurement and links with adjustment problems. *Journal of Family Psychology, 20*(1), 88–99. doi:10.1037/0893-3200.20.1.88

Miller, L. E., Howell, K. H., & Graham-Bermann, S. A. (2012). Predictors of preschoolers' appraisals of conflict in families experiencing intimate partner violence. *Journal of Interpersonal Violence, 27*(3), 568–586. doi:10.1177/0886260511421675

Appendix A: Demographic Information

1) We want to get a sense of who are the people in your child's life. Please tell us who are the people (family and friends, including parents, siblings, partners/boyfriends, other relatives, etc.) whom your child sees on a regular basis. For each, tell if you think your child would identify that person as a significant person in their life. Please indicate if that person is a member of the household (living in your home).

Relationship To Child (e.g., mom, dad, family , friend)	Sex	Age	Lives in home with child?	
1._____	___	___	Yes	No
2. ._____	___	___	Yes	No
3. ._____	___	___	Yes	No
4. ._____	___	___	Yes	No
5._____	___	___	Yes	No
6. ._____	___	___	Yes	No
7. ._____	___	___	Yes	No
8. ._____	___	___	Yes	No
9. ._____	___	___	Yes	No
10. ._____	___	___	Yes	No

2) Your relationship status (check one):

[ ]	Single	[ ]	Widowed
[ ]	Living with partner	[ ]	Divorced
[ ]	Married	[ ]	Remarried
[ ]	Separated (How long? _____)		

3) What category best describes your and your child's race or ethnicity?

you	child	
[ ]	[ ]	Native American
[ ]	[ ]	Asian
[ ]	[ ]	Black, African-American
[ ]	[ ]	Latino, Hispanic-American
[ ]	[ ]	Biracial (mixed): specify _____
[ ]	[ ]	White
[ ]	[ ]	Other _____

4) What is the highest level of education that you have completed?

[ ]	Grade school or less	[ ]	College degree
[ ]	Some high school	[ ]	Some graduate school
[ ]	High school degree/GED	[ ]	Graduate degree
[ ]	Some college or vocational school		

5) Are you working at this time?

[ ] Yes Hours per week? _____

[ ] No

6) What job do you do (i.e., what is your job title)? _____

7) What was your total household income last month? $_____

8) How many times have you moved in the last 4 years? _____

9) Have you ever gone to a "safe house" or battered women's shelter?

[ ] Yes [ ] No

Appendix B: Conflict Tactics Scale – Revised (CTS2)

No matter how well a couple gets along, there are times when they disagree, get annoyed with one another, want different things from each other, or just have spats or fights because they are in a bad mood, are tired, or are upset for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences. Please tell us how many times these things have happened **in the past year**.

	1x	2x	3-5x	6-10x	11-20x	>20x	Never
1. *My partner* showed care for me even though we disagreed.	1	2	3	4	5	6	7
2. *My partner* explained his or her side of a disagreement to me.	1	2	3	4	5	6	7
3. *My partner* insulted or swore at me.	1	2	3	4	5	6	7
4. *My partner* threw something at me that could hurt.	1	2	3	4	5	6	7
5. *My partner* twisted my arm or hair.	1	2	3	4	5	6	7
6. *You* had a sprain, bruise or small cut because of a fight with your partner.	1	2	3	4	5	6	7
7. *My partner* showed respect for my feelings about an issue.	1	2	3	4	5	6	7
8. *My partner* made me have sex without a condom.	1	2	3	4	5	6	7
9. *My partner* pushed or shoved me.	1	2	3	4	5	6	7
10. *My partner* used force to make me have oral or anal sex.	1	2	3	4	5	6	7
11. *My partner* used a knife or gun on me.	1	2	3	4	5	6	7
12. *You* passed out from being hit on the head by your partner in a fight.	1	2	3	4	5	6	7
13. *My partner* called me fat or ugly.	1	2	3	4	5	6	7
14. *My partner* punched or hit me with something that could hurt.	1	2	3	4	5	6	7
15. *My partner* destroyed something that belonged to me.	1	2	3	4	5	6	7
16. *You* went to a doctor because of a fight with your partner.	1	2	3	4	5	6	7
17. *My partner* choked me.	1	2	3	4	5	6	7
18. *My partner* shouted or yelled at me.	1	2	3	4	5	6	7
19. *My partner* slammed me against a wall.	1	2	3	4	5	6	7
20. *My partner* was sure we could work it out.	1	2	3	4	5	6	7
21. *You* needed to see a doctor because of a fight with your partner, but didn't.	1	2	3	4	5	6	7
22. *My partner* beat me up.	1	2	3	4	5	6	7
23. *My partner* grabbed me.	1	2	3	4	5	6	7
24. *My partner* used force to make me have sex.	1	2	3	4	5	6	7
25. *My partner* stomped out of the room or house or yard during a disagreement.	1	2	3	4	5	6	7
26. *My partner* insisted that I have sex when I didn't want to (but did not use physical force).	1	2	3	4	5	6	7
27. *My partner* slapped me.	1	2	3	4	5	6	7
28. *You* had a broken bone from a fight with your partner.	1	2	3	4	5	6	7
29. *My partner* used threats to make me have oral or anal sex.	1	2	3	4	5	6	7
30. *My partner* suggested a compromise to a disagreement.	1	2	3	4	5	6	7
31. *My partner* burned or scalded me on purpose.	1	2	3	4	5	6	7
32. *My partner* insisted that I have oral or anal sex (but did not use physical force)	1	2	3	4	5	6	7
33. *My partner* accused me of being a lousy lover.	1	2	3	4	5	6	7
34. *My partner* did something to spite me.	1	2	3	4	5	6	7
35. *My partner* threatened to hit or throw something at me.	1	2	3	4	5	6	7
36. *You* still felt physical pain the next day because of a fight you had with your partner.	1	2	3	4	5	6	7
37. *My partner* kicked me.	1	2	3	4	5	6	7
38. *My partner* used threats to make me have sex.	1	2	3	4	5	6	7

39. *My partner* agreed to try a solution I suggested. 1 2 3 4 5 6 7

40. Are you currently living with a violent partner? Yes No
    a. If yes, how long have you lived with this partner? _____
    b. If no, when was the last time that you lived with a violent partner, if ever? _____
41. How many violent partners have you had in your life? _____

Appendix C: Alabama Parenting Questionnaire (APQ)

Parent Completing Form (Circle One): Mother Father Other: _____

The following are a number of statements about your family. Please tell me how often these events TYPICALLY occur in your home. The possible answers are NEVER (1), ALMOST NEVER (2), SOMETIMES (3), OFTEN (4), ALWAYS (5)..

	Never	Almost Never	Sometimes	Often	Always
1. You have a friendly talk with your child.	1	2	3	4	5
2. You let your child know when he/she is doing a good job with something.	1	2	3	4	5
3. You threaten to punish your child and then do not actually him/her.	1	2	3	4	5
4. You volunteer to help with special activities that your child is involved in (such as sports, boy/girl scouts, church groups).	1	2	3	4	5
5. You reward or give something extra to your child for obeying you or behaving well.	1	2	3	4	5
6. Your child fails to leave a note or to let you know where he/she is going.	1	2	3	4	5
7. You play games or do other fun things with your child.	1	2	3	4	5
8. Your child talks you out of being punished after he/she has done something wrong.	1	2	3	4	5
9. You ask your child about his/her day in school.	1	2	3	4	5
10. Your child stays out in the evening past the time he/she is supposed to be home.	1	2	3	4	5
11. You help your child with his/her homework.	1	2	3	4	5

	Never	Almost Never	Sometimes	Often	Always
12. You feel that getting your child to obey you is more trouble than it's worth.	1	2	3	4	5
13. You compliment your child when he/does something well.	1	2	3	4	5
14. You ask your child what his/her plans are for the coming day.	1	2	3	4	5
15. You drive your child to a special activity.	1	2	3	4	5
16. You praise your child if he/she behaves well.	1	2	3	4	5
17. Your child is out with friends you don't know.	1	2	3	4	5
18. You hug or kiss your child when he/she has done something well.	1	2	3	4	5
19. Your child goes out without a set time to be home.	1	2	3	4	5
20. You talk to your child about his/her friends.	1	2	3	4	5
21. Your child is out after dark without an adult with him/her.	1	2	3	4	5
22. You let your child out of a punishment early (like lift restrictions earlier than you originally said).	1	2	3	4	5
23. You child helps plan family activities.	1	2	3	4	5
24. You get so busy that you forget where your child is and what he/she is doing.	1	2	3	4	5
25. Your child is not punished when he/she has done something wrong.	1	2	3	4	5

	Never	Almost Never	Sometimes	Often	Always
26. You attend PTA meetings, parent/teacher conferences, or other meetings at your child's school.	1`	2	3	4	5
27. You tell your child that you like it when he/she helps out around the house.	1	2	3	4	5
28. You don't check that your child comes home at the time he/she was supposed to.	1	2	3	4	5
29. You don't tell your child where you are going.	1	2	3	4	5
30. Your child comes home from school more than an hour past the time you expect him/her.	1	2	3	4	5
31. The punishment you give your child depends on your mood.	1	2	3	4	5
32. You child is at home without adult supervision.	1	2	3	4	5
33. You spank your child with your hand when he/she has done something wrong.	1	2	3	4	5
34. You ignore your child when he/she is misbehaving.	1	2	3	4	5
35. You slap your child when he/she has done something wrong.	1	2	3	4	5
36. You take away privileges or money from your child as a punishment.	1	2	3	4	5
37. You send your child to his/her room as a punishment.	1	2	3	4	5
38. You hit your child with a belt, switch, or other object when he/she has done something wrong.	1	2	3	4	5

	Never	Almost Never	Sometimes	Often	Always
39. You yell or scream at your child when he/she has done something wrong.	1	2	3	4	5
40. You calmly explain to your child why his/her behavior was wrong when he/she misbehaves.	1	2	3	4	5
41. You use time out (make him/her sit or stand in a corner) as a punishment.	1	2	3	4	5
42. You give your child extra chores as a punishment.	1	2	3	4	5

Appendix D: Center for Epidemiological Studies Depression Scale (CES-D)

These questions are about how you, the parent, have been feeling within **the past week**. Please tell me how much of the time you have felt a certain way: 1= None of the time, 2= Some of the time, 3 = Occasionally or a moderate amount of the time, and 4 = Most or all of the time.

1= None of the time 2= Some of the time 3 = Occasionally 4 =Most or all of the time

_____ 1. I was bothered by things that don't usually bother me.
_____ 2. I did not feel like eating.
_____ 3. I felt that I could not shake off the blues, even with help from family or friends.
_____ 4. I felt that I was just as good as other people.
_____ 5. I had trouble keeping my mind on what I was doing.
_____ 6. I felt depressed.
_____ 7. I felt that everything I did was an effort.
_____ 8. I felt hopeful about the future.
_____ 9. I thought my life had been a failure.
_____ 10. I felt fearful.
_____ 11. My sleep had been restless.
_____ 12. I was happy.
_____ 13. I talked less than usual.
_____ 14. People were unfriendly.
_____ 15. I felt lonely.
_____ 16. I enjoyed life.
_____ 17. I had crying spells.
_____ 18. I felt sad.
_____ 19. I felt that people disliked me.
_____ 20. I could not "get going".
_____ 21. Is the last week typical of how you have been feeling?

Appendix E: Post-traumatic Stress Diagnostic Scale (PDS)

The next questions have to do with dealing with stressful situations that may have happened to you or you may have seen. It is OK to pass on any question you do not want to answer. Many people have lived through or witnessed a very stressful and traumatic event at some point in their lives. Indicate whether or not you or your child have experienced or witnessed each traumatic event. We may ask you when was the last time that the event occurred.

1. Serious accident, fire, or explosion (for example, an industrial, farm, car, plane, or boating accident)
   Me ___ Child ___ Both ___ No One ___

2. Natural disaster (for example, tornado,hurricane, flood, or major earthquake)

   Me ___ Child ___ Both ___ No One ___

3. Non-sexual assault by a family member or someone you know (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)

   Me ___ Child ___ Both ___ No One ___ When _____

4. Non-sexual assault by a stranger (for example, being mugged, physically attacked, shot, stabbed, or held at gunpoint)

   Me ___ Child ___ Both ___ No One ___

5. Sexual assault by a family member or someone you know (for example, rape or attempted rape)

   Me ___ Child ___ Both ___ No One ___ When _____

6. Sexual assault by a stranger (for example, rape or attempted rape)

   Me ___ Child ___ Both ___ No One ___

7. Military combat or a war zone

   Me ___ Child ___ Both ___ No One ___

8. Sexual contact when you were younger than 18 with someone who was 5 or more years older than you (for example, contact with genitals, breasts)

   Me ___ Child ___ Both ___ No One ___

8. Imprisonment (for example, prison inmate, prisoner of war, hostage)

   Me ___ Child ___ Both ___ No One ___

10. Torture
   Me ___ Child ___ Both ___ No One ___

11. Life-threatening illness

   Me ___ Child ___ Both ___ No One ___

12. Other traumatic event (Read examples below)

   Me ___ Child ___ Both ___ No One ___

e.g., Attacked by an animal, Man-made disasters (crashes, fires, war), Witnessed another person being beaten, raped, threatened with serious harm, shot at seriously wounded, or killed, Accidental burning, Near drowning, Hospitalization, emergency room visit, and/or invasive medical procedures, Kidnapped or Other event.

13. Explain if 'yes' to item 12:_____

Though you may have experienced a variety of traumatic events, we would like for you to respond to the following questions only in relation to physical and/or sexual assault that you've experienced from a partner.

14. Though you may have had many traumatic events occur with your partner, can you tell me which one you remember as the worst, or the one that has maybe stuck with you the most?

_____
_____
_____

15. How long ago did that traumatic event happen? Or, when was the last time it happened? (mark ONE)

1. Less than 1 month
2. 1 to 3 months
3. 3 to 6 months
4. 6 months to 3 years
5. 3 to 5 years
6. More than 5 years

16. During this traumatic event, were you physically injured? _____ Yes _____ No
17. During this traumatic event, was someone else physically injured? _____ Yes _____ No
18. Did you think that your life was in danger? _____ Yes _____ No
19. Did you think that someone else's life was in danger? _____ Yes _____ No
20. Did you feel helpless? _____ Yes _____ No
21. Did you feel terrified? _____ Yes _____ No

Below is a list of problems that people sometimes have after experiencing a traumatic event. Please choose an answer that best describes how often that problem has bothered you **IN THE LAST MONTH**:

0: not at all or only one time
1: once a week or less/once in awhile
2: 2-4 times a week/half the time
3: 5 or more times a week/almost always

22. Having upsetting thoughts or images about the traumatic event that came into your head when you didn't want them to: _____
23. Having bad dreams or nightmares about the traumatic event: _____
24. Reliving the traumatic event, acting or feeling as if it was happening again: _____
25. Feeling emotionally upset when you were reminded of the traumatic event (for example, feeling scared, angry, sad, guilty, etc.): _____
26. Experiencing physical reactions when you were reminded of the traumatic event (for example, breaking out in a sweat, heart beating fast): _____
27. Trying not to think about, talk about, or have feelings about the traumatic event: _____
28. Trying to avoid activities, people, or places that remind you of the traumatic event: _____
29. Not being able to remember an important part of the traumatic event: _____
30. Having much less interest or participating much less often in important activities: _____
31. Feeling distant or cut off from people around you: _____
32. Feeling emotionally numb (for example, being unable to cry or unable to have loving feelings): _____
33. Feeling as if your future plans or hopes will not come true (for example, you will not have a career, marriage, children, or a long life): _____
34. Having trouble falling or staying asleep: _____
35. Feeling irritable or having fits of anger: _____
36. Having trouble concentrating (for example, drifting in and out of conversations, losing track of a story on television, forgetting what you read): _____
37. Being overly alert (for example, checking to see who is around you, being uncomfortable with your back to a

door, etc.): _____
38. Being jumpy or easily startled (for example, when someone walks up behind you): _____

39. How long have you experienced the problems that you reported above? (may need to remind them of relevant symptoms) (Mark only ONE)

1. Less than 1 month 2. 1 to 3 months 3. More than 3 months

40. How long after the traumatic event did these problems begin? (Mark only ONE)

1. Less than 6 months 2. 6 or more months

Have the problems we just discussed interfered with any of the following areas of your life DURING THE PAST MONTH:

41. Work _____ Yes _____ No
42. Household chores and duties _____ Yes _____ No
43. Relationships with friends _____ Yes _____ No
44. Fun and leisure activities _____ Yes _____ No
45. Schoolwork _____ Yes _____ No
46. Relationships with your family _____ Yes _____ No
47. Sex life _____ Yes _____ No
48. General satisfaction with life _____ Yes _____ No
49. Overall level of function in all areas of your life _____ Yes _____ No

Appendix F: Children's Perceptions of Interparental Conflict Scale (CPIC)

In every family there are times when the parents don't get along. Below are some things that kids sometimes think or feel when their parents have arguments or disagreements. I would like you to say what you think or feel when your parents argue by answering each question. Tell whether you agree by saying YES (interviewer nods head for yes), do not agree by saying NO (interviewer shakes head to indicate no) or think that it is true SOMETIMES. So you can pick YES, SOMETIMES or NO. Do you want to try this? You can stop at any time.

1. Y ST N I never see my parents arguing or disagreeing.

Is that true, sort of true or not true?

2. Y ST N When my parents have an argument they usually work it out.

Is that true, sort of true or not true?

3. Y ST N My parents often get into arguments about things I do at school.
4. Y ST N When my parents argue I end up getting involved somehow.
5. Y ST N My parents get really mad when they argue.
6. Y ST N When my parents argue I can do something to make myself feel better.
7. Y ST N I get scared when my parents argue.
8. Y ST N I feel caught in the middle when my parents argue.
9. Y ST N I'm not to blame when my parents have arguments.
10. Y ST N They may not think I know it, but my parents argue or disagree a lot.
11. Y ST N Even after my parents stop arguing they stay mad at each other.
12. Y ST N When my parents argue I try to do something to stop them.
13. Y ST N When my parents have a disagreement they discuss it quietly.
14. Y ST N I don't know what to do when my parents have arguments.
15. Y ST N My parents are often mean to each other even when I'm around.
16. Y ST N When my parents argue I worry about what will happen to me.
17. Y ST N I don't feel like I have to take sides when my parents have a disagreement.
18. Y ST N It's usually my fault when my parents argue.
19. Y ST N I often see or hear my parents arguing.
20. Y ST N When my parents disagree about something, they usually come up with a solution
21. Y ST N My parents' arguments are usually about me.
22. Y ST N When my parents have an argument they say mean things to each other.
23. Y ST N When my parents argue or disagree I can usually help make things better.
24. Y ST N When my parents argue I'm afraid that something bad will happen.
25. Y ST N My mom wants me to be on her side when she and my dad argue.
26. Y ST N Even if they don't say it, I know I'm to blame when my parents argue.
27. Y ST N My parents hardly ever argue.

28. Y ST N When my parents argue they usually make up right away.
29. Y ST N My parents usually argue or disagree because of things that I do.
30. Y ST N I don't get involved when my parents argue.
31. Y ST N When my parents have an argument they yell at each other.
32. Y ST N When my parents argue there's nothing I can do to stop them.
33. Y ST N When my parents argue I worry that one of them will get hurt.
34. Y ST N I feel like I have to take sides when my parents have a disagreement.
35. Y ST N My parents often nag and complain about each other around the house.
36. Y ST N My parents hardly ever yell when they have a disagreement.
37. Y ST N My parents often get into arguments when I do something wrong.
38. Y ST N My parents have broken or thrown things during an argument.
39. Y ST N After my parents stop arguing, they are friendly towards each other.
40. Y ST N When my parents argue I'm afraid that they will yell at me too.
41. Y ST N My parents blame me when they have arguments.
42. Y ST N My dad wants me to be on his side when he and my mom argue.
43. Y ST N My parents have pushed or shoved each other during an argument.
44. Y ST N When my parents argue or disagree there's nothing I can do to make myself feel better.
45. Y ST N When my parents argue I worry that they might get divorced.
46. Y ST N My parents still act mean after they have had an argument.
47. Y ST N Usually it's not my fault when my parents have arguments.
48. Y ST N When my parents argue they don't listen to anything I say.

Appendix G: The Posttraumatic Stress Disorder Semi-Structured Interview and Observational Record for Infants and Young Children

For interviewer (DO NOT READ TO INTERVIEWEE):

When an item is endorsed, examples must be provided. Follow up questions and clarifications are used until the interviewer is persuaded that the symptom is present. To be endorsed, an event must have led to serious injury or the potential for serious injury to the child or to a loved one and the child witnessed it.

START HERE:
We've talked about your reactions to some traumatic events in your life, and now I would like to ask you some questions about how your child may or may not have reacted to witnessing or hearing violence in the home.

		DSM-IV Criteria	
	None	A little	A lot
1. Establish that the child witnessed a traumatic event	0		2
2. Did your child respond at the time of the event by looking very afraid, acting helpless, or very disturbed in some way?	0	1	2
Now I'd like to ask you how your child reacted after the event. For example…			
3…did your child reenact some part of the traumatic event? (Write a note to distinguish between play reenactments and the compulsive, repetitive, and monotonous posttraumatic play.)	0	1	2
4…has your child made repeated statements or questions about the event? Did he appear distressed by these?	0	1	2
5…has your child had nightmares about it, or an increased frequency of nightmares since an event?	0	1	2
6…did your child appear to have flashbacks, that is for a minute or more acting like the event was happening all over again?	0	1	2
7…or, appear to space out in a daze?	0	1	2
8…has your child looked really upset because he/she saw or heard something that reminded him/her of what happened	0	1	2
9…has your child gotten biologically worked up because of a reminder of the event, such as having a fast heart rate, looking shaky, sweaty, or breathing really fast?	0	1	2
Since the event…			
10…has your child tried to avoid hearing conversations about it?	0	1	2
11…or tried to avoid places, persons, or things connected to the event?	0	1	2
12…has your child been unable to remember only a certain part of the trauma?	0	1	2
13…does your child play less than before?	0	1	2

14…has your child been more withdrawn and less sociable than before?	0	1	2
15…has your child shown less emotion than usual?	0	1	2
16…has your child seemed to you like there was nothing to look forward to in the future?	0	1	2

	None	A little	A lot
Since the trauma…			
17…has your child had a hard time going to bed or falling asleep?	0	1	2
18…has your child shown increased irritability, fussiness, extreme mood swings, or temper tantrums?	0	1	2
19…has your child had more difficulty concentrating on things than he use to?	0	1	2
20…has your child seemed watchful or on guard even when there was no reason to be?	0	1	2
21…were there times when your child got scared or very upset when he heard a sudden noise, or if someone came up from behind him when he didn't know they were coming?	0	1	2
ASSOCIATED SYMPTOMS:			
22…did your child lose some skills that he had learned before? Did he lose toileting skills, become mute, or lose some speech skills?	0	1	2
23…has your child become afraid of things he didn't used to be afraid of? Such as fear of toileting alone, of the dark, of strangers, or other things?	0	1	2
24…has your child been upset when he had to be separated from his mother a lot more than he use to be?	0	1	2
25…has your child been a lot more aggressive than he use to be?	0	1	2
26. Has your child been bothered by most of these things for as long as a month?	0		2

Now I'm going to ask you a series of about 5 questions to see if some of the behaviors that we talked about just now get in the way of doing things in everyday life.

27. Because of these behaviors (may need to list them again), do they get in the way of being able to function within your family? I mean, do they prevent your child from being able to do things with the family, like go out to eat, go to the store, go on outings (may use other examples)? Or do they get in the way with activities in the house, like examples may be that they prevent him from doing chores, get dressed, clean up, take baths, or do fun activities with the family?

A lot of the time	3
Some of the time	2
Hardly ever or none	1

28. Because of these behaviors (may need to list them again), does that prevent your child from being able to do things with other children like playing, keeping friends, spend the night, go on outings (may use other examples)?

A lot of the time	3
Some of the time	2
Hardly ever or none	1

29. Because of these behaviors (may need to list them again), do you know if your child's teacher gets distressed? Has the teacher ever said anything to you about your child being a problem in the class?

A lot of the time	3
Some of the time	2
Hardly ever or none	1
Not applicable	-8

30. Do you (the child's caregiver) get distressed because of these behaviors (may need to list them again)? Do they affect the quality of the times you spend with your child?

A lot of the time	3
Some of the time	2
Hardly ever or none	1

31. And last, do you think that these behaviors (may need to list them again) cause your child to feel upset? I mean, do they cause your child to feel emotionally bad inside, like feel bad about himself, or cry, or just seem real upset because of these things?

A lot of the time	3
Some of the time	2
Hardly ever or none	1

Appendix H: Child Behavior Checklist (CBCL)

Below is a list of questions that have been used in studies of more than 10,000 children across the country -- not all of them will apply to your child. I'm going to go through a list of things that may be true of your child. If one is true of your child **in the last six months**, please let me know. I will then ask you if it happens often or only sometimes.

0=Not True 1=Somewhat or Sometimes True 2=Very or Often True

0	1	2	1. Acts too young for his/her age
0	1	2	2. Allergy (describe):
0	1	2	3. Argues a lot
0	1	2	4. Asthma
0	1	2	5. Behaves like opposite sex
0	1	2	6. Bowel movements outside toilet
0	1	2	7. Bragging, boasting
0	1	2	8. Can't concentrate, can't pay attention for long
0	1	2	9. Cant get his/her mind off certain thoughts or obsessions
0	1	2	10. Can't sit still, restless, or hyperactive
0	1	2	11. Clings to adults or too dependent
0	1	2	12. Complains of loneliness
0	1	2	13. Confused or seems to be in a fog
0	1	2	14. Cries a lot
0	1	2	15. Cruel to animals
0	1	2	16. Cruelty, bullying, or meanness to others
0	1	2	17. Day-dreams or gets lost in his/her thoughts
0	1	2	18. Deliberately harms self or attempts suicide
0	1	2	19. Demands a lot of attention
0	1	2	20. Destroys his/her own things
0	1	2	21. Destroys things belonging to family or other children
0	1	2	22. Disobedient at home
0	1	2	23. Disobedient at school
0	1	2	24. Doesn't eat well
0	1	2	25. Doesn't get along with other children
0	1	2	26. Doesn't seem to feel guilty after misbehaving
0	1	2	27. Easily jealous
0	1	2	28. Eats or drinks things that are not food
0	1	2	29. Fears certain animals, situations, or places, not in school
0	1	2	30. Fears going to school
0	1	2	31. Fears he/she might think or do something bad
0	1	2	32. Fears he/she has to be perfect
0	1	2	33. Fears or complains that no one loves him/her
0	1	2	34. Fears others are out to get him/her
0	1	2	35. Feels worthless or inferior
0	1	2	36. Gets hurt a lot, accident-prone
0	1	2	37. Gets in many fights
0	1	2	38. Gets teased a lot
0	1	2	39. Hangs around with children who get in trouble
0	1	2	40. Hears things that aren't there

0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Likes to be alone
0 1 2 43. Lying or cheating
0 1 2 44. Bites fingernails
0 1 2 45. Nervous, high-strung, or tense
0 1 2 46. Nervous movements or twitching
0 1 2 47. Nightmares
0 1 2 48. Not liked by other children
0 1 2 49. Constipated, doesn't move bowels
0 1 2 50. Too fearful or anxious
0 1 2 51. Feels dizzy
0 1 2 52. Feels too guilty
0 1 2 53. Overeating
0 1 2 54. Overtired
0 1 2 55. Overweight
56. Physical problems
0 1 2 a. Aches or pains
0 1 2 b. Headaches
0 1 2 c. Nausea, feels sick
0 1 2 d. Problems with eyes
0 1 2 e. Rashes or other skin problems
0 1 2 f. Stomachaches or cramps
0 1 2 g. Vomiting, throwing up
0 1 2 h. Other (describe):
0 1 2 57. Physically attacks people
0 1 2 58. Picks nose, skin, or other parts of body (describe):
0 1 2 59. Plays with own sex parts in public
0 1 2 60. Plays with own sex parts too much
0 1 2 61. Poor school work
0 1 2 62. Poorly coordinated or clumsy
0 1 2 63. Prefers playing with older children
0 1 2 64. Prefers playing with younger children
0 1 2 65. Refuses to talk
0 1 2 66. Repeats certain acts over and over, compulsions (describe):
0 1 2 67. Runs away from home
0 1 2 68. Screams a lot
0 1 2 69. Secretive, keeps things to self
0 1 2 70. Sees things that aren't there without known medical cause
0 1 2 71. SeIf-conscious or easily embarrassed
0 1 2 72. Sets fires
0 1 2 73. Sexual problems (describe):
0 1 2 74. Showing off or clowning
0 1 2 75. Shy or timid
0 1 2 76. Sleeps less than most children
0 1 2 77. Sleeps more than most children during day and/or night
0 1 2 78. Smears or plays with bowel movements
0 1 2 79. Speech problems
0 1 2 80. Stares blankly
0 1 2 81. Steals at home
0 1 2 82. Steals outside the home
0 1 2 83. Stores up things he/she doesn't need
0 1 2 84. Strange behavior
0 1 2 85. Strange ideas
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot

0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Talks or walks in sleep
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Thinks about sex too much
0 1 2 97. Threatens people
0 1 2 98. Thumb-sucking
0 1 2 99. Too concerned with neatness or cleanliness
0 1 2 100. Trouble sleeping (describe)
0 1 2 101. Truancy, skips school
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses alcohol or drugs
0 1 2 106. Vandalism
0 1 2 107. Wets self during the day
0 1 2 108. Wets the bed
0 1 2 109. Whining
0 1 2 110. Wishes to be of opposite sex
0 1 2 111. Withdrawn, doesn't get involved with others
0 1 2 112. Worrying
0 1 2 113. Are there any other problems you child has?

Appendix I: Recruiting Flyer

The Kids* Club Program

- Have you had violence with a partner in the last 2 years?
- Do you have a child between the ages 4-6?
- Are you interested in free support groups for you and your child?
- Do you want to receive $25 for participating in a survey that takes 1-1.5 hours to complete?

Free & confidential Support Group for mothers
who have experienced violence with a partner
and The Kid's Club for their children ages 4-6

THE MOM'S GROUP
focuses on support, parenting concerns, and children's needs

THE KID'S CLUB
Fun activities for children aimed to build self-esteem,
reduce self-blame, and teach coping and social skills

Meets for 5 weeks
Tuesdays and Thursdays
6:30-7:30pm Call to register 1-877-647-0789 (toll free)

*Child care available * Snacks provided * Transportation can be arranged*
* Participation includes 2 hours a week for five weeks and two 90 minute interviews
University of Michigan IRB Number: HUM00004153 Approved on: 11/14/2006

The Kid's Club **877-647-0789**

Appendix J: Mother Informed Consent

Mother's Informed Consent Form

The Early Child Intervention Program

Many children are exposed to violence every year and young children can have problems as a result. We know that older children do better when their mothers get support after violence. But we don't know very much about the best ways to help younger children. Psychologists and social workers at the University of Michigan are trying to learn more about the best way to help young children exposed to domestic violence. In this study we want to do three things. First, we want to find out whether mothers and their young children who take part in group support programs do better than mothers and children who do not take part in group support programs. Second, we want to find out which mothers and which children are helped the most. The intervention programs were created for children ages 4 to 6 and their mothers who have been exposed to violence. Third, we want to learn more about the ways mothers cope with the violence and stress in their lives.

In order to do this we plan to interview 120 mothers and their children in two groups. The first group is interviewed before and after they participate in a five-week support program. The second group of mothers and children is interviewed first then again five weeks later and after that invited to the same five-week support program. The programs for mothers and children take place over five weeks at either the community education center at SafeHouse Center in Ann Arbor, Michigan, at the University of Michigan, or at the Windsor- Essex Children's Aid Society. The support program for the children is the Preschool Kids Club, a ten session activity program aimed at helping young children to name feelings and worries, to build their coping skills and to learn positive things about families and ways to solve conflicts. The Mothers' Empowerment Program is also ten sessions and meets twice a week at the same time as the children's program. The mothers' program offers group support for women exposed to domestic violence. Group leaders are clinical psychologists and graduate students in clinical psychology and social work at the University of Michigan. Transportation and childcare for younger or older siblings are provided, if needed.

I _(initials)___ understand that by agreeing to participate in this study I may have to wait five weeks to join the support program for myself and for my child. If I am assigned to this second group, I _(initials)__ know that I also have the option of choosing whether to participate or not in the programs after the five weeks' time. I ___(initials) understand that I can still participate in the programs even if I decide to drop out of the study (not do the interviews). I ___(initials) understand that I am free to drop out of the study or out of the intervention program at any time and that there will be no negative consequences to me or to my child.

I ___(initials) understand that there are three interviews that mothers are invited to do. The first interview takes place before the program, at the start of the study for those in the second group. The second interview takes place five weeks later. A third interview takes place six

months later for those in the first group. Psychologists and graduate students in clinical psychology and social work at the University of Michigan conduct the interviews. The first interview takes about two hours and mothers will be paid $25 for their time. The questions ask about the stressful experiences you may have had, including the violence in your life, how you and your child are coping now, how your child is doing, and your thoughts on parenting. Any question may be skipped and you will still be paid $25 even if you withdraw early from the interview. We want to learn how mothers and children are doing following violence and how mothers manage the stress in their lives. The second interview takes about one hour and mothers are paid $25 for their time. The third interview takes approximately one hour and mothers are paid $25 for their time. Again, any question may be skipped and you will still be paid $25 even if you withdraw early from the interview

There are benefits and drawbacks to participating in this study. One of the immediate benefits is that you and your child will take part in the support programs, and that they will be free of charge. Similar programs have helped older children and their mothers to have fewer problems after violence. You and your child may cope better after participating in this program. Another benefit is that you will be helping us to improve services and to develop better programs for children and families in the future. You will be helping by agreeing to be interviewed and by giving us permission to obtain information regarding your child and your family. There is little risk associated with completing the interviews. Still, we will ask you about both the strengths and problems in your family. If you feel uncomfortable or distressed during any part of the interview we will be glad to stop at any time. The interviewers are trained in interviewing women exposed to domestic violence and will be sensitive to your needs. A list of affordable services will be provided to you should you want to contact either a shelter or mental health agency in the future. We will provide transportation and babysitting during the survey interview, if you need them.

I give my consent to participate in the first interview _____ (initials) today and the second interview in approximately five weeks _____ (initials). I have the option of being contacted for a third interview in approximately six months and will fill out an additional consent form with contact information, though I have the right to decline participating in the third interview _____ (initials). Should I agree to be contacted, I consent to participate in the third interview _____ (initials). If I decline to be interviewed at that time, there will be no penalty to me or my child _____ (initials) and participation is voluntary.

All the information you give us will be kept strictly confidential and will not be shared with anyone outside of the Early Child Intervention Program staff. Names will not be used so that confidentiality will be protected. Numbers will be substituted for names for identification purposes. Papers that link names with identification numbers will be kept in a locked file in the project director's office and destroyed one year following the completion of the study. Your responses will be kept confidential to the extent allowed by local, state, and federal law. For example, an exception to this would be any ongoing incidences of child abuse, which by law must be reported to Protective Services. Only the interviewers and therapists will have access to your answers to the interview questions. No one will be identifiable in any reports written about the evaluation of the programs. When information is reported, it will be used to describe groups and not individual people. All forms and interview material will be shredded one year after the end of the study.

You have the right to withdraw your participation at any time with no penalty or negative consequences to you or your child. Your decision to participate, or not participate, will not affect your relationship with SafeHouse Center, the Windsor- Essex Children's Aid Society,

the University of Michigan or other agency. If you have questions please do not hesitate to ask. If you have any questions at a later date, please contact Jacqueline Bobyk-Krumins from the Windsor-Essex Children's Aid Society at 519-256-0111 ext. 2788 or Sandy Graham-Bermann, Project Director, at the toll-free number – 734-647-0789 .

I have read and understand the above statements. I understand that my participation in this study is completely voluntary and that I can withdraw at any time.

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Name of Child	Name of Parent
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Signature of Parent	Date
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Witness	Date

Sandra A. Graham-Bermann, Ph.D.
Early Child Intervention Program
Department of Psychology
University of Michigan
530 Church Street
Ann Arbor, MI 48109-1043

Should you have questions regarding your rights as a research participant, please contact the Institutional Review Board, 540 E. Liberty Street, Suite 202, Ann Arbor, MI 48104-2210 (734) 936-0933, email: irbhsbs@umich.edu

Appendix K: Mother's Consent for Child Participation

Mother's Consent for Child to Participate in The Early Child Intervention Program

We are also asking your permission to conduct a brief interview with your child. As part of the evaluation effort we will interview each child and ask things like what your child thinks about how your family resolves conflict, what is good about families, and the meaning of everyday words. In addition a seven-minute computer task is used to find out how your child pays attention to faces that are happy, mad and neutral. This interview will take about 30 minutes. Your child will receive a small gift worth about $4 as a token of our appreciation each time, even if your child withdraws early from the interview. Your child can skip any question and withdraw early if he or she chooses. The interview will end if the child shows any signs of discomfort. You are welcome to view the interview questions that we will ask your child now, or at any time in the future.

All the information that we gather will be kept strictly confidential and will not be shared with anyone outside of the Early Child Intervention Program staff. Names will not be used so that confidentiality will be protected. Numbers will be substituted for names for identification purposes. Responses will be kept confidential to the extent allowed by local, state, and federal law. For example, an exception to this would be any ongoing incidences of child abuse, which by law must be reported to Protective Services. Only the interviewers will have access to your child's answers to the interview questions. No one will be identifiable in any reports written about the evaluation of the programs. When information is reported, it will be used to describe groups and not individual people. All interview material will be shredded one year following the completion of the study.

You and your child have the right to withdraw your child's participation at any time with no penalty or negative consequences to you or your child. Your decision to have your child participate, or not participate, will not affect your relationship with SafeHouse Center, Windsor- Essex Children's Aid Society, the University of Michigan, or other referral agency. If you have questions please do not hesitate to ask. If you have any questions at a later date, please contact Jacqueline Bobyk-Krumins from the Windsor – Essex Children's Aid Society at 519-256-0111 extension 2788 or Sandy Graham-Bermann, Project Director at The University of Michigan, at the toll-free number – 734-647-0789.

I have read and understand the above statements. I understand that my child's participation in this study is completely voluntary and that I can withdraw my child at any time.

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Name of Child	Name of Parent
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Signature of Parent	Date
---	---
Witness	Date

Sandra A. Graham-Bermann, Ph.D.
Early Child Intervention Program, Department of Psychology
University of Michigan, 530 Church Street
Ann Arbor, MI 48109-1043
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Appendix L: Child Assent

ID# _____

CHILD ASSENT TO BE INTERVIEWED

Hello _____. My name is _____ (interviewer's first name)_____.

I am talking to kids about what they think and about what words they know. I also show pictures of faces and ask kids to press a button. Is it OK with you if I ask you some questions and show you some pictures? It is OK to say no if you don't want to answer questions right now. (IF Yes) You can skip any questions that you don't want to answer and stop any time you like. (IF No) It's OK if you don't want to answer questions right now. (Either way) I have a small gift for you to thank you for your time.

[ ] Child gives assent (agrees) to participate.

[ ] Child would rather not participate.

Child's Name: _____

Interviewer's Name: _____

Date: _____

Appendix M: Consent for Follow up

In order to track changes in how children are doing, we would like to continue to follow the children in our survey with a mother's interview at six months. So we are asking all of the families in the Early Childhood Intervention Program for permission for us to call you in six months. Once again, you don't have to agree to be contacted in the future and your decision will not in any way affect your relationship with the Early Childhood Intervention Program, SafeHouse Center, Windsor- Essex Children's Aid Society, the University of Michigan or other agency. Sometimes, families move or change their telephone number and we may not be able to locate you for the follow-up telephone interview. Because we may need another way of reaching you we are asking you to provide additional contact information. We will only use these contacts if we cannot reach you at your present address and telephone number.

Yes, I agree to be contacted. [ ]

Please provide an EMAIL ADDRESS that we may use to contact you:_____

No, I do not wish to be contacted. [ ]

Yes, I agree AND you may contact the following people if you cannot reach me at my current address and telephone number. [ ]

The name, address and phone number of a relative or friend who will always know where you can be reached:

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Name of Relative or Friend	Name of Second Relative or Friend
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Address	Address
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Telephone Number	Telephone Number

Name of Parent

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Signature of Parent	Date
----------	----------
Witness	Date

Sandra A. Graham-Bermann, Ph.D.
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